XT70 PRO

DUAL BAND PMR446/LPD WALKIE-TALKIE

up to 12Km*

* Depending on terrain

› Instruction Guide

MIDLAND®

Main functions

- Dual Band LPD/PMR446 transceiver
  Channels: 32 PMR446 (16+16 pre-programmed) + 69 LPD
- Waterproof IPX4
- Emergency function
- Side Tone: end transmission noise muffler
- Wide LCD display with backlight
- Low battery indicator
- Auto power save: automatic current economy circuit
- 38 CTCSS and 104 DCS tones in TX and RX
- CALL button with 10 tones selectable
- RRM channel (only for Italy)
- Battery life up to 12 hours
- Fast charger (3h)
- Monitor function
- Baby Sitter function
- Buttons for the channel selection
- Knob for volume adjustement
- Out of range function (automatic or manual)
- SCAN function
- Vibra-CALL function
- Dual Watch
- Scquelch adjustment (9 levels)
- Keypad lock
- Hi/low power selection (PMR band)
- Roger Beep on/off
- VOX for hands-free communications with 9 selectable levels
- 2 Pin jack for ext. mike / ext. speaker

The manufacturer, with its effort to constantly improve product quality, reserves the right to change characteristics and features without prior notice.

Content of the package

- 2 transceivers with belt clip
- 1 wall adaptor
- 1 double fast desktop charger
- 2 rechargeable battery packs 700mAh
- 2 earphone mikes MA21L (only in the Hobby&Work version)

Coverage (referred to PMR frequency band)

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 buidings or other obstructions is about **1 or 2 Km**. In open space but with obstructions like trees, leafs 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 **12 Km.**

Above all....Safety!

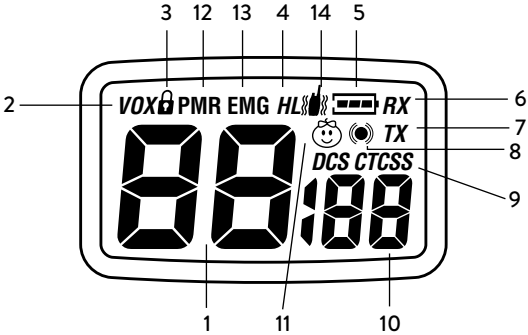
Warnings

! ***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.***

! ***Do not use detergents, alcohol, solvents, or abrasives to clean the equipment. Just use a soft, clean cloth. If the radio is very dirty, slightly dampen the cloth with a mixture of water and a neutral soap.***

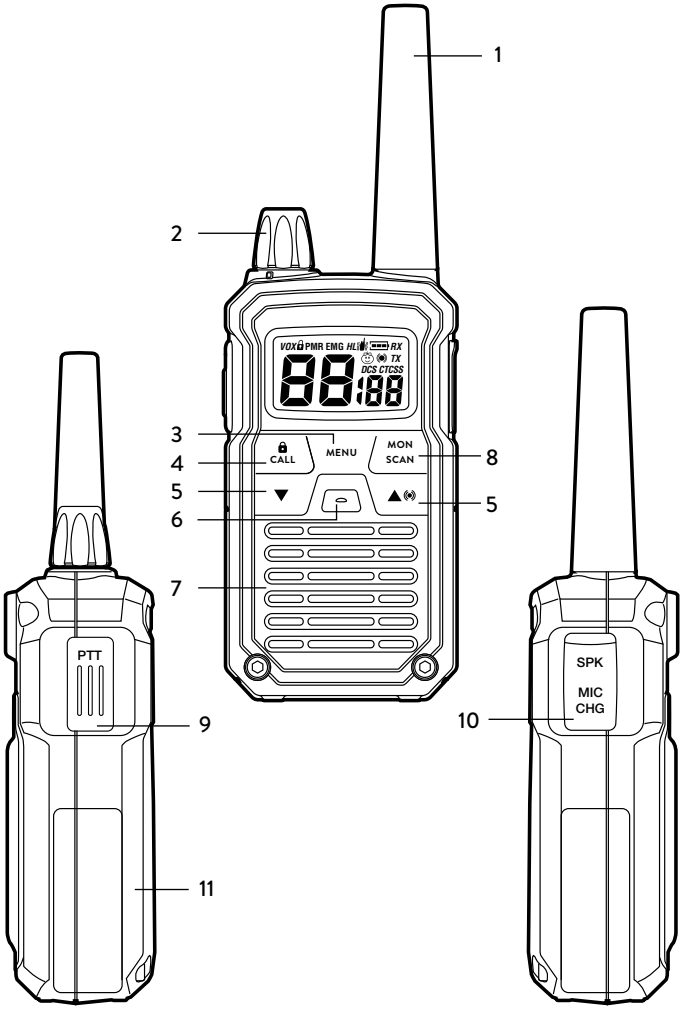
Identifying the parts

Display



1. **Selected channel** (1-16/17P-32P: PMR446 /1-69:LPD)
2. **VOX** - Function activated
3. 🔒 - Keypad lock activated
4. **H/L** - Indicates the high / low power selection in transmission (only in PMR band)
5. ▬ - Battery status indicator
6. **RX** - Radio in rx mode (busy channel)
7. **TX** - Radio in transmission (PTT pressed)
8. ◉ - It appears when you are operating with the Out of range function
9. **DCS/CTCSS** - Type of sub-audio tone selected
10. **Code of the selected CTCSS or DCS tone** (CTCSS: 1-38; DCS: 1-104)
11. ☺ - It is shown when the Baby Sitter function is active
12. **PMR** - This simbol indicates that the radio is operating on the new PMR446 channels
13. **EMG** - Emergency function activated
14. ✋ - Vibra-Call function activated

Transceiver



1. **Antenna**
2. **OFF/VOLUME knob** - To switch on/off the radio and to adjust the volume.
3. **MENU** - Press shortly this control to enter the radios menu. Keep it pressed for 3 seconds to send out the emergency call.
4. **CALL/🔒** – to send a call to the selected channel. If you keep it pressed for about 3 seconds, the keypad lock is activated.
5. **▲/◉ -▼ controls** - To change the settings in the menu. If you keep pressed ▲/◉ you manually verify if there are some radios within the range (manual Out of range function).
6. **MIC** - Built-in microphone
7. **Built-in Speaker.**
8. **MON/SCAN** - Press this button once to activate SCAN. Keep it pressed for about 2 seconds to activate the Monitor function, that temporarily cuts off the squelch (for weak signals)
9. **PTT** - Press to transmit.
10. **SPK | MIC** (under the protective cover) - To connect to external audio devices such as microphones, headphones, etc
11. **Battery compartment:** insert the rechargeable battery pack supplied in the package.

Recharging the NIMH battery pack PB70 PRO 700 mAh

Place your transceiver into the cradle of the desktop charger.
A complete recharge takes about 3 hours.
There's no evidence when the recharge is finished, therefore we suggest you detach the wall adaptor from the radio or remove **XT70 PRO** from the desktop charger cradle after 4 hours.

Recharging process

While the radio is being charged, the battery icon on the display will be blinking. When the recharge is complete, the battery icon will be steady and will show all its bars.

Memory effect of rechargeable batteries

Rechargeable NiMH (Nickel-Metal-Hydrate) batteries are affected by what is known as the "memory effect". This phenomenon is associated with a drastic reduction of battery autonomy and is triggered if the batteries are regularly charged before being fully discharged and/or are not completely recharged. To avoid the memory effect:

- When possible, recharge the batteries only when they are completely discharged (until the device turns itself off during normal use)
- Do not disconnect the battery charger before the time indicated for a full battery charge.

The memory effect should not be confused with the normal battery life, which is 300-400 cycles of charge/discharge on average. It is completely normal for operating duty to decrease when the batteries have reached the end of their life; at this point, you will need to substitute the batteries.

Installing/removing the battery pack

1. Remove the belt clip;
2. Open the battery compartment;
3. Remove or insert the battery pack;
4. Close the battery cover and fix the belt clip.

Basic operations

Turning on/off

To turn on the transceiver, turn the **VOLUME** knob clockwise until you hear it clicks: the LCD display will light up and do an Auto-Test. Subsequently you will hear 2 beeps of different tones.
To turn off the transceiver, turn the knob counter-clockwise until you hear another click.

Volume control

Turn the knob **VOLUME** to about half way and adjust it to a comfortable level as soon as you receive a signal. If you do not receive a signal you can use the button **MON/SCAN** described in par. "MON button".

Displaying the channel/sub audio tone

To momentarily display the PMR446 channel and the subadio tone used in the pre-set channels, go to the desired channel (from 17p to 32p) and keep pressed the ▼ for 3 seconds.

Transmission and reception

When you press the PTT the transceiver transmits with high or low power (depending on the setting of the **MENU**: ***H*** or ***L***).
To transmit:

1. Make sure that no one else is currently talking on the selected channel;
2. Keep button **PTT** firmly pressed: ***TX and To*** will appear on the display;
3. Before you start talking wait for a fraction of a second then speak normally, in the direction of the microphone.
4. When you have finished, release the **PTT**: ***TX and To*** will disappear from the display;
5. When the radio is in reception mode (**PTT** not pressed) you will automatically receive any communication (***RX*** displayed).

During transmission and reception try, as far as possible, to keep the antenna in vertical position and to avoid obstacles towards the direction of the other party.

Transmitting TOT Setting

The TOT function is used to prevent a too long transmission. This function temporarily blocks transmissions if the radio has been used beyond the maximum time permitted. Once reached the preset timer (180 seconds), the radio will be forced in reception mode.

MON button (Monitor)

The **Monitor** button is for temporarily excluding (opening) the squelch, in order to listen to signals that are too weak to keep the squelch permanently opened. By excluding the squelch you will avoid listening the communication "chopped" by the squelch. In order to activate the Monitor function, so as to listen to all traffic on the selected channel, keep pressed the **MON/SCAN** button for about 3 seconds. Keep pressed the button **MON/SCAN** for about 3 seconds to disable this function.

Scanning all channels

XT70 PRO can automatically search for signals throughout the PMR/LPD bands by scanning, i.e. selecting the channels in rapid sequence.
Press briefly the button **MON/SCAN** to start scanning.
When a signal is detected, the scanning pauses on that channel and you can transmit by pushing **PTT** . The scroll buttons ▲/▼ allow you to change the direction of scanning (from lower channels to higher ones or vice versa) and therefore to skip communications which are of no interest.
If you want to stop it, press again **MON/SCAN**. Your transceiver will go back to the channel from which the scanning originally started.

Display backlight

If there is insufficient light to read the display you can press the **MENU** button to switch the display back light on for about 5 seconds.

Switching the backlight on the display adds an additional drain on the batteries. Try to make a moderate use of this.

Backlight always on

It is also possible to have the backlight always on.
In PMR446 mode, press 13 times the **MENU** button, the display will show "***bl of***".

With the ▲/▼ buttons select "***bl on***" and confirm by pushing **PTT** or wait for 4 seconds.

Keypad lock

Keep pressed **CALL/🔒** for about 3 seconds and 🔒 will be displayed as confirmation. Only **PTT** and **CALL/🔒** remain active. To disable this function, keep pressed again **CALL/🔒** for 3 seconds approx.

Power Save

The battery power saving feature enables a reduction in the consumption of up to 50%; power saving comes on automatically when the transceiver does not receive any signal for more than 5 seconds. When the batteries are discharged, ***bt LO*** appears on the display: recharge the battery pack.

MENU button

Alarm function (Emergency)

Keep pressed the **MENU** key for 3 seconds. The radio will switch to Alarm Emergency mode.
XT70 PRO will switch to transmission for 30 seconds by generating a sound alarm which will be heard for the first 10 seconds of the transmission.
Then for the remaining 20 seconds it will remain in tx so as to allow the user to communicate his status.
In the following 20 seconds, the radio will switch to reception.
This sequence is automatically repeated for 3 times.
At the end, the radio will switch to rx mode.
If needed, the emergency call can be repeated.
The Emergency function can be interrupted whenever you want, just press shortly **MENU** or **PTT**.

Channel selection

Press once the **MENU** button. The number of the channel will start flashing on the display. Press the scroll buttons ▲/▼ to scroll up or down the PMR and then LPD channels till you select the desired channel.
Press the **PTT** button to confirm, or wait for 7 seconds.

🗎 *Refer to the table of frequencies.*

CTCSS/DCS tones selection

XT70 PRO can receive in two modes:

a. **Open traffic:** in this case you will hear any communication transmitted on the selected channel;

b. **Group mode CTCSS/DCS:** CTCSS/DCS tones are access keys that allow you to receive only messages coming from parties using the same channel and code. The speaker will remain muted until the correct tone is received.

To activate 1 of 38 different CTCSS/104 DCS tones in RX and TX

1. Turn on the radio.
2. Select the desired channel.
3. Press twice **MENU** until the Display shows ***oF*** (blinking on the right side).
4. By pushing the ▲/▼ controls the display will show ***CTCSS*** (***ct*** blinking) or ***DCS*** (***dc*** blinking); press **MENU** to enter the CTCSS or DCS tones. Now select the desired tone with the ▲/▼ keys.
5. To confirm the setting, press the **PTT** key or wait for approximately 5 seconds.

Choosing high or low transmission power (PMR band)

Batteries are drained more quickly during transmission. In order to extend the battery life you can select the low power when transmitting over short distances.

Procedure:

1. Press the **MENU** button for 3 times and ***Pr H*** will be displayed.
2. Select ***L*** using the scroll buttons ▲/▼.
3. Press **PTT** to confirm, or wait for 5 seconds.

If you want to transmit a longer distance repeat the above procedure to select the high power. At step 2 select ***H***. When the batteries are in good conditions, high power is 500mW, whereas low power is 10mW.

A low battery level during transmission will reduce the performance of your device.

VOX function

XT70 PRO enables hands free conversations through VOX function. You can enable it with or without accessories. **The VOX sensitivity can be set in 9 different levels** :

- 1 = high sensitivity (normal voice with no background noise)

- 9 = low sensitivity (useful in very noisy areas or if you talk loudly)

All these options can be selected on two levels as follows:

1. To activate VOX function press the **MENU** button till ***VOX*** will appear on the display.
2. Use the scroll ▲/▼ buttons to select the desired setting:
   OFF: Disabled;
3. ***1,2,3,4,5,6,7,8,9.*** Level 1 is the most sensitive
4. Press **PTT** to confirm or wait for 5 seconds.

To disable the VOX function follow the instructions above and select option ***oF***.

ROGER BEEP (End transmission tone)

When your transmission is finished (PTT released), **XT70 PRO** gives out a sound that indicates to the other party that s/he can start talking. This function is enabled by default.

To deactivate it:

1. Press the **MENU** button until the display shows ***"rb on"***;
2. Using the scroll buttons ▲/▼ select ***"off"*** and ***"rb of"*** will be displayed;
3. To confirm the roger beep deactivation, press **PTT** button or wait for 5 seconds.

CALL function

XT70 PRO can send 10 different call tones. To send this audio signal to other users, press the **CALL/🔒** key.

To select the call tones:

1. Push the **MENU** button 6 times, until the display shows ***"CA 1".***
2. By pushing ▲/▼ you will hear the 10 pre-set melodies.
3. Confirm by pressing the **PTT** key or wait for 5 seconds.

Now, each time your **XT70 PRO** sends out a tone call, it will beep with the selected melody.

Keypad beep

To deactivate the keypad beep, follow these steps:

1. Press **MENU** button, until ***"bP on"*** is displayed.
2. Use the ▲/▼ buttons until the display shows ***"bP of".***
3. Confirm by pushing the **PTT** or wait for 5 seconds.

Now you won't hear any beep at the pressure of any button.

Automatic Out-of-Range

By setting this mode a pair of **XT70 PRO** is transmitting every 30 seconds a data control code. As soon as the contact between both units is getting lost and one radio doesn't receive this data control code, the ◉ icon starts flashing in the display and you will hear a beep tone.

Automatic Out of range

Activation:

Press **MENU** till the display shows ***"Or of"***, select ***"Or on"*** (activated) with the ▲▼ buttons.

Confirm the setting by pushing the **PTT** or wait for 5 seconds. The display will show ◉. A data control code will be sent every 30 seconds.

As soon as this connection is interrupted and the radio does not receive the control code, the ◉ icon will blink on the display and the radio will emit a tone. The ◉ will be blinking till the radio goes back within the range.

To disable this function:

Push **MENU** till ***"Or on"*** is displayed;

Select ***"Or of"*** (disabled) with the ▲▼ buttons.

Confirm your selection by pushing **PTT** or wait for 5 seconds.

Manual Out of range

The manual Out of range is always active.

To verify if there are some radios within the range keep pressed ▲/◉ for 3 seconds.

If a radio is within your range you will hear a call tone, while if you don't hear any tone, no radio is within the range.

Note: a radio will always reply to the manual Out of Range control. No specific setting needs to be enabled.

Baby Sitter function

XT70 PRO is equipped with the "Baby Sitter" function.

Press the **MENU** button till the display shows ***"Bs of"***.

Select with the scroll buttons ▲▼ the baby mode ***"b"*** or the sitter (parents) mode ***"p"***.

To confirm, press the **PTT** button or wait for 5 seconds.

The display will show the selected mode and the icon ☺.

The baby channels **"b"** (from b1 to b9) have the VOX feature set on the highest sensitivity (1).

This unit set on one of these baby channels, should be placed near the baby; while the one used for listening to the baby should be set on the sitter channels ***"p"*** (from s1 to s9).
In the baby channels you can set with the **MENU** button the VOX sensitivity level from 1 (highest sensitivity) to 9 (lowest sensitivity). See par. "VOX function".
With the **MENU** button it is also possible to change the baby or sitter channel and select the high (H) or low (L) power.
In order to have the baby-sitter function properly operating, the 2 radios must be set on the same frequency band (same channel and same CTCSS tone).

For example: if the radio place near the baby is set on the channel b1, the other one used for listening to the baby should be set on channel s1.

To momentarily display the PMR446 channel and the sub-audio tone of the Baby sitter channel, go to the desired channel and keep pressed the ▲ button for 5 seconds.

Vibra-Call function

XT70 PRO is equipped with the "Vibra-Call" feature, which provides a silent alert for incoming calls.
To activate this feature, press the **MENU** button until the display shows .
Use the ▲ ▼ buttons to disable or enable this feature (***on***: enables, ***oF***:disables).
Push PTT to confirm or wait for 5 seconds.

Dual Watch

This function allows the monitoring of 2 channels at your choice.

Procedure:

1. Select one of the 2 channels you want to monitor.
2. In the PMR band, press the **MENU** button for 10 times till the display shows "***oF du***".
3. Select the second channel to monitor with the ▲/▼ controls.
4. Press **PTT** or wait for 5 seconds for confirmation.
5. To stop Dual Watch, push **MON/SCAN**

Squelch adjustment

This function allows to adjust the squelch in 9 different levels:
Level 1 has the lowest squelch, level 9 has the highest level of squelch.

If you set the squelch at the highest level, you will only hear the strongest signals.

1. In PMR446 band, press the **MENU** button for three times.
2. The display will show "***SL***" followed by a number that identifies the squelch level.
3. Select the desired level by pushing the ▲/▼ controls, then confirm with **PTT** (or wait for 4 seconds).

Troubleshooting and radio reset

Your Midland **XT70 PRO** is designed to provide you with years of optimal performance. If for some reason problems arise, refer to this chapter before contacting a service centre in your region.

Reset

If your transceiver experiences a logical malfunction (improper symbols on the display, blocking of functions, etc.), it may not be experiencing a true failure, but rather a problem caused by external factors. For example, it may have an incorrect setting brought on by a noise or spikes in the electrical system during battery recharging. In such cases, you can reset the transceiver to its factory-programmed settings, by resetting all parameters:

1. Turn off the transceiver
2. Keep pressed the ▲ button and turn on the radio at the same time. All the functions will be reset ex-factory.

Before you go ahead with the reset, we recommend that you take note of all the setting you have carried out as they will be deleted.

Technical specifications

Channels ..... 32 PMR; 69 LPD
Frequency range .....446.00625 ÷ 446.19375MHz (PMR)
..... 433.075 - 434.775MHz (LPD)
Channel spacing.....12.5 KHz (PMR); 25 KHz (LPD)
Power supply..... 700mAh 6Vdc battery pack
Temperature ..... -20° to +55°
Dimensions (w/o batteries).....53 (L)x 120 (H)x35 (D) mm
Weight (w/o batteries).....123gr
Duty cycle..... TX 5%, RX 5%, stand-by 90%
Category .....B

Transmitter
Output power.....10 or 500 mW (Selectable)
Modulation..... FM
Spurious rejection ..... within European legal terms

Receiver
Sensitivity @ 12dB Sinad 0,23µV
Adjacent channel rejection.....70dB
Audio output power..... 320mW @ 10% THD
Receiver category.....3 (referred to LPD only)
Jack for ext.mike .....stereo 2,5 mm
Jack for ext. speaker .....mono 3.5 mm
Maximum transmission time in an hour ..... 6 minutes,
..... equivalent to a duty cycle of 10%

Specifications are subject to change without notice.

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.

Prodotto o importato da: **MIDLAND EUROPE srl** Via. R.Sevardi 7, 42124 Mancasale - Reggio Emilia Italia - **www.midlandeurope.com** L'uso di questo apparato può essere soggetto a restrizioni nazionali. Prima dell'uso leggere attentamente le istruzioni.

Produced or imported by: **MIDLAND EUROPE srl** Via. R.Sevardi 7, 42124 Mancasale - Reggio Emilia - Italy.

Imported by: **Alan-Nevada UK** Unit 1 Fitzherbert Spur Farlington Portsmouth Hants. P06 1TT - United Kingdom - **www.nevada.co.uk** The use of this transceiver can be subject to national restrictions. Read the instructions carefully before installation and use.

Vertrieb durch: **ALAN ELECTRONICS GmbH** Daimlerstraße 1g - D-63303 Dreieich Deutschland **www.alan-electronics.de** Die Benutzung dieses Handfunkgerätes ist von den landesspezifischen Bestimmungen abhängig. Vor Benutzung Bedienungsanleitung beachten.

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RoHS Compliant

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