XT·70

DUAL BAND (PMR446/LPD) WALKIE-TALKIE

› Instruction Guide

up to
12Km*

* Depending on terrain

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Content of the package

- 2 transceivers with belt clip
- 1 USB cable
- 1 double fast desktop charger
- 2 rechargeable battery packs 1000mAh
- 2 earphone mikes MA21L

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.**

Main functions

- Dual Band LPD/PMR transceiver
  Channels: 24 PMR446 (8+16 pre-programmed) + 69 LPD
- Side Tone: end transmission noise muffler
- Wide LCD display with backlight
- Low battery indicator
- Auto power save: automatic current economy circuit
- 38 CTCSS and 83 DCS tones in TX and RX
- CALL button with 5 tones selectable
- Battery life up to 17 hours
- Fast charger (4h)
- Monitor function
- BAby Sitter function
- Buttons for the channel selection
- Knob for volume adjustement
- Out of range function (automatic or manual)
- SCAN function
- 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
- USB port to recharge the radio
- 📄 *The manufacturer, with its effort to constantly improve product quality, reserves the right to change characteristics and features without prior notice.*
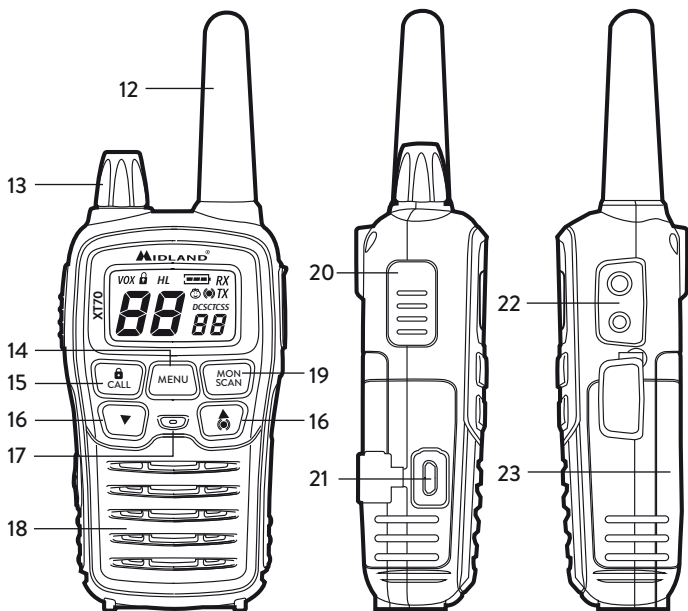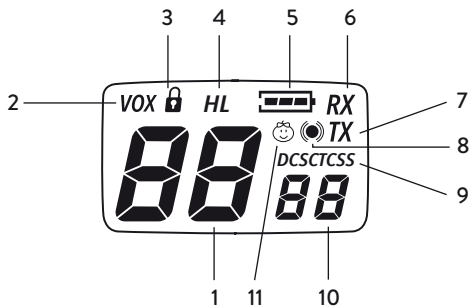
Above all....Safety!

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.*

Batteries

! *Do not try to charge alkaline batteries or non rechargeable batteries. Make sure that when you charge the radio, only rechargeable NI-MH batteries should be contained in the battery compartment! It is very dangerous attempting to recharge other types of batteries (for example alkaline or manganese batteries). Batteries which are not suitable to be recharged may leak, explode or even burn and cause damage!*

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

! *Do not throw batteries into fire or place them near heat as this may cause explosions or personal injuries. Dispose of the batteries according to procedures set out by local regulations.*

! *Do not mix old and new batteries or batteries of different types or batteries which have been used in different manners.*

Identifying the parts

LCD Display

1. **Selected channel** (P1-P8/9P-24P: 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: 1-83)
11. **☺** - It is shown when the Baby Sitter function is active

Transceiver

12. **Antenna**
13. **OFF/VOLUME knob** - To switch on/off the radio and to adjust the volume.
14. **MENU** - Press this control to enter the radios menu
15. **CALL/🔒** – to send a call to the selected channel. If you keep it pressed for about 3 seconds, the keypad lock is activated.
16. **▲/◉ -▼ 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).
17. **MIC** - Built-in microphone
18. **Built-in Speaker.**
19. **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)
20. **PTT** - Press to transmit.
21. **USB port** for the recharge of the radio
22. **SPK | MIC** (under the protective cover) - To connect to external audio devices such as microphones, headphones, etc
23. **Battery compartment:** insert the rechargeable battery pack supplied in the package or 3 x AA batteries (alkaline or rechargeable).

Preparing the transceiver

The radio can be recharged with different type of batteries: here below the possibilities.

Note: To optimize the recharge process, we suggest you switch off the radio to recharge it.

Recharging the NIMH batteries (3 x AA)

Place your transceiver into the cradle of the desktop charger or connect the USB cable to the proper jack of the radio.

This type of batteries is recharged with a constant current, either you use a desktop charger or a USB cable; therefore the recharge time depends from the recharge status and from the batteries capacity.

There's no evidence when the recharge is finished, therefore **we suggest you detach the USB cable from the radio or remove XT70 from the desktop charger cradle once the recharge is complete.**

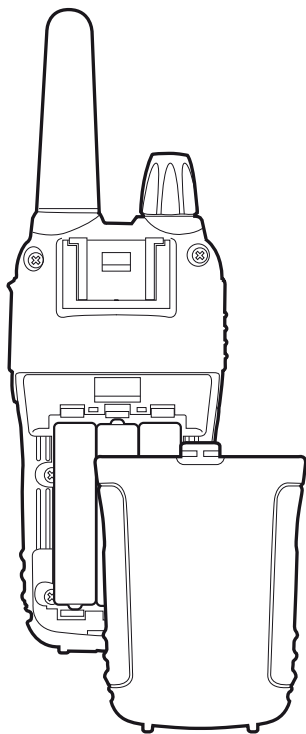## Recharging the NIMH battery pack PB-X7 1000mAh

Place your transceiver into the cradle of the desktop charger or connect the USB cable to the proper jack of the radio.

This type of batteries is recharged with a constant current, therefore a complete recharge takes about 4 hours.

There's no evidence when the recharge is finished, therefore we suggest you detach the USB cable from the radio or remove **XT70** from the desktop charger cradle after 4 hours.

Installing/removing the battery pack

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

PICTURE 1

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 9p to 24p) 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 (if you have set a CTCSS tone, *To* wan't be displayed;
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 (1 minute), 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 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.*

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: replace the batteries or recharge the battery pack.

MENU button

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 5 seconds.

▤ *Refer to the table of frequencies.*

CTCSS/DCS tones selection

XT70 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/83 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 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*
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** 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 off"* will be displayed;
3. To confirm the roger beep deactivation, press **PTT** button or wait for 5 seconds.

CALL function

XT70 can send 5 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 5 pre-set melodies.
3. Confirm by pressing the **PTT** key or wait for 5 seconds.

Now, each time your **XT70** 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** 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 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 ▲ ▼ buttons for 5 seconds.

Troubleshooting and radio reset

Your Midland **XT70** 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 .... 24 PMR; 69 LPD
Frequency range .... 446.00625 ÷ 446.09375MHz (PMR)
.... 433.075 - 434.775MHz (LPD)
Channel spacing................................12.5 KHz (PMR); 25 KHz (LPD)
Power supply.. 1000mAh battery pack
.... 3x AA type 4.5V(Alkaline)
.... 3.6V(Rechargeable) batteries +/- 10% VDC
Temperature .... -20° to +55°
Dimensions (w/o batteries)................................... 58 (L)x 120 (H)x33 (D) mm
Weight (w/o batteries)...113gr
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 0,35µV
Adjacent channel rejection...70dB
Audio output power...300mW @ 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 tran-
sceiver from the mains; the desktop charger must be positioned close to the unit and easily
accessible.**

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