

MR600 Twin

Private mobile radio

Model 0509

USER GUIDE

Private mobile radio (PMR) lets you talk to as many people as you wish, as often as you like, with no need for a licence, subscription or tax payment. It's very easy to use, even for children.

Each MR600 handset can also be used as a stopwatch.

At the side of the handset ...

PTT (PUSH TO TALK) button
Press and hold this while you're transmitting

MON (MONITOR) button
To monitor the current channel

On the front ...

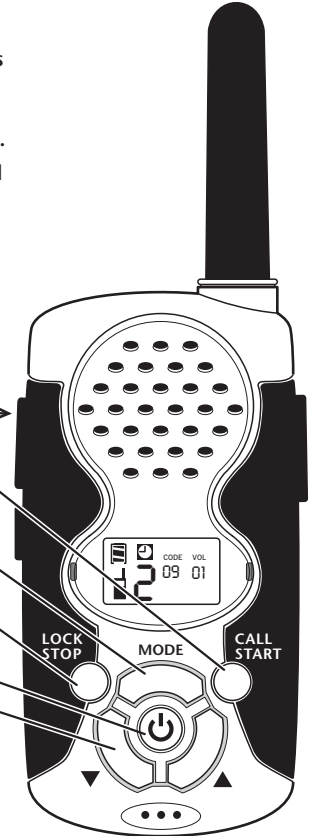
CALL/START button
To send ringing tone to other handsets, and to start the stopwatch

MODE button
To program the handset's settings

LOCK/STOP button
To lock the keypad, and to stop the stopwatch

ON/OFF button

UP▲/DOWN▼ buttons
To change the volume and to change settings during programming



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Contents

Unpacking your MR600 Twin

In the box are:

- ◆ two MR600 handsets
- ◆ one dual charger pod
- ◆ one mains power lead with adapter, for the charger pod
- ◆ two hands-free headsets
- ◆ two rechargeable battery packs
- ◆ two belt clips

If you need help ...

The **Binatone Help Line** is available from 9.00 am to 5.00 pm, Monday to Friday, on **01325 304 473**.

Please note

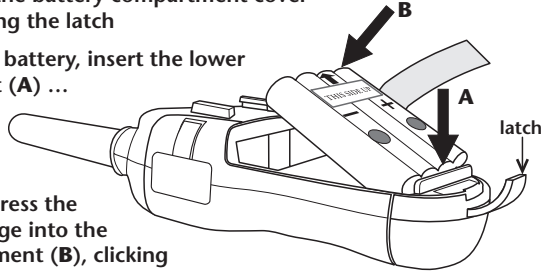
In the event of an incident or accident, the MR600 Twin cannot be used for contacting Emergency or Rescue services.

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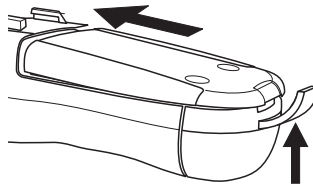
Getting ready for use

1 Fit a battery pack in each handset

- ▶ Remove the battery compartment cover by opening the latch
- ▶ To fit the battery, insert the lower edge first (A) ...

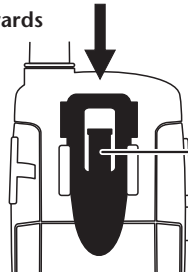


- ▶ ... then press the upper edge into the compartment (B), clicking the battery firmly into position
- ▶ Lay the ribbon across the top of the battery pack
- ▶ Replace the battery compartment cover, and firmly close the latch



2 Fit the belt clips (optional)

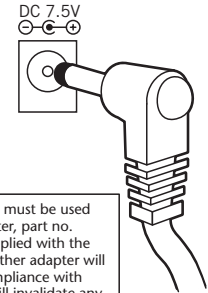
- ▶ Slide the clip downwards until it clicks into position



If you later want to remove the belt clip, lift the central tab with your fingernail. The clip will easily slide out.

3 Connect the charger pod to the mains power supply


- ▶ Plug the mains power lead into the connector on the back of the the charger pod
- ▶ Plug the mains adapter into a 230 V AC, 50 Hz mains socket, with the switch on the socket set to OFF
- ▶ Switch on mains power at the socket



The MR600 Twin must be used with mains adapter, part no. XX002125D, supplied with the unit. Using any other adapter will result in non-compliance with EN60065, and will invalidate any approval given to this apparatus.

4 Charge the handsets' battery packs

- ▶ Place the handsets in the charging cradles
Leave them for 12 hours to charge the batteries fully

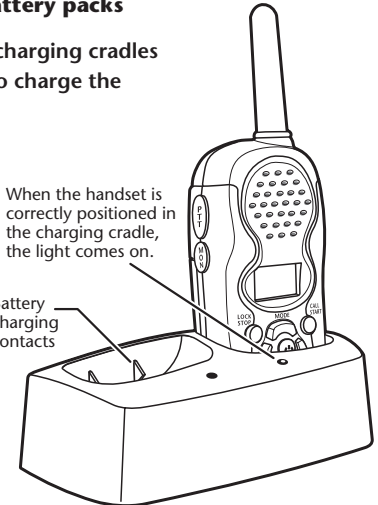
When the handsets are switched on, the battery level display should show  (full).

See page 5 for more information about the display.

Whenever you're not using your MR600 Twin handsets, leave them on the charger pod to keep the batteries charged.

When the handset is correctly positioned in the charging cradle, the light comes on.

Battery charging contacts




Switching on and off

To switch the handset ON:

- ▶ Press and hold  (ON/OFF) until the display comes on

To switch the handset OFF:

- ▶ Press and hold  until the display goes blank

You hear a musical tone each time to confirm.

Volume control

You can adjust the loudspeaker volume using the ▲ and ▼ buttons. There are 16 volume levels altogether; the current volume level is shown on the display (see opposite).

You can do this either while you're using your MR600 Twin handset, or while the handset is idle (neither transmitting nor receiving, nor being programmed).

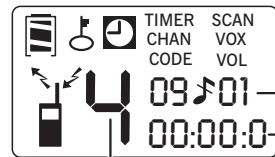
If you adjust the volume while the handset is idle, you'll hear a 'beep' each time you press the ▲ or ▼ button. By holding the button down, you can change the volume continuously; you won't hear a 'beep' until you release the button.

- ! If you are using the hands-free headset — to protect your hearing, do not turn the volume to the highest level.

Spare batteries

As well as the rechargeable battery pack supplied, you can use **four good-quality 1.5 V AAA alkaline batteries** in your handset. If you're going to be using your MR600 Twin outside for a long time, you may wish to take some spare batteries with you in case the battery pack runs low. When you fit the spare batteries, make sure you follow the + and – markings on the battery compartment.

What you'll see on the display




The volume level (01 to 16)

Minutes and seconds appear here when you're using the Timer (stopwatch).

The channel number (1 to 8)




Battery charge level indication. When this shows  (empty), you need to recharge the battery pack.




This appears when the handset's buttons are locked..



Transmit/Receive

 appears when you're transmitting.

 appears when you're receiving a transmission from another handset user. (It appears whenever someone is transmitting on the same channel, but if their CTCSS code is different from yours, you won't be able to hear the transmission.)



This is shown when **Auto-Power-Off (APO)** is turned on (page 12).

CODE

09

This is the **CTCSS code** (01 to 38). If -- is shown here, this means that the CTCSS function is turned off. See 'Channels and codes' overleaf for more details.



This is shown when you've turned off **key tones** (page 12).

TIMER

This is shown when you're using your handset as a **stopwatch**.

SCAN

This is shown when you have activated **scanning**, so the handset will continuously scan all channels for transmissions (page 10).

VOX

This is shown when you have turned on **VOX mode**, so that your handset will start transmitting whenever it detects that you are talking into the microphone (page 8).

Channels and codes

Introduction

PMR has **eight channels**, numbered 1 to 8. When you select a channel, you can communicate on that channel with other PMR users within range (up to 3 km [1¾ miles], depending on conditions). The talk range will be greatest in a flat, open area, without obstructions.

Each channel also has **38 CTCSS* codes**, letting you set up groups of users within the same channel, for more private communication. If you have set a code, you can communicate only with other users tuned to the same channel and the same code.

You can turn the CTCSS function off, by setting 'no code'. This lets you communicate with any PMR user on the same channel who has also turned off CTCSS (or whose PMR handset does not have this feature).

- ! **Be aware that PMR446 is an open-licence band — always identify yourself when transmitting, as other people may be communicating on the same channel.**

Setting the channel

If you want to communicate with other handset users, you must all have your handsets tuned to the same channel.

To select a channel:

- 1 Press **(MODE)** once > CHAN appears on the display.
- 2 Press **▲** or **▼** until you find the channel you want
- 3 Press **(PTT)** (on the side of the handset) to return to normal operation

You can also use **channel scanning**, as described on page 10.

* Continuous Tone-Coded Squelch System

Setting the CTCSS code

To set the CTCSS code:

- 1 Press **(MODE)** twice > CODE appears on the display.
- 2 Press **▲** or **▼** until you find the code you want
- 3 Press **(PTT)** to return to normal operation

To turn off the CTCSS function:

- 1 Press **(MODE)** twice > CODE appears on the display.
- 2 Press **▲** or **▼** until the display shows --
- 3 Press **(PTT)** to return to normal operation

Safety warnings

Radio frequency exposure

- ◆ When using the MR600 Twin, **hold the handset at least 5 cm (2 inches) from your face**, with the antenna pointed upwards and away from your face.
- ◆ **Use only the antenna supplied.** Unauthorised antennae, modifications or attachments could damage the transmitter; and modifications not expressly approved by Binatone could void your authority to use the MR600 Twin.

Outdoor use


- ◆ **Never use your MR600 Twin outdoors in a thunderstorm.**
- ◆ The MR600 Twin is splashproof. But if it is likely to get very wet, carry it in a **plastic bag** — you will still be able to use it through the bag.
- ◆ If your MR600 Twin gets very wet, turn it off and remove the batteries. Dry the battery compartment and leave the cover off for a few hours. **Do not use the handset until it is completely dry.**

Transmitting and receiving


Note: PMR transmission is 'one-way-at-a-time' — while you are speaking, you cannot receive a transmission.


Don't try to use two MR600 handsets which are less than 1.5 m (5 feet) apart. If you do, you may get interference.

To speak to another handset user

- 1 Press and hold **(PTT)** so that  appears on the display
- 2 Speak clearly into the microphone, in a normal tone — don't shout
- 3 When you've finished speaking, release **(PTT)**

To listen to another handset user

- 1 Make sure you are not pressing **(PTT)**
 appears on the display when the other person is speaking.
- 2 Adjust the volume using **▲** and **▼** as necessary

If  appears on the display but you can't hear a transmission, this means that someone is transmitting on the same channel but is using a different CTCSS code.

Using VOX mode

In VOX mode, your handset will automatically start to transmit when it detects your voice (or other noise), without the **PTT** button pressed. It will then transmit for at least 2 seconds, even if you stop talking before 2 seconds have passed.

There are three levels of VOX sensitivity — 1, 2 and 3. Level 1 is the most sensitive, meaning that the handset will pick up softer noises; at Level 3, it will pick up only quite loud noises.

If you set the VOX sensitivity to 0, you turn off VOX mode altogether (this is the default).

- 1 Press **(MODE)** five times \geq VOX appears on the display, which also shows the current sensitivity level.
- 2 Press **▲** or **▼** to change the sensitivity level
Setting the sensitivity level to 0 turns off VOX mode.
- 3 Press **(PTT)** to return to normal operation
As long as the handset is in VOX mode, VOX stays on the display.

Note The VOX function will be temporarily disabled while you're transmitting, receiving, scanning, monitoring or programming the handset.

Monitoring the current channel

The MR600 Twin has what's called an **automatic squelch circuit**, which turns the speaker off when no-one's transmitting a message to you. But if a transmission is weak, the circuit may prevent your handset picking up the signal.

So you can temporarily de-activate (turn off) the circuit if you wish, putting the handset into **monitor mode**, as follows:

- 1 Press and hold **(MON)** (MONITOR, on the side of the handset)
After 1 second, your handset will pick up any signals on the current channel, including any background noise.
- 2 To stop monitoring, simply release **(MON)**


(Note that you cannot use 'monitor mode' while you are scanning channels.)

Scanning channels

When the handset's in SCAN mode, it will continuously scan through all eight channels until it finds one on which another user is transmitting.

To start scanning:

- 1 Press **(MODE)** three times > SCAN appears on the display, which also shows *son* or *αF*
- 2 Press **▲** to turn scanning on or **▼** to turn it off
- 3 Press **(PTT)** briefly

When the handset detects an active channel, it will stop at this channel for 2 seconds, and  will appear on the display. If your CTCSS code matches that of the transmitting handset, you will hear the transmission.

If you want to communicate on this channel:

- 1 Press and release **(PTT)** during the 2 seconds
Your handset will now be set to this channel and you can carry on receiving and transmitting on it.
If you don't press **(PTT)**, the handset will carry on scanning.

To stop scanning:

- 1 Briefly press **(MODE)**
The handset will stay at the channel currently shown on the display.

Call Ring tone

You can transmit Call Ring tone to other handsets within range and tuned to the same channel, to alert them that you want to communicate with them. The MR600 gives you a choice of ten Call Ring tones.

To set your chosen Call Ring tone:

- 1 Press **(MODE)** four times > CA tone appears on the display, which shows the tone currently set
- 2 Press **▲** or **▼** change the tone
Each tone plays in turn. When you reach the one you want:
- 3 Press **(PTT)** briefly

To send Call Ring tone to other handsets:

- 1 Press **CALL/START**
OR, while you're transmitting, with the PTT button pressed:
- 2 Press **▲** while keeping **(PTT)** pressed

Locking the buttons

With the handset locked, the **MODE**, **▲**, **▼** and **CALL/START** buttons are inactivated, so you can't accidentally change the handset's settings.

To lock the buttons:

- 1 Press and hold **LOCK/STOP** for one second
You hear a 'beep' and  appears on the display.




To unlock the buttons:


- 1 Press and hold **LOCK/STOP** for one second
You hear a 'beep' and  disappears from the display.

Other handset features

Turning key tones on and off







Normally, you will hear a tone each time you press a button on your MR600 handset. If you prefer, you can turn these tones off, as follows:

- 1 Switch the handset off by pressing 
- 2 While holding down , press  again to switch back on

As long as key tones are turned off,  is shown on the display.

Auto-Power-Off (APO)

This feature saves battery life by automatically turning the handset off if you have not pressed any button for a set time. You can set the timeout to 1, 2 or 3 hours; or set it to 0 (zero) to turn APO off.


- 1 Press  seven times
 flashes on the display, which shows the current timeout setting.
- 2 Press  or  change the timeout setting (1, 2 or 3, or 0 for APO off)
- 3 Press  briefly
 is shown on the display as long as APO is turned on.

Using the handset as a stopwatch (Timer)

To turn the Timer function on:

- 1 Press  six times

TIMER appears on the display, which also shows *on* or *oF* and 00.00.0 (lapsed time, in minutes, seconds and tenths of seconds)

- 2 Press  to turn Timer on or  to turn Timer off

- 3 Press  briefly

As long as the Timer function is on, TIMER and the lapsed time are shown on the display.

To start the stopwatch:

- 1 Press **CALL/START**

The lapsed time is shown on the display.

To stop the stopwatch:

- 1 Press **LOCK/STOP**

To reset the stopwatch to zero (00.00.0):

- 1 Press **LOCK/STOP** again while the stopwatch is stopped

To suppress the lapsed time display:


- 1 Press **CALL/START** while the stopwatch is running


The lapsed time will stay unchanged on the display, while TIMER flashes.

To see the updated lapsed time:

- 1 Just press **CALL/START** again

Using a hands-free kit

To connect the hands-free kit to your MR600 Twin handset, lift the hinged cover (marked ) at the side of the handset, and plug in the connector.

With the hands-free kit connected, you may want to transmit in VOX mode (see page 8). If you find that this doesn't work very well, you can turn the VOX sensitivity to 0 (off) and press  to transmit, as normal.

Safe hands-free use

- ◆ If you are using a hands-free earpiece, to protect your hearing, **don't turn the volume to maximum level.**
- ◆ If you're wearing the handset on your body, use **only the belt clip supplied** with the MR600 Twin. When you're transmitting, take the handset off your belt and hold it so that the antenna is **at least 2.5 cm (1 inch) away from your body.**
- ◆ If you use any hands-free accessories other than the kit supplied, make sure they are approved, and from a reputable supplier. Other accessories may cause damage not covered by the guarantee.

Technical details

Operating frequency
446.00625 to 446.09375 MHz
(eight channels)

Channel spacing
12.5 KHz

Power source
4 × 'AAA' rechargeable NiCad
battery. 4.8 V, 300 mAh

Approvals
EN 300296 (RF testing),
EN 300339 (EMC testing)

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	446.00625	5	446.05625
2	446.01875	6	446.06875
3	446.03125	7	446.08125
4	446.04375	8	446.09375

Troubleshooting

If you have problems using your MR600 Twin, check the points below and overleaf.

If you still have problems, **reset your handset by switching it off and removing the batteries. Then replace the batteries and switch the handset on again.**

Problem	Possible cause — <i>things to do/check</i>
No reception	<ul style="list-style-type: none">■ Handset set to wrong channel — <i>check with other user</i>■ Handset set to wrong CTCSS code — <i>check with other user</i>■ Other user may not be transmitting■ Handset not switched on — <i>switch on</i>■ Volume too low — <i>increase the volume</i>■ Batteries flat or not fitted correctly — <i>check</i>■ Other user out of range — <i>move back within range</i>
No transmission	<ul style="list-style-type: none">■ You are not pressing the PTT button■ Handset not switched on — <i>switch on</i>■ Batteries flat or not fitted correctly — <i>check</i>
Cannot change channel/code	<ul style="list-style-type: none">■ Handset may be locked — <i>unlock it</i>
Interference from other users outside your group	<ul style="list-style-type: none">■ <i>Try changing to a different channel and/or code, agreeing this with the rest of your group first</i>■ <i>Privacy cannot be guaranteed, as PMR446 is an open-licence free band.</i>
Poor or 'noisy' reception	<ul style="list-style-type: none">■ Local conditions may be impairing reception — <i>try moving, preferably to a higher location</i>■ The handset's batteries may be low — <i>charge them</i>■ Noisy reception is more likely when using high-numbered CTCSS codes — <i>try using a lower-numbered code, agreeing this with the rest of your group first</i>

Problem	Possible cause — things to do/check
In VOX mode, the unit transmits all the time	<ul style="list-style-type: none">■ Ambient noise may be too high — <i>move to a quieter place or turn the VOX function off</i>■ VOX sensitivity may be too high — <i>decrease the sensitivity</i>
In VOX mode, the unit does not transmit	<ul style="list-style-type: none">■ Sound may be too low — <i>talk in a louder voice or hold the unit closer to your mouth</i>■ VOX sensitivity may be too low — <i>increase the sensitivity (level 1 is the highest)</i>
Problems operating in VOX mode with a hands-free kit	<ul style="list-style-type: none">■ <i>Turn off VOX mode by setting VOX sensitivity to 0 (zero), and transmit as normal by pressing the PTT button.</i>

Cleaning and care

To clean your MR600 Twin, use a soft cloth dampened with water. **Do not use cleaners or solvents**, which may cause permanent damage not covered by the guarantee.

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