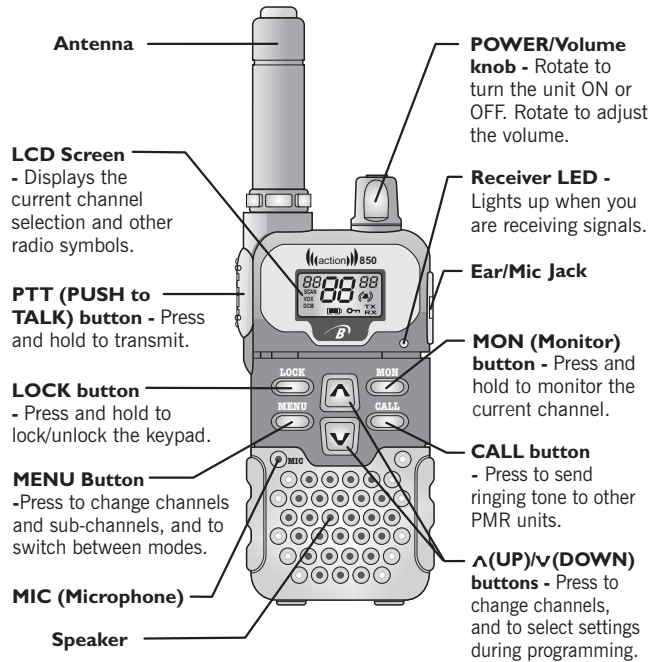


# Binatone **Action 850**

Private mobile radio with twin charger

## USER GUIDE



### I. LCD Screen



**8** Channel Number. Changes from 1 to 8 as selected by the user.

**38** CTCSS Code. Changes from 1 to 38 as selected by the user.

Displays the Battery charge level. When the bars are reduced, the battery needs recharging.

**TX** Displayed when transmitting a signal.

**RX** Displayed when receiving a signal.

**SCAN** Displayed when the Scan feature is activated.

**VOX** Displayed when the Vox feature is enabled.

**DCM** Displayed when the Dual Watch function is turned ON.

Displayed when the Key Lock feature is activated.

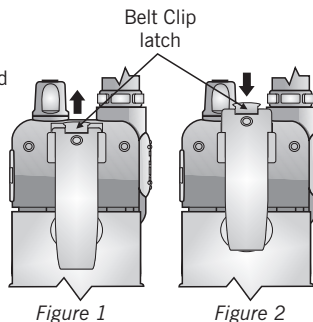
Displayed when the call signal is ON.

Displayed when the vibrator function is activated.

## 2. Installation

### 2.1 Removing the Belt Clip

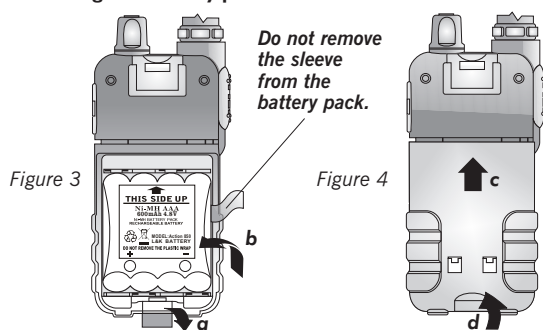
- a. Pull the Belt Clip latch forward (away from the PMR.)
- b. While pulling the Belt Clip latch, push up the Belt Clip as shown in Figure 1.



### 2.2 Installing the Belt Clip

- a. Slide the Belt Clip into the slot as shown in Figure 2.
- b. A "click" indicates the Belt Clip is locked into position.

### 2.3 Installing the Battery pack



- a. Release the Battery Compartment Cover latch located on the rear side of the PMR then remove the Battery Compartment Cover from the Battery Compartment. See Figure 3.
- b. Install the rechargeable battery pack by following the orientation as shown in Figure 3 (the arrow is showing and pointing upward.)
- c. Replace the Battery Compartment Cover.
- d. Lock the Battery Compartment Cover Latch into position.

### Important

Read these Safety Warnings before you charge the batteries.

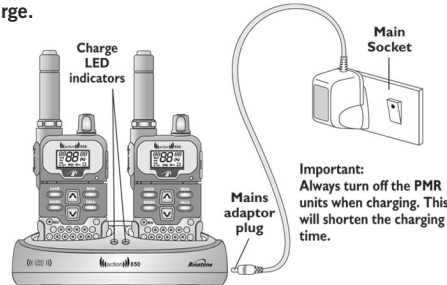
- When placing the PMR in the charger, use only the rechargeable battery pack supplied with the Action 850.
- Don't try to recharge non-rechargeable batteries.
- Make sure the battery compartment cover is securely locked in place when you are charging the batteries.
- Dispose of used batteries safely and in a way that will not harm the environment - never try to burn them or put them anywhere, they could get burnt or punctured.
- Don't leave dead batteries in your PMR units.  
They might leak if you do.

### 2.4 Charging the Battery pack

- a. Insert the small plug on the end of the mains adaptor into the Power-in Connection Jack at the right side of the desktop charger.
- b. Plug the mains adaptor into a 230V AC, 50 Hz main socket with the switch on the socket set to OFF.
- c. Switch ON the main socket.

The PMR must be charged using the mains adaptor provided. Using any other adaptor will result in non-compliance with EN60065 and will invalidate any approvals & warranty.

- d. Place the PMR units in the charge cradle in an upright position and facing outward. **The Charge LED indicators will light up.**
- e. It takes about 10 hours to fully recharge the batteries if they are completely run down. **New batteries take up to 14 hours to fully charge.**



### Battery meter

The battery meter is located in the left corner of the LCD Screen. It appears like a battery with three bars inside. These indicate the amount of power available. As the power is used up, the bars will disappear.



The PMR can detect the battery charge in 4 levels;

Battery charge at high level.

Battery charge at medium level.

Battery charge at low level.

**Important: Charge the unit for 10~14 hours.**

Battery charge at very low level. At this level, the battery icon will start to flash and the other icon in the LCD screen will turn off after three 'beep' tones.

**Important: Charge the unit for 10~14 hours.**

### Battery life

The Action 850 has a built in power saver feature to make the batteries last longer. But when you are not using the units, turn them OFF to conserve battery power.

## 3. Operation

### 3.1 Transmitting range

The talk range depends on the environmental and terrain. It will be greatest (up to about 8 km or 5 miles) in wide open spaces, without obstructions such as hills or buildings. Don't try to use two PMR units which are less than 1.5m (5feet) apart. If you do, you may experience interference.

### 3.2 Important safety warning

- To reduce radio frequency exposure when you're using your Action 850, hold the unit at least 5cm (2inches) away from your face.
- Never use your Action 850 outdoors during a thunderstorm.
- Don't use the Action 850 in the rain.
- If your Action 850 ever gets wet, turn it off and remove the battery. Dry the battery compartment and leave the cover off for a few hours. Don't use the unit until it is completely dry.
- Keep the Action 850 out of the reach of babies and young children.

### 3.3 Turning the Unit ON/OFF



#### To Turn ON;

- a. Turn the POWER knob clockwise until you hear a "click" sound. The LCD Screen will display the current channel.

#### To switch OFF;

- b. Turn the POWER knob counter-clockwise until you hear a "click" sound. The LCD Screen will turn blank.

**Binatone Help Line - 0845 345 9677**

### 3.4 Adjusting the Speaker volume



Turn the POWER/Volume knob clockwise to increase, or turn counter-clockwise to decrease the speaker volume.

### 3.5 Changing Channels



The PMR has 8 available channels. To communicate with other PMR users within range, you must all have your PMR tuned to the same channel.

- Press the MENU button once, the current channel number flashes on the LCD Screen.
- Press the **▲**(UP) or **▼**(DOWN) button to select the desired channel. The channel changes from 1 to 8, or vice versa.
- Press the PTT button to confirm the channel setting.

#### Note:

- Refer to the "Channel Table" section of this Owner's Manual for detailed frequency listing.

#### 3.5.1 Setting the CTCSS sub-channel

Each channel also has 38 sub-channels to let you set up group of users within the same channel for more private communication. If you have set the sub-channel, you can only communicate with other PMR users tuned to the same channel and sub-channel.

**To turn the sub-channel function off**, simply set the sub-channel to 0 (zero). You can communicate with any PMR user set to the same channel who also turns off the sub-channel operation (or whose PMR unit does not have the feature).



- Press the MENU button twice, the current CTCSS sub-channel number flashes on the LCD Screen.
- Press the **▲**(UP) or **▼**(DOWN) button to select one of the 38 CTCSS sub-channels.
- Press the PTT button to confirm the sub-channel setting.

#### Transmitting and Receiving

- !** The Action 850 transmission is 'one way-at-a-time.' While you are speaking, you can not receive a transmission.
- !** The Action 850 is an open-license band. Always identify yourself when transmitting, as other people may be communicating on the same channel.

#### 3.5.2 Receiving a Call

The unit is continuously in the Receive mode when the unit is turned ON and not transmitting. When a signal is received on the current channel, "RX" will be displayed on the LCD Screen and the Receiver LED indicator will turn on.

#### 3.5.3 Transmitting (sending a speech)



- Press and hold the PTT (Push to Talk) button to transmit your voice. "TX" will be displayed on the LCD Screen.
- Hold the unit in a vertical position with the Mic (Microphone) 5 cm away from the mouth. While holding the PTT button, speak into the mic (microphone) in a normal tone of voice.
- Release the PTT button when you have finished transmitting.

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### 3.5.4 Monitor



You can use the Monitor feature to check for weak signals on the current channel.

- a. Press and hold the MON button for 2 seconds, "RX" will be displayed on the LCD Screen.  
Your handset will pick up any signals on the current channel, including background noise.
- b. Press and release MON/PTT/MENU button again to stop the channel monitoring.

### 3.6 Setting the VOX (Voice Activated) Sensitivity



In VOX mode, the PMR will transmit a signal only when it is activated by your voice or other sounds around you. The unit will transmit further for 2 seconds even if you stop talking.

The level of VOX sensitivity is shown by a number on the LCD Screen. At the highest level, the unit will pickup softer noise (including background noise); at the lowest level, it will pick up only quite loud noise.

- a. Press the MENU button 3 times, "VOX" will be displayed and "0F" flashes on the LCD Screen.
- b. Press the ▲ (UP) button to set the VOX sensitivity level (the maximum level is "3".)  
*(To deactivate the VOX function, press the ▼ (DOWN) button until "0F" appears on the LCD Screen.)*
- c. Press the PTT button to confirm your setting. "VOX" will steadily appear on the LCD Screen as long as the Vox feature is activated.

VOX operation is not recommended if the PMR will be used in a noisy or windy environment.

### 3.7 Vibrator and Call alert

Your Action 850 can alert you to incoming signal by emitting an audible call tone and vibration signal.

#### 3.7.1 Call-Ring tone



You can send a Call-ring tone to other PMR users to give an alert that you want to communicate with them.

Press the CALL button.

You will hear a ring tone for about two seconds, "TX" appears on the LCD Screen. Any other units within the transmitting range and tuned to the same channel and sub-channel (if applicable) will hear the Call-ring tone.

#### 3.7.2 Selecting a Call-Ring tone



The PMR is equipped with 5 different types of Call-Ring tones.

- a. Press the MENU button 4 times, the LCD Screen will display "7<sup>CR</sup>" while "7" is blinking.
- b. Press the ▲ (UP) or ▼ (DOWN) button to select the desired Call-Ring tone. A respective Call-Ring tone sound will be played when changing from one tone to another.
- c. Press the PTT button to confirm your setting.


#### 3.7.3 Setting the Call-Ring tone OFF




When you send a Call-Ring, you will also hear it from your unit. If you do not like to hear the tone, you can turn it OFF.

- a. Press the MENU button 4 times, the unit will enter the Call-Ring setting mode.
- b. Press the ▲ (UP) or ▼ (DOWN) button until "0F<sup>CR</sup>" appears on the LCD Screen.
- c. Press the PTT button to confirm your setting.





### 3.7.4 Activating the Vibrator mode

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- Press the MENU button 5 times, "☺" will be displayed and "DF" flashes on the LCD Screen.
  - Press the ▲ (UP) button to activate the vibrator function.  
  
Press the ▼ (DOWN) button to deactivate the vibrator function. The vibrator symbol "☺" will turn off.


### 3.8 Setting the Roger Beep







The Roger Beep is a tone which is automatically transmitted whenever the PTT button is released. This alerts the receiving party to inform that you have intentionally ended the transmission, and you are now in receive mode.

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- Press the MENU button 6 times, "ON" flashes on the LCD Screen.
  - Press the ▲ (UP) or ▼ (DOWN) button to activate ("ON" will be displayed on the LCD screen) or deactivate ("OFF" will be displayed on the LCD screen) the Roger Beep feature.
  - Press the PTT button to confirm your setting.


### 3.9 Setting the Key Tone ON or OFF










This feature allows the PMR to emit a confirmation tone after pressing each button.

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- Press the MENU button 7 times, "ON" flashes on the LCD Screen.
  - Press the ▲ (UP) or ▼ (DOWN) button to activate ("ON" will be displayed on the LCD screen) or deactivate ("OFF" will be displayed on the LCD screen) the Key Tone feature.
  - Press the PTT button to confirm your setting.

### 3.10 Setting the Dual Watch Mode







Your PMR is capable of monitoring two channels, the current and another (dual watch) channel. If the unit detects a signal on either channel, it will stop and receive the signal.

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- Press the MENU button 8 times, "DCM" will be displayed while "DF" flashes on the LCD Screen.
  - Press the ▲ (UP) or ▼ (DOWN) button to select the Dual Watch channel (1~8, except the current channel).
  - Press the MENU button to change the CTCSS code.
  - Press the ▲ (UP) or ▼ (DOWN) button to select the desired CTCSS code (1~38.).
  - Press the PTT button to confirm your setting.

In Dual Watch mode, the LCD screen will alternately display the Current and the Dual Watch channel numbers.

#### 3.10.1 To End the Dual Watch Mode

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- Press the MENU button 8 times, the channel number flashes on the LCD Screen.
  - Press the ▲ (UP) or ▼ (DOWN) button until "DF" is displayed on the LCD Screen.
  - Press the PTT button to exit.

**Binatone Help Line - 0845 345 9677**

### 3.11 Activating the Channel Scan



- Channel scan perform searches for active signals in an endless loop for all 8 channels, and all 38 CTCSS codes.
- Press the MENU and **▲** (UP) buttons at the same time. The LCD Screen will display "SCAN" and the channel number changes rapidly. When an active signal is detected, channel scan pauses on the active channel
  - Press the **▲** (UP) button to continue scanning the channels 1~8.
  - Press the **▼** (DOWN) button to scan the CTCSS sub-channels 1~38.
  - Press the PTT button to communicate through the active signal channel, or press the **▼** (DOWN) to continue with the channel scanning.

### 3.12 Activating the Stop Watch



- Press and hold the MENU button for 3 seconds. "00:00" will be displayed on the LCD Screen.
- Press the **▲** (UP) button to start the Stop-Watch operation.
- Press the **▲** (UP) button again to stop.
- Press the **▼** (DOWN) button to reset the time.
- Press and hold the MENU button to exit from the Stop-Watch mode.

## 4. Auxiliary Features

### 4.1 Key Lock



- The Key Lock feature allows the user to disable the **▲** (UP), **▼** (DOWN), and the MENU buttons so that the PMR settings could not be changed accidentally.
- To activate the Key Lock feature, press and hold the LOCK button until "🔒" is displayed on the LCD Screen.
  - To deactivate the Key Lock feature, press and hold the LOCK button until "🔒" disappears on the LCD Screen.

The PTT, CALL buttons, and the POWER knob will remain functional even if the Key Lock feature is activated.

### 4.2 LCD Screen Back Light

Every time a button is pressed (except PTT and CALL buttons), The LCD screen back light will illuminate for 6 seconds.

### 4.3 Microphone/Earphone Jack

The PMR is equipped with an auxiliary microphone, earphone, located at the opposite side of the PTT button.

**Note:** Depending on the model version, the charging and headset accessories are optional. They may or may not be included with the product. For more details, call the **Binatone Help Line at 0845 345 9677**.

**Binatone Help Line - 0845 345 9677**

## 5. Specifications

<b>Channels Available</b>	8 Channels
<b>CTCSS Sub-channel</b>	38 for each Channel
<b>Output Power (TX)</b>	0.5W
<b>Range</b>	Up to 8 Kms.

### Channel Frequency Table

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

## 6. Safety

### **CAUTION** **Damaged Antenna**

Do not use any PMR that has a damaged antenna. If a damaged antenna comes in contact with the skin, a minor burn may result.

#### **Batteries**

All batteries can cause property damage and/or bodily injury such as burns if conductive material such as jewelry, keys, or beaded chains touch exposed terminals. The material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse, or other container with metal objects.

### **WARNING**

#### **For Vehicles with an Air Bag**

Do not place your PMR in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a PMR is placed in the air bag deployment area and the air bag inflates, the PMR may be propelled with great force and cause serious injury to the occupants of the vehicle.

#### **Potentially Explosive Atmospheres**

Turn your PMR OFF when in any area with a potentially explosive atmosphere, unless it is a type especially qualified for such use (for example, Factory Mutual Approved). Sparks in such areas could cause an explosion or fire resulting in injury or even death.

#### **Batteries**

Do not replace or charge batteries in a potentially explosive atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion.

#### **Blasting Caps and Areas**

To avoid possible interference with blasting operations, turn your PMR OFF near electrical blasting caps or in a "blasting area" or in areas posted: "Turn off the two-way radio." Obey all signs and instructions.

**NOTE:** *Areas with potentially explosive atmospheres are often, but not always, clearly marked. They include fueling areas such as below deck on boats; fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.*

## 7. Cleaning and Care

To clean your PMR, use a soft cloth dampened with water. Do not use cleaners or solvent, which may cause damage that may not be covered by guarantee.

## 8. Guarantee and service

The Binatone Action 850 is fully guaranteed for 12 months from the date of purchase shown on your sales receipt. The guarantee does not cover damage by misuse or negligence, or by excessive voltage.

**Please keep your sales (till) receipt** - this is your guarantee. You should also keep the original packaging materials.

When unpacking your Binatone Action 850, check for visible damage. If you see any damage, do not use the PMR - return the whole unit to where you bought it.

If your Binatone Action 850 develops a fault, refer to the "Troubleshooting Guide." section of this manual. If you can't solve the problem, return the whole unit as follows;

### While the unit is under guarantee

1. Pack up all the parts of your Action 850, using the original packaging. Remember to include the main adaptor.
2. Return the unit to the store where you bought it, and make sure you take your sales receipt as your proof of purchase.
3. In the unlikely event that you need to return your Action 850 to our Repair Centre while it is under Guarantee, please include the sales receipt. There will be an £5 handling charge for repair of unit under Guarantee.

### Repair after the Guarantee has expired

If the unit is no longer covered by Guarantee, first follow steps 1 as for repair under Guarantee, Then...

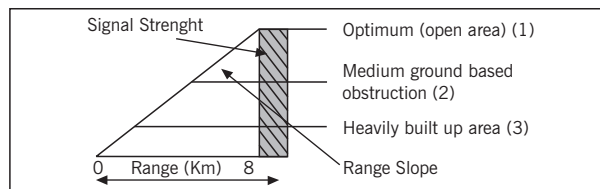
2. Call our service Department on **0845 345 9677** and ask for a quotation of the repair charge, and details of where to send your Action 850 for repair.
3. Return your Action 850 to the address given by the Service Department, making sure to include your name and address, and a cheque or postal order for the value of the repair charge.

**This does not affect your statutory rights.**

**Binatone Telecom plc** operates a policy of continuous product improvement, and so reserves the right to make changes to the product and functions without prior notice.

### Effective Range

The Transmission range of the product is dependent on the environment terrain where it is being used, the following diagram attempts to guide the user on the sort of performance to expect for everyday use.



### Range Check

The Transmission range will be affected as shown in the above diagram. The transmitting range typical values for different environment conditions will be (1) 8 km (2) 4 km (3) 2 km. It should be remembered that these are only guide values as actual achieved distances will be dependent on the environment and terrain.

**Binatone Help Line - 0845 345 9677**

## 9. Troubleshooting Guide

Symptom	Solution
No power.	<ul style="list-style-type: none"> <li>• Check if the battery pack was installed properly.</li> <li>• The battery may be weak.</li> <li>• Replace the old battery pack with a new one.</li> </ul>
Reception is weak.	<ul style="list-style-type: none"> <li>• Turn the POWER/VOLUME knob clockwise to increase the receiver volume level.</li> <li>• The receiving signal may be weak and/or out of range.</li> <li>• If this happens press the <b>MON</b> (Monitor) button.</li> </ul>
Cannot change CTCSS sub-channels.	<ul style="list-style-type: none"> <li>• Key lock mode must be deactivated if the Key lock icon (🔒) is displayed on the LCD Screen.</li> <li>• To change CTCSS sub-channels, press the MENU button twice, the CTCSS sub-channel number flashes on the LCD Screen. Press the ▲ (UP) or ▼ (DOWN) buttons to change the CTCSS sub-channels.</li> <li>• Batteries may be weak.</li> </ul>
Range is limited.	<ul style="list-style-type: none"> <li>• Batteries may be weak.</li> <li>• Replace with new batteries if the charge level indicator gets low.</li> <li>• See the "Effective Range" diagram. The maximum range will vary depending on terrain and environment.</li> <li>• Open fields provide the maximum range, while steel/concrete structures, heavy foliage, and use in buildings and in vehicles may limit the range significantly.</li> <li>• Wearing the radio close to the body, such as in a pocket or on a belt, will decrease range; change the location of the radio.</li> </ul>
Sound distortion problems.	<ul style="list-style-type: none"> <li>• If you are transmitting, speak in a normal tone of voice, 5 cm away from the Mic (microphone.).</li> <li>• If you are receiving, lower the volume to a comfortable level.</li> <li>• Radios too close. Radios must be at least 2 meters apart; increase your distance.</li> <li>• Radios too far apart. Obstacles interfere with transmission. Talk range is up to 8 Kms. in a clear unobstructed conditions.</li> </ul>
No communication	<ul style="list-style-type: none"> <li>• Check the Channel and the CTCSS code setting. Both the Transmitting and Receiving PMR units should have tuned to the same Channel and CTCSS code.</li> </ul>

### This equipment is intended for use in:

Austria	✓	Finland	✓	Latvia	✓	Spain	✓
Belgium	✓	France	✓	Liechtenstein	✓	Sweden	✓
Bulgaria	✓	Germany	✓	Luxemburg	✓	Switzerland	✓
Croatia	✓	Greece	✓	The Netherlands	✓	Turkey	✓
Cyprus	✓	Hungary	✓	Norway	✓	UK	✓
Czech	✓	Iceland	✓	Poland	✓	Romania	✓
Denmark	✓	Ireland	✓	Portugal	✓		
Estonia	✓	Italy	✓	Slovenia	✓		

✓ Countries of use

### Declaration of Conformity

The **Binatone Action 850** complies with the essential requirements

- R&TTE Directive, 1999/5/EC
- Low Voltage Directive 73/23/EEC

And conforms to the following relevant standards:

- ETSI EN 300 296-2 V1.1.1
- ETSI EN 301 489-5 V1.3.1
- ETSI EN 301 489-1 V1.4.1
- EN 60065: 2002



Waste electrical products must not be disposed of with household waste. This equipment should be taken to your local recycling centre for safe treatment.

**Binatone Telecom plc** operates a policy of continuous product improvement, and so reserves the right to make changes to the product and functions without prior notice.

