SM2102 User Manual

Radio communication **specialists**

maxoncic EUROPE LTD.
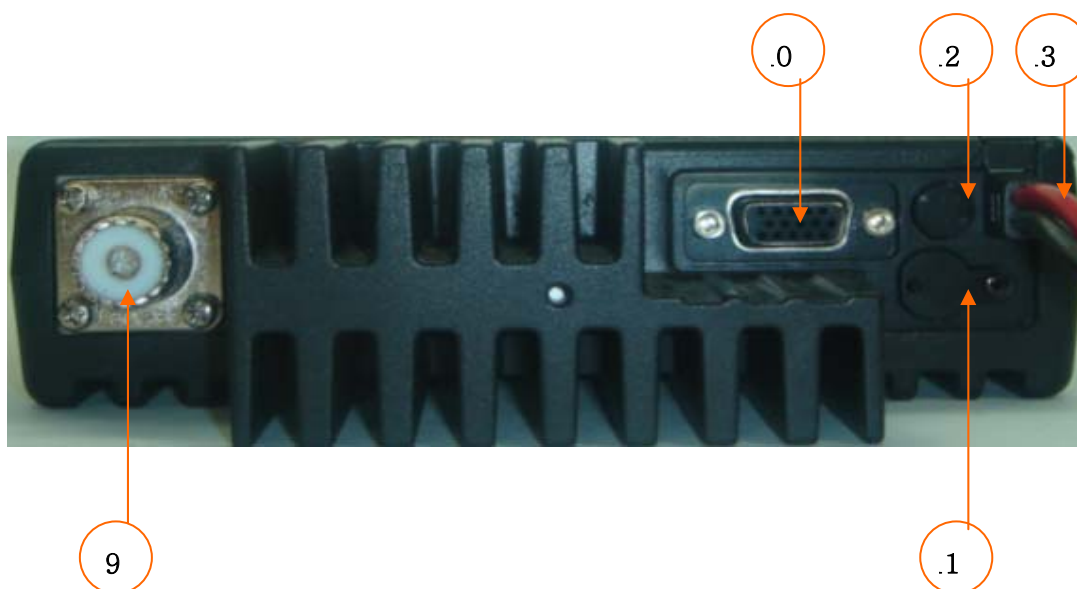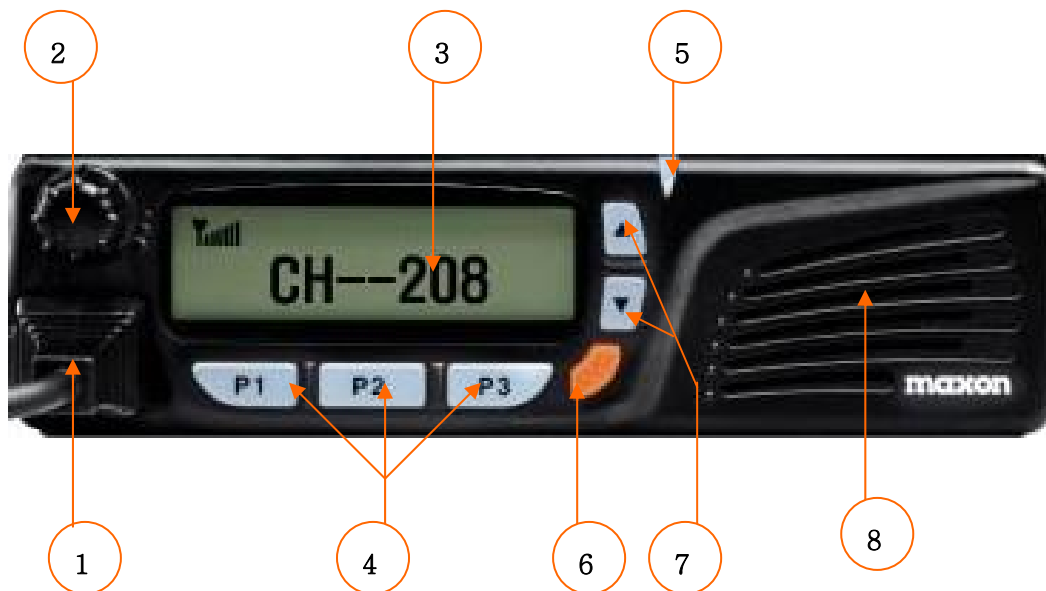
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1. SAFTEY WARNINGS

1. WARNING!   NEVER connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

2. NEVER operate the radio transmitter suitable artificial load or a correctly specified antenna is connected.

3. NEVER connect the transceiver to a power source of more than 16V DC such as a 24V battery. This connection will damage the transceiver.

4. NEVER cut the DC power cable between the DC Plug and fuse holder. If an incorrect connection Is made after cutting, the transceiver might be damaged.

5. NEVER place the transceiver where normal operation of the vehicle may be hindered or where it could Cause bodily injury.

6. NEVER expose the transceiver to rain, snow or any liquids.

7. NEVER modify a radio or accessory except as instructed in the service manual, engineering bulletins or formal communication as this may invalidate any warranty, guarantee or type approval.

8. USE the supplied microphone only. Other Microphones have different pin assignments and may damage the transceiver, (optional DTMF MIC)

9. DO NOT use or place the transceiver in areas with temperatures below -30⁰ or above +60 ⁰,In areas subject to direct sunlight, such as the dashboard.

10. AVOID operating the transceiver without running The vehicle's engine. The vehicle's battery will quickly run out if the transceiver transmits while the vehicle's engine OFF

11. AVOID placing the transceiver in excessively dusty environments.

12. AVOID placing the transceiver in confined locations. This will obstruct heat dissipation.

13. AVOID the use of chemical agents such as benzin or alcohol when cleaning, as they damage the transceiver surfaces.

14. BE CAREFUL! The transceiver will become hot when operating continuously for long periods.

15. DO NOT operate this equipment in environments containing explosive materials or vapour.

2. Introduction

Thank you for purchasing the Maxon PM Mobile range

The SM2102 mobile radios are packed full of sophisticated user and system features which allow the radios to be tailored to meet the requirements of most radio networks today.

All the features described are made available thanks to the latest reliable, but functionally rich, software that controls each SM2102 mobile. This means that all features described are available without the need to fit expensive and time consuming option boards.

Most of the features or options described are activated in the radio as programmable parameters; please contact your dealer for full details on these options.

The SM2102 is a DTMF, SECALL and SMS mobile radio with 208-channel capability.

The radio is programmable for output power, channel spacing, and a range of features. The three buttons located on the bottom left-hand side of the radio under the LCD, are described as programmable. These three buttons (P1, P2, and P3) have a short and long press and can be used for various pre- programmed features, Monitor, Power H/L, Scan, DTMF, Key lock, Selcall, Scan, Public Address, Open Close, 1200/2400, SMS and Light. The range does conform to R+TTE Directive. The unit has been designed to IP54 and meets the R+TTE Directive ETS 300.086 2001.

3. Preparing for use

Unpacking and Inspection

Unpack the radio and check that you have received the following items:

SM2102 Mobile Radio

Mounting Kit

Standard Microphone

Inspect all items

If any of these items are missing, please contact your Dealer.

4. Front Panel description

Note: the numbers below refer to the illustration on the inside cover

1. MICROPHONE SOCKET

Connect the supplied microphone or optional DTMF/Heavy Duty microphone.

NEVER connect non-specified microphones the pin assignments may be different and the transceiver may be damaged.

2. VOLUME CONTROL KNOB

To turn the radio ON and OFF, rotate the knob clockwise ON and anticlockwise to turn OFF.

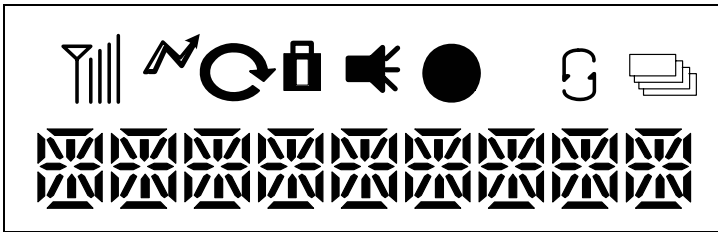Rotate the knob to adjust the audio output level up and down.

3. FUNCTION DISPLAY

Displays a variety of information,

such as an operating channel number, SECALL

Number, DTMF number and Volume level, etc.

NOTE: The above functions depend on programming.

4. DEALER-PROGRAMMABLE KEY (P1) to (P3)

Desired functions can be programmed independently by your dealer.

5. LED INDICATOR

Indicates radio condition from LED colour (see status and indicator and alert tones in section 6.)

6. EMERGENCY KEY

Transmits emergency call

7. UP/DOWN KEYS

Push to select the operating channel.

8. INTERNAL SPEAKER

9. BNC Antenna connector

Connects to an antenna. Contact your dealer about antenna selection and placement.

10. D-SUB 15Pin Connector

Connect DB-9 and DB-15 connector of ACC-20XX to the PC and radio.

11. External Speaker Jack

Connect a 8,16Ω external speaker, if desired

12. GPS antenna tube

13. DC Power receptacle

Connects to a 12V Dc battery

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5. Key Features

- Wideband frequency separation
- 2W or 25W Programmable output power
- 208 Programmable Channels
- D-SUB 15Pin Data Connector and Modem
- Programmable 12.5 /25 KHz Channel Spacing
- Channel Scan
- Priority Channel Scan
- Look Back Channel
- Scan List Edit
- Priority Channel Edit
- CTCSS/DCS/DTMF tone signaling
- Busy Channel Lock out
- Mark Idle
- Time out timer
- Public Address
- SELCALL
- Stun and Revive
- Covert Mode
- ANI
- SELCALL Messaging
- Acknowledge
- Key Lock
- Start up definable Logo
- Auto Mute
- Back Light Display
- SMS
- DTMF
- HOOK

6. Status Indicators and Alert Tones

Status Indicators

DESCRIPTION	LCD Message or COLOR	
	SM2102	AUDIBLE TONE
Power On	Model and Software version shall be displayed after LCD All Display.	Five Beeps
Button		Single Beep
Busy		Yellow
Correct Call		Green
Transmit		Red
In Scan Mode		Green Led Blinking
Scan Delete	"delete"	Single Beep
Scan All Delete	" All del"	Single Beeps
Transmit Inhibit In Scanning	" Inhibit"	Two Beeps
Receive Only-No TX	" RX only"	Two Beeps
Time-Out-Timer	" tot "	Two Beep
Penalty	" Penalty "	Two Beeps
Penalty End		Single Beep
Busy Channel Lock Out	" bLock out"	Two Beeps

Error Messages

EPROM Error	" Eprom Err "	Two Beeps
Out of Lock Error	" unLock "	Two beeps

Programming Messages

Pc Program Read	"Prog- r "	Red blinking
Pc Program Write	"Prog-w "	Green Blinking
Volume level	VOL XX	
Clone Master	"Master"	Red blinking
Clone Slave	"Slave"	Green Blinking
Clone end	"Turn OFF"	

7. Basic Operation

Power on/Volume/Power off

Turn the radio on by rotating the off/on/volume control clockwise.

You will hear a click and (if enabled via dealer programming), the radio's self-test alert tones. Increase the radio volume by continuing the clockwise rotation.

To turn the radio off, rotate the control anti-clockwise until a click is heard.

Your SM2102 radio has a sophisticated microprocessor control, which provides a range of audible alert tones. Upon each power-up, a quick melody indicates that the self-test of the microprocessor functions has been completed. A sequence of audible tones may be sounded with any of the following conditions:

• Attempt to transmit on a channel set for receive only

• Attempt to transmit on a channel that is already in use when busy channel lockout has been programmed into the radio.

• Transmitting time has exceeded time-out timer programmed length.

• Selecting a channel with no programmed frequency.

• TX inhibit is in operation.

• Low battery condition

Channel Select

To change radio channels, simply press and release the buttons ▲ or ▼

… Until the desired channel is reached. Or, to scroll through your programmed channels more quickly, press and hold the ▲ or ▼ buttons. The channel numbers will appear in the radio's LCD. (Located on the Front panel of unit).

If your radio has been programmed for channel group scan, you must enter the scan mode by pressing the scan button. The current channel group will display in the radio's LCD. If you wish to change that selection, use the ▲ or ▼ buttons until the LCD displays the channel group you wish to scan.

Transmit

Press the monitor button (and check the colour of the radios front panel LED). It will glow orange if carrier is present; it will not be illuminated if the radio indicates a "clear" channel.

When the channel is "clear", hold the radio microphone approximately 5 – 8cm from your mouth. Press and hold the PTT button on the microphone, and begin speaking in a clear, normal tone. Release the PTT button when you have finished speaking.

CAUTION: Operation of the transmitter without a proper antenna installed may result in permanent damage to the radio.

NOTE: The radio's LED will glow red continuously when you have the PTT button pressed and the radio is transmitting

Receive

When you have finished transmitting, release the PTT button to receive. You are now in receive mode. When another operator transmits on the correct frequency the speaker will become active.

Scanning

This feature will support a number of different scanning modes. These are Dealer programmable.

Normal Scan

Any number of channels shall be entered into the scan list. The LED shall flash green if programmed to. The flashing green LED will stop when 'CARRIER', or 'CARRIER AND CORRECT TONE' is detected. During scan delay, the LED shall remain clear. When Scan Delay expires and Scan Speed resumes, the LED shall also resume flashing green.

Priority Scan

A priority channel can be programmed at the initial radio set-up stage. The priority channel will be part of the list of channels that make up the scan list. The priority channel when used with other scanned channels will operate as follows:
$P1 \rightarrow S1 \rightarrow P1 \rightarrow S2 \rightarrow P1 \rightarrow S3 \rightarrow P1 \rightarrow S4 \rightarrow P1$, etc.
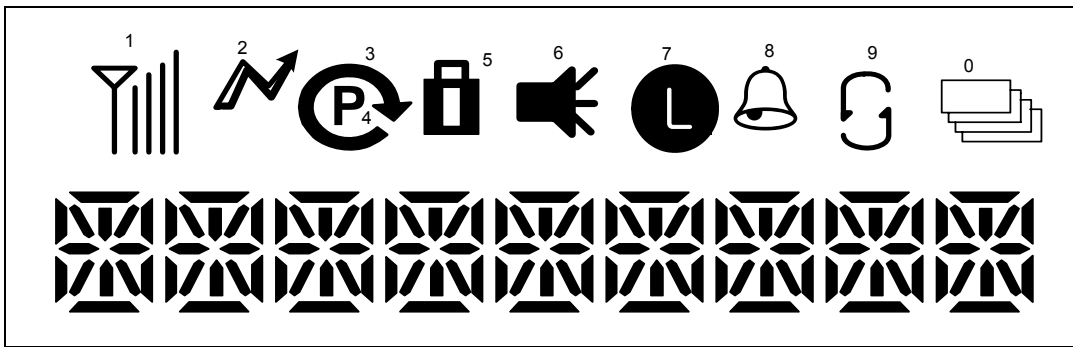
Priority Look Back

One channel can be programmed by the dealer to be the Priority channel, which will enable 'Look-back'. Pressing the Scan button shall activate Priority Look-back. The Priority Look-back causes the radio to periodically 'Look-back' to the priority channel for the presence of a carrier regardless of the channel that the user may be on.

Scan Channel Delete

Pressing the 'Monitor' key, (when in scan mode and stopped on the channel) shall temporarily delete the channel from the scan list. When power is restored or the scan list channel position is selected again, the originally programmed scan list shall be activated.

8. Function Display

1. Signal strength indicator: Indicates relative signal strength level (1bar poor 4 bar good)

2. TX Indicator: Appears while transmitting

3. Scan Indicator: Appears at when scanning has been programmed.

4. P Scan Indicator: Appears at the Priority scan Channel when priority scanning has been programmed

5. Key Lock Indicator: Appears when key lock function has been programmed.

6. Speaker Indicator: Appears when the monitor mode is enabled

7. Low Power Indicator: Appears when low output power is selected.

8. Selcall Detect Indicator: Appears when a correct selcall code is received.

9. Scrambler Indicator: Appears when the Scrambler function is activated

10. Compander Indicator: Appears when the Compander function is activated.
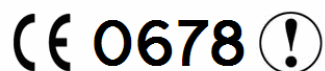
9. Supplied Accessory and Optional Accessories

1. Standard Microphone

2. Microphone hanger and screw set.

3. Microphone hanger cable.

4. DC power cable.

5. Mounting bracket Kit.

'Other accessories not listed here, may be available on application to your reseller

SM2102 SERIES

This product is marked with

CE 0678 (!)

in accordance with the Class II product requirement specified in the R&TTE Directive 1999/5/EC.

This equipment is intended for use in:-

Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom, Iceland, Liechtenstein, Norway, Switzerland, Bulgaria, Romania & Turkey.

and requires authorisation (individual licence) for use.

We hereby declare that the above named product is in conformity to all the essential requirements of Directive 1999/5/EC.

Con la presente si dichiara che il prodotto sopra menzionato è conforme ai requisiti essenziali della Direttiva 1999/5/CE.

Declaramos que el producto mencionado más arriba cumple todos los requisitos esenciales de la Directiva 1999/5/CE.

Wir möchten hiermit bekanntgeben, daß das oben genannte Produkt in Übereinstimmung mit allen erforderlichen Bedürfnissen der 1999/5/EC Direktive seht

Nous déclarons que le produit référencé ci-dessus satisfait aux exigences
R&TTE 1999/5/EC qui lui sont applicables.

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