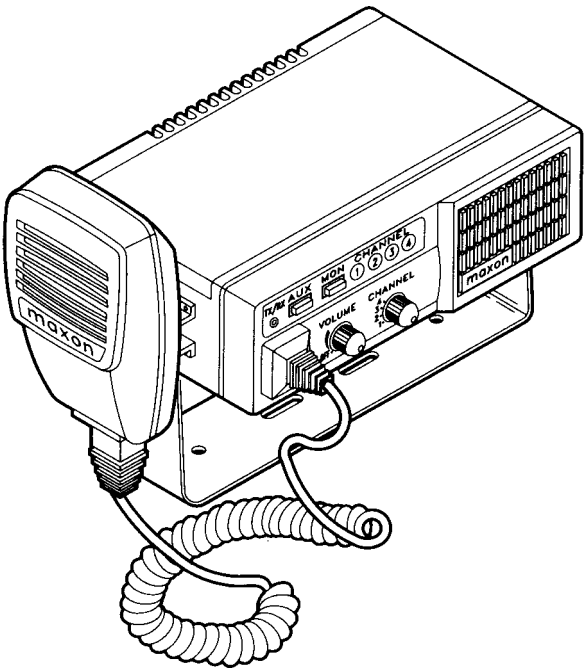
maxon

SM-2000 Series

Synthesized Scanning Mobile



Operating Instructions

About Your SM-2000 Series Radio

Maxon's SM-2000 Series mobile radios feature simple 4 channel operation and enhanced software to customize the radio to the varying needs of the user. Operation and functions for Maxon SM-2000 Series mobile radios are described in this manual.

We urge you to thoroughly read this manual before operating the radio.

Application of some of the functions described in this manual is determined by the system you use. Your Maxon Dealer will program your radio so that you have the greatest number of functions possible relative to your needs.

Should you have questions regarding the operation of the radio, please consult your Maxon Dealer.

About Maxon America, Inc.

Maxon America, Inc. designs and manufactures professional FM two-way radio equipment to serve a wide variety of communication needs. Maxon produces equipment for the land mobile radio and specialized mobile radio markets (business, industrial, government and public safety).

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Safety Information

The Federal Communications Commission (FCC), with its action in General Docket 79-144, March 13, 1985, has adopted a safety standard for the human exposure to radio frequency (RF) electromagnetic energy emitted by FCC regulated equipment. Maxon subscribes to the same safety standard for the use of its products. Proper operation of this radio will result in user exposure far below the Occupational Safety and Health Act and Federal Communications Commission limits.

WARNING - It is mandatory that radio installations in vehicles fueled by liquefied petroleum gas conform to the following standard: National Fire Protection Association standard NFPA 58 applies to radio installations in vehicles fueled by liquefied petroleum (LP) gas with LP gas container in the trunk or other sealed-off space within the interior of the vehicle. This standard requires that:

1. Any space containing radio equipment shall be isolated by a seal from the space in which the LP gas container and its fittings are located.

2. Remote (outside) filling connections shall be vented to the outside.

WARNING - **DO NOT** operate the transmitter of a mobile radio when someone outside the vehicle is within two feet (0.6 meter) of the antenna.

WARNING - **DO NOT** allow children to operate transmitter-equipped radio equipment.

CAUTION - **DO NOT** operate the radio near electrical blasting caps or in an explosive atmosphere.

CAUTION - **DO NOT** operate the transmitter of any radio unless all RF connectors are secure and any open connectors are properlyterminated.

All equipment must be properly grounded for safe operation.

All equipment should be serviced only by a qualified technician.

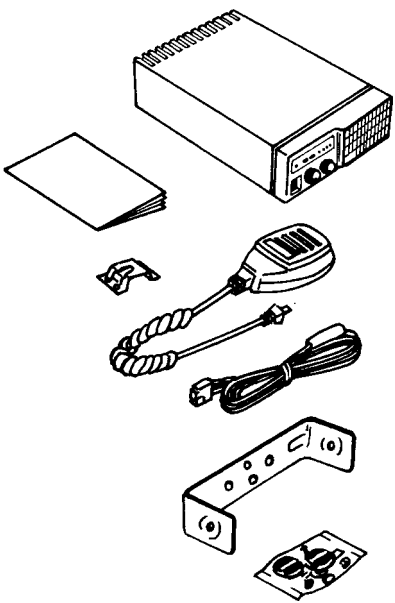
This device complies with Part 15 of the FCC rules. Operation is subject to the condition that this device does not cause harmful interference.

Unpacking Information

Remove and carefully inspect the contents of your package for the following items:

- Radio
- Microphone
- DC power supply cord
- Radio mounting bracket and hardware
- Microphone bracket and hardware
- Operating instructions

If any items are missing, please contact your Maxon Dealer.



SM-2000 Series Features

- **Channel Scan**
- **Priority Channel Scan**
- **Look-Back Channel**
- **CTCSS/DCS Tone Signalling**
- **Programmable Channel Spacing -** Allows 12.5 KHz / 25 KHz channel spacing per channel.
- **Programmable High / Low Power -** Each channel may be programmed to use either high or low power settings.
- **Programmable Microphone Off-Hook Switching -** Monitors channel activity.
- **Busy Channel Lockout -** Prevents transmission on a busy channel.
- **Time-Out Timer -** Prevents lock-up of a repeater or channel as a result of prolonged keying of the transmitter.

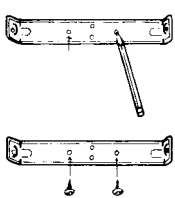
Installation Safeguards

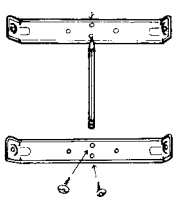
WARNING - DO NOT install the unit where it would interfere with the proper operation of automatic collision protection devices (air bags).

WARNING - DO NOT install the unit where it would likely cause injury in case of accident.

A. Select a location for the radio where you can easily see and reach all controls, including the microphone.

B. Using the radio mounting bracket as a template, mark the spots with a pencil where the bracket securing screws will be located.

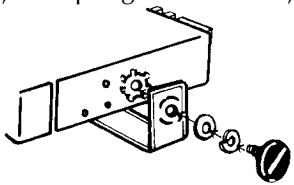




NOTE - Before drilling holes in the vehicle, verify that there is nothing that could be damaged or get in the way by drilling and putting screws in this location. It is better to use existing passages in the dashboard, trunk, and floor for the routing cable, thus avoiding excessive drilling.

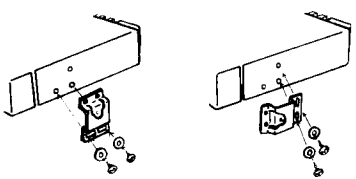
After drilling holes for the mounting bracket, attach bracket to surface using the two large Phillips head screws.

C. Install the radio unit to the bracket using the two large black screw knobs, two spring lock washers, and two large flat washers.

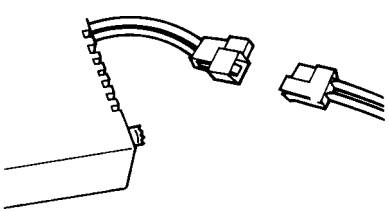


NOTE - Depending on the location where the radio unit will be mounted, it may be more convenient to install the microphone bracket before installing the radio unit into the radio bracket.

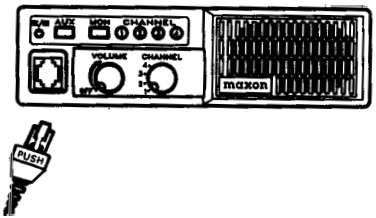
D. Mount the microphone bracket to the most convenient side of the radio unit, using the two small Phillips head screws. There are two options for installing the microphone bracket, allowing the on-hook placement of the microphone from either the top or the front of the bracket.



E. Connect the DC power supply cord to the radio. If necessary, the power supply cord may be connected before mounting the radio unit to the radio bracket.



F. Push the modular microphone connector into the microphone jack (located in the front of the radio unit) until a click is heard.



CAUTION - Some electronic fuel injection, anti-skid braking systems, cruise controls, and vehicle alarms may be prone to interference from radio frequency energy or may malfunction due to a lack of protection from RF energy. If the vehicle contains such equipment, consult the dealer to get help determining whether the electronics equipment in the vehicle will operate properly when the radio is transmitting.

The radio is not intended for operation in a positive ground vehicle.

You must purchase an antenna for proper operation of the radio. Consult your dealer to determine which antennas are suitable.

Description of Radio Components

Controls and Connectors

TX/RX Indicator - The tri-color LED identifies the following conditions by color: red when transmitting; green when tone-coded squelch calls are received; amber to signal busy channel; flashing green when in scan mode (if programmed).

Auxiliary Button - Used for after-market accessories.

Monitor Button - Monitors channel for activity; disables tone coded squelch options (only in receive mode). Also can be used for scan channel delete when operating in the scan mode.

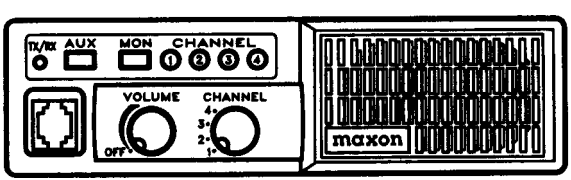
Channel Indicator LED's - Green back-lit numbers indicating the channel selected.

Speaker - 4 ohm internal speaker.

Channel Selector Knob

On/Off-Volume Control

Microphone Jack

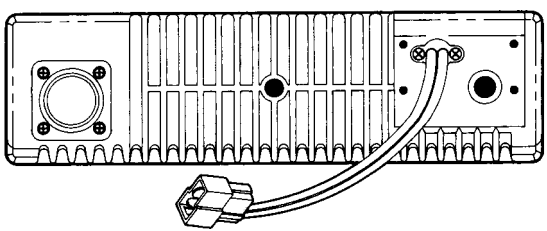


Controls and Connectors, Continued

Antenna Connector - SO-239 connector. Must be connected to a properly installed 50 ohm antenna.

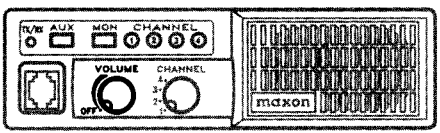
Power Connector - Polarized plug: 13.8 VDC input for NEGATIVE GROUND SYSTEMS ONLY.

External Speaker Connector - A 3.5 mm diameter jack is provided for a 4 ohm external speaker.



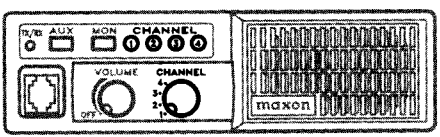
Power On - Volume

Rotate the on/off-volume control clockwise to turn the power on. Adjust to the desired volume level. Turn the radio off by rotating the volume control counter-clockwise to detent.



Channel Select

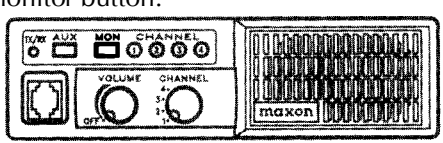
Set the channel selector knob to the desired channel. Green back-lit numbers indicate the channel selected.



Channel Monitor

NOTE - Federal Communications Commission Rules and Regulations require that you monitor a frequency for activity before transmitting.

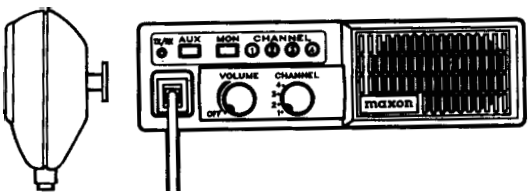
To monitor the channel for activity before transmitting, press the monitor button.



NOTE - The TX/RX indicator will glow amber if RF activity is present. It will glow green if the

transmission has a CTCSS or DCS tone that matches a tone programmed for receiving. If the LED is not illuminated, a clear channel is present.

If enabled, the channel can be monitored for activity before transmitting by going off-hook.



Transmit

When the channel is clear, press and hold the P-T-T bar on the side of the microphone. Hold the microphone 1 or 2 inches from your mouth, and speak clearly and distinctly. The LED will glow red when transmitting and should be on continuously while the P-T-T bar is being pressed and the radio is transmitting.

Receive

When the transmission is complete, release the P-T-T bar to receive.

NOTE - Pressing the monitor button disables any tone coded squelch options, if programmed.

Scan Modes

Channel Scan

Channel scan is a programmable feature that allows you to monitor a number of channels. Your dealer will help you define a channel scan list to be programmed into a scan channel location (any channel, 1 - 4). Once that channel location is selected, scan is initiated.

Normal Scan

Once the scan list is programmed, you can initiate scan. Simply move the channel selector knob to that position, and the radio will start to scan. The TX/RX indicator on the front panel can be programmed to flash green as the radio is scanning.

If a conversation is detected on any of the channels in the scan list, the radio will stop on that channel, and you will be able to hear the conversation. If programmed for normal scan TX, you will be able to transmit on that active channel during the programmable scan delay time. The scan delay time is the amount of time the radio will stay on that channel once activity has ceased (dealer programmable, 4 - 7 seconds is typical). The radio will resume scanning once the scan delay time has expired.

Going off-hook while locked on an active channel will stop scan and allow for transmission and reception.

The radio will continue to scan when going off-hook and not locked on an active channel. Scanning will continue unless the channel selector knob is changed or the P-T-T bar is pressed.

Priority Channel Scan

A single channel may be programmed as the priority channel. The radio will constantly monitor this channel while scanning and when the radio has stopped on an active channel. If a call is detected on the priority channel, the radio will automatically move to and remain on the priority channel for as long as the priority conversation takes place. Priority channel activity takes precedence over all other conversations.

NOTE - Priority channel scan and look-back require that the radio leave the active channel for a fraction of a second (at regular intervals) to check the priority channel for a message. Depending upon how the radio is programmed (scan speed, etc.), this may or may not be noticeable as breaks on the active channel for that same fraction of a second.

Scan Channel Delete

On occasion you may wish to temporarily delete a channel from the scan list. To do this, simply press the monitor button while scanning and stopped on the channel to be deleted. This will remove that channel from the scan list until the selector is moved from the scan list channel position or the radio's power is reset. When power is restored or the scan list channel position is again selected, the original dealer programmed scan list will be activated.

Other Programmable Scan Features

Look-Back

Any channel, when not in the scan mode, can be programmed to "look-back" at the priority channel. This feature is ideal for those who do not need scan as defined above but want to make sure they never miss a call on the priority channel if another channel has been selected. Once a look-back channel has been selected, the radio will periodically scan the priority channel. If activity is detected on the priority channel, the radio will move to that channel for as long as it remains active.

CTCSS/DCS Scanning

The SM-2000 can be programmed to scan for tone. This will help block out unwanted calls.

Normal Scan TX

A transmission is allowed only after a call is received, depending on the programmed scan delay time. After scan resumes and a transmission is made, the radio will sound an alarm (two beeps) and will not allow a transmission.

Priority Scan TX

This allows a transmission after a call is received depending on programmed scan delay time. The transmission will be made on the channel that the call was received. After the radio resumes scanning, if a transmission is made, the radio will transmit on the programmed priority channel.

Priority Only TX

Your radio will transmit on the priority channel when scanning and when not stopped on an active channel. It can also be programmed to always transmit on the priority channel if scanning or stopped on an active channel.

Receive Only Scan

If a transmission is made at any time, the radio will sound an alarm (two beeps) and will not allow the transmission. Only reception is allowed.

Fuse Replacement

For protection from fire hazard, replace fuse only with same size, type and style: 32 V, 10 amp 3AG fuse.

FCC Licensing

The Federal Communications Commission requires that the user of this radio be properly licensed under the applicable Part and / or Parts of the FCC Rules and Regulations.

Consult with your Maxon Dealer or contact the nearest FCC Field Office for pertinent information related to obtaining a license.

Software Copyrights

The Maxon products described in this operating instruction manual may include copyrighted Maxon software programs stored in semi-conductor memories or other media. Laws in the United States and other countries preserve for Maxon certain exclusive rights for copyrighted software programs, including the exclusive right to copy or reproduce in any form the copyrighted software program. Accordingly, the copyrighted Maxon software programs contained in the Maxon products described in this operating instruction manual may not be copied or reproduced without the express written permission of Maxon. Furthermore, the purchase of Maxon products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Maxon, except for normal non-exclusive royalty free license to use that arises by operation of law in the sale of a product.

SM-2000 Series Limited Warranty*

Maxon America, Inc. ("Maxon") warrants the Maxon Product manufactured by it against defects in material and workmanship under normal use and service for two (2) years from the date of delivery to the original end user, provided that the user has complied with the requirements stated herein. This warranty is not assignable or transferable.

Maxon shall have no obligation to make repairs or to cause replacement required which result from normal wear and tear or necessitated in whole or in part by catastrophe, fault or the negligence of the user, improper or unauthorized alterations, repairs to the Product, use of the Product in a manner for which it was not designed, or by causes external to the Product. This warranty is void if the serial number is altered, defaced or removed.

Maxon's sole obligation hereunder shall be to repair or replace the Product covered in the above warranty.

To receive warranty service, deliver or send the Product, transportation and insurance prepaid, to the place of purchase along with your proof of purchase. Alternatively, call 1-800-821-7848 for other locations or authorization to return the Product directly to Maxon.

THE EXPRESS WARRANTIES CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

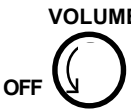
FOR ANY PRODUCT WHICH DOES NOT COMPLY WITH THE WARRANTY SPECIFIED, THE SOLE REMEDY WILL BE REPAIR OR REPLACEMENT. IN NO EVENT WILL MAXON AMERICA, INC. BE LIABLE TO THE BUYER OR ITS CUSTOMERS FOR ANY DAMAGES, INCLUDING ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, OR FOR THE LOSS OF PROFIT, REVENUE OR DATA ARISING OUT OF THE USE OF OR THE INABILITY TO USE THE PRODUCT.

* This Warranty is void for sales and deliveries outside the U.S.A. For sales outside the U.S.A., contact Maxon America or your local Maxon Dealer.

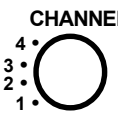
Quick Reference Guide

Controls and Function Buttons

Turns radio on and adjusts volume.



Turns radio off.



Selects the operating channel. Also initiates scan mode if programmed.

Used for after-market accessories.

Monitors channel for activity; disables tone coded squelch options (only in receive mode). Also can be used for scan channel delete when operating in the scan mode.

Push-To-Talk bar (on microphone) places transceiver in transmit mode.

TX/RX	The tri-color LED identifies:
Red	The radio is transmitting. Continuously on while P-T-T is being pressed.
Green	Reception of tone-coded squelch calls.
Flashing Green	The radio is in scan mode, if programmed.
Amber	Signals channel is busy.
CHANNEL ① ② ③ ④	Green back-lit numbers indicates the channel selected.
Two beeps	Warning for "transmission not allowed" in normal scan TX.
Two beeps	Warning for "transmission not allowed" in receive only scan.

A World of Communications

Business Radio Division
Maxon America, Inc.
10828 NW Air World Drive
Kansas City, Missouri 64153
Phone: 816 / 891-6320
Fax: 816 / 891-8815