SM-3000 *Enduro* series
Synthesized Scanning Radio

Operating
Instructions

About Your SM-3000 *Enduro* series Radio

Maxon's SM-3000 *Enduro* series radio feature up to 13 groups and up to 16 channel operation per group for a total channel capacity of 99 channels of superior performance and reliability. Operation and functions for Maxon's SM-3000 *Enduro* series 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 / Topaz3

Maxon is a world-respected name in professional FM two-way radio equipment operating in the UHF, VHF and 800 MHz frequencies; personal two-way communication devices, including the popular FRS (Family Radio Service) and GMRS radios; and a varity of wireless communication products (two-way voice messaging handsets, Wireless Local Loop terminals, etc.).

Topaz3 is the exclusive supplier of Maxon products to North America.

For more specific product information: visit our website: www.topax3.com

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Safety / Warning Information

The Federal Communications Commission (FCC), with its action in General Docket 93-62, November 7, 1997, has adopted a safety standard for 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.

Safety Training Information:
Antennas used for this transmitter must not exceed an antenna gain of **3 dBd**. The radio must be used in vehicle-mount configurations with a maximum operating duty factor not exceeding **50%** , in typical Push-To-Talk configurations. This radio is **NOT** approved for use by the general population in an uncontrolled environment. This radio is restricted to occupational use, work related operations only where radio operator must have the knowledge to control the exposure conditions of its passengers and bystanders by maintaining the minimum separation distance of 53 inches (135 cm). Failure to observe these restrictions will result in exceeding the FCC RF exposure limits.

Caution - DO NOT transmit for more than 50% of total radio use time (50% duty cycle). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. The radio is transmitting when the "RED" LED on the front of the radio is illuminated. **You can cause the radio to transmit by pressing the "PTT" button on the radio's microphone.**

Caution - DO NOT operate the transmitter of SM -3000 mobile radio when someone (bystanders) outside the vehicle is within 5 feet (1.6 meter) of the antenna.

Antenna Installation:
For rear deck trunk installation, the antenna must be located at least **53 inches** away from rear seat passengers in order to comply with the FCC RF exposure requirements. For roof top installation, the antenna must be placed in the center of the roof.

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 properly terminated.

All equipment must be properly grounded for safe operation.

All equipment should be serviced by a qualified technician.

Note: This radio operates in FCC regulated frequency bands. All radios must be licensed by the FCC before use. Because this radio contains a transmitter, Federal law prohibits unauthorized use or adjustments of this radio.

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

Warning – Frequency band 406 – 406.1 MHz is reserved for use ONLY as a distress beacon by the US Coast Gaurd and NOAA. Under no circumstance should this frequency band be part of the preprogrammed operating frequencies of this radio.

Unpacking Information

Remove and carefully inspect the contents of your package (s) 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 Dealer or Maxon.

SM-3000 *Enduro* Series Features

Wideband frequency separation

10 or 40 W programmable output power

Programmable 12.5/25 kHz channel spacing

Channel scan

Priority channel scan

Look back channel

CTCSS/DCS tone signaling

Busy channel lockout

Time-out timer

Scan List Edit

Priority Channel Edit

Description of Radio Components

1) **Antenna Receptacle**
2) **Channel Selector Buttons**
3) **On/Off - Volume Control**
4) **Squelch Control**
5) **R/TX Indicator**
6) **Priority Indicator**
7) **Option Indicator**
8) **Monitor Button**
9) **Scan Button**
10) **Priority Button**
11) **Option Button**
12) **Speaker**
13) **Microphone**
14) **Auxiliary Speaker Connector**
15) **15 Pin Interface**
16) **Power Cord**
17) **LED Display**

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 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 place.

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

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contains such equipment, consult your 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.

Sm-3000 *Enduro* Series Operations

Power On-Volume
Turn the radio on by rotating the on/off - volume control clockwise until you hear a click and the self test "alert" tone.

Squelch Adjustment
Adjust the radio squelch by rotating the squelch control knob counter clockwise to open squelch. Rotate the Squelch control clockwise to close squelch. Adjusting the squelch fully clockwise is the tight squelch position. The most typical setting is done when no channel activity is present. Adjust the control first counter clockwise until noise is head from the radio speaker then adjust the squelch control clockwise until the noise just goes off.

to adjust the squelch control **Channel Select/Channel Group Select**

The SM-3000 *Enduro* series is capable of up to 13 programmed groups with up to 16 channels per group for a total channel capacity of 99 channels. To change channels press and release the σ or τ buttons. A press and hold will scroll through your programmed channels. Channel numbers will appear in the LED located at front of unit. If your radio has been programmed for Channel Scan you must enter the scan mode by pressing the scan button. The Channel Group to be scanned will be shown in the display. In order to change the Channel Group press the σ or τ buttons to select desired group to be scanned.

Transmit

<div align="center">

CAUTION
OPERATION OF THE TRANSMITTER WITHOUT
A PROPER ANTENNA INSTALLED MAY RESULT IN
PERMANENT DAMAGE TO THE RADIO

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1) Press the monitor button to monitor the channel for activity. To avoid interrupting another user, make sure the channel is clear   before you begin transmitting.

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

NOTE: The tri-color R/TX LED located on the front panel can help with channel monitoring. It will glow orange if RF activity is present; or green if the transmission has a CTCSS or DCS tone that matches a tone programmed for receive in your radio. When this LED is not illuminated, the radio is indicating a "clear" channel.

2) When the channel is clear, hold the front microphone area about 2-3 inches from the mouth. Press and hold the P-T-T button on the microphone, and speak slowly and clearly.

NOTE: The LED will glow red when transmitting. This indicator should be on continuously while the P-T-T button is being pressed and the radio is transmitting..

Receive
When you have finished transmitting, release the P-T-T button to receive.

Power Off
When finished transmitting, receiving, monitoring, etc., turn the radio off by rotating the on/off-volume control fully counter-clockwise, to the detent position.

Status Indicators and Audible Alert Tones

Your SM-3000 *Enduro* series has a sophisticated microprocessor control which provides a series of audible alert tones.

Upon initial power up, a quick melody indicates that the self-test of
the microprocessor functions has been completed satisfactorily. A
series of 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

* Indicates a function that is initially programmed into the radio by your Maxon Dealer.

NOTE: All audible tones can be programmed off for silent operation.

Status	Description	LED color	LED Indication	Audible Tone
Normal	Power On - Ready	**N/A**	**88**	**Melody**
	Call Received	Orange	Channel number	N/A
	Correct Call	Green	Channel number	N/A
	Busy Channel	Orange	Channel number	N/A
	Transmit	Red	Channel number	N/A
	Transmit not allowed	Red Flashing	Alternating UL/Channel number	Two beeps repeated
Scanning	Normal Scan mode	N/A	Group number	N/A
	Priority Look BackScan Mode	Yellow	PS/Channel number	N/A
Scan Edit	Edit scan list	Red, Yellow, Green	SE	N/A
Priority Edit	Edit Priority channel	Red, Yelow, Green	PE	N/A
Warning				
	Busy Channel lockout	orange	bL	Single beep repeated
	TX Inhibit	N/A	_h/rO	Two beeps
	Time-out-timer	N/A	Pt	Single beep/3 beeps repeated
Error	EEPROM	N/A	Er	Single beep repeated
	Unlock	N/A	UL	Two beeps repeated

Scan Modes

Scanning is a Dealer programmable feature that allows you to monitor a number of channels or channels within a Group. Your Dealer will help you define a scanning mode and your channel "scan list" .

Normal Channel Scan
Once the scan list has been established you can initiate scan by press and release of SCAN button.

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 pro-grammable 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. Scanning will continue until the channel is changed.

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. To activate Priority scan press and release the PSCAN button.

Other Scanning Features

· **Look Back:** This feature is ideal for those who do not need scan as defined above, but want to make sure that they never miss a call on the "Priority" channel if another channel has been selected. Once a channel other than the priority channel has been selected, the radio will periodically "look back" at 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. To enter look back mode, press and hold the PSCAN button.

   NOTE: Look Back requires that the radio leave the active channel for a fraction of a second (at regular intervals) to check the priority channel for activity. 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. A transmission will be made on the selected channel at all times.

·   **Scan Channel Delete:** To temporarily delete a channel from the scan list, 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 channel is changed 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.

· **CTCSS/DCS Scanning:** The SM-3000 *Enduro* series can be programmed by your Dealer to scan for tone. This will help block out unwanted calls.

· **Normal Scan TX:** Allows a transmission only after a call is received, depending on the programmed scan delay time. After the scan resumes, and a transmission is made, the radio will sound an alarm (two beeps) , display_h and will not allow a transmission.

· **Priority Scan TX:** 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 scan resumes, if a transmission is made, the radio will transmit on the programmed priority channel.

· **Priority Only TX:** Allows a transmission on the priority channel when scanning and not stopped on an active channel. It will always transmit on the priority channel if scanning or stopped on an active channel.

· **Receive Only Scan:** This allows only reception. If a transmission is made at any time, the radio will sound an alarm (two beeps), display r0 and will not allow the transmission.

Scan List Edit

You as a user can edit your radio's scan list and priority scan channel at anytime form your radios original program.

Your radio may have been programmed for channel only scan operation or channel Group scan operation this operation was determined by your Dealer programming. Please note, if your radio has been programmed for channel only scan you will not be able to edit your scan list. You will be able to edit your priority channel.

Channel Only Edit: To edit the scan list in a radio programmed for channel only scan, turn radio off, press and hold SCAN button. While holding SCAN button turn radio on, release the SCAN button after SE is shown in the display. Upon release of the SCAN button the first channel number will be displayed. If channel number is flashing that channel is already included in the scan list. If channel number is solid that channel is not included in the scan list To add or delete the selected channel to or from the scan list press and release the MON button. The selected channel will flash if selected channel was added to the scan list or the selected channel will be solid if the selected channel was deleted from the scan list. To edit other channels press the σ or τ buttons to select the desired channels to be added or deleted from the scan list and repeat the process. Upon completion of adding or deleting channels to or from you r scan list turn the radio off and back on, your new scan list should be entered at this time.

Channel Group Edit: To edit the Group scan list in a radio programmed for channel group scan, turn radio off, press and hold SCAN button. While holding SCAN button turn radio on, release the SCAN button after SE is shown in the display. Upon release of the SCAN button the first group number will be displayed. If you do not wish to edit the group you have selected press the σ or τ button to select those channel groups you wish to edit. After channel group selection has been made press and release the SCAN button the channel number within your selected channel group may now be edited. If channel number is flashing that channel is already included in the scan list of the selected channel group. If channel number is solid that channel is not included in the scan list To add or delete the selected channel to or from the scan list press and release the MON button. The selected channel will flash if selected channel was added to the scan list or the selected channel will be solid if the selected channel was deleted from the scan list. To edit other channels press the σ or τ buttons to select the desired channel within the channel group to be added or deleted from the channel group scan list and repeat the process. Upon completion of adding or deleting channels to or from you r channel group scan list turn the radio off and back on, your new channel group scan list should be entered at this time.

Priority Channel Edit: Only one priority channel can be programmed into the radio. To edit a priority channel, turn radio off, press and hold PSCAN button. While holding PSCAN button turn radio on, release the scan button after PE is shown in the display. Upon release of the PSCAN button the first channel number will be displayed. If displayed channel is not your desired channel to be the priority channel press and release the σ or τ buttons to select the desired channel to become the priority channel. After you have selected the desired channel if the channel number is flashing that channel is already selected as the priority channel. If channel number is solid that channel is not selected as the priority channel. To add or delete the selected channel as the priority channel press and release the MON button. The selected channel will flash if selected channel was added as a priority or the selected channel will be solid if the selected channel was deleted as the priority. Upon completion of adding or deleting the priority channel turn the radio off and back on, your new priority channel should be entered at this time.

Licensing and Service Information

FCC Licensing

The Federal Communications Commission requires that the operator 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 information about obtaining a license.

Service
Do not tamper with internal adjustments. Damage to the equipment and/or improper operation may result. There are no user serviceable items inside the radio.

It is recommended that you return your radio to a qualified Maxon Dealer for any service or repairs.

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 copy-righted 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.

Maintenance

Your SM-3000 *Enduro* series Radio is designed to be maintenance free. To keep your radio in good working condition:

Clean external surfaces with a clean cloth dampened in a solution of dishwasher detergent diluted in water. Apply the solution sparingly to avoid any moisture leaking into cracks and crevices. Do not submerge the radio. Use a non-metallic brush to dislodge stubborn particles, if necessary. Dry the surface thoroughly with a soft, lint free cloth.

DO NOT use solvents or spirits for cleaning - they may permanently damage the housing.

Limited Warranty

Topaz3 L.L.C.. ("Topaz3") warrants the Maxon Product manufactured by it against defects in material and workmanship under normal use and service for a period of 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. Topaz3 is not responsible for any ancillary equipment which is attached or used in connection with this product.

Topaz3 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 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.

Topaz3'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 Topaz3.

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 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 of the United States.