maxon

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SP-1000 Series

User Manual

"Professional Radio Products"

3 YEAR WARRANTY

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Synthesized Scanning Radio

FCC RF EXPOSURE COMPLIANCE REQUIREMENTS FOR OCCUPATIONAL USE ONLY

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. Proper operation of this radio will result in user exposure far below the Occupational Safety and Health Act (OSHA) and Federal Communications Commission limits.

- **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.
- 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 user's exposure conditions for satisfying the higher exposure limit allowed for occupational use.
- When transmitting, hold the radio in a vertical position with its microphone 1 inches (2.5 cm) away from your mouth.
- 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 bar on the radio.
- These are required operating configurations for meeting FCC RF exposure compliance. Failure to observe these restrictions mean violation.

FCC Notice

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This devices may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Operating Instructions

About Your SP-1000 Series Radio

Maxon's **SP-1000 Series** radio feature up to 16 channels. Operation and functions for these 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.

SP-1000 Series Specification

MODEL	SP-1102	SP-1402
EQUIPMENT TYPE	Hand-portable	
PERFORMANCE SPECIFICATIONS	TIA/EIA-603	
BAND	VHF(148~174MHz)	UHF(440~470MHz)
CHANNEL SPACINGS	12.5kHz / 25kHz PROGRAMMBLE	
RF OUTPUT POWER	5 / 1 WATT	
MODULATION TYPE	F3E	
AUDIO POWER	500mW (EXT WITH 8 OHM)	
	1W (INT WITH 4 OHM)	
INTERMEDIATE FREQUENCIES	45.1MHz	
	455kHz	
CHANNELS	16 Channel	
FREQUENCY SOURCE	SYNTHESIZER	
POWER SUPPLY	Li-Ion(1500mA)	
	7.5 VDC NOMIN	
	+/- 10% VDC EXTRE	

Safety Information

The Federal Communications Commission (FCC), with its action in General Docket 79-144, March 13, 1985. 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 - **DO NOT** hold the radio in such a manner that the antenna is next to, or touching, exposed parts of the body, especially the face or eyes, while transmitting.

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

⚠ **CAUTION** - **DO NOT** operate the radio near unshielded electrical blasting caps or in an explosive atmosphere unless it is a type especially designed and qualified for such use.

⚠ **CAUTION** - **DO NOT** press and hold the transmit switch (P-T-T) when not actually wishing to transmit

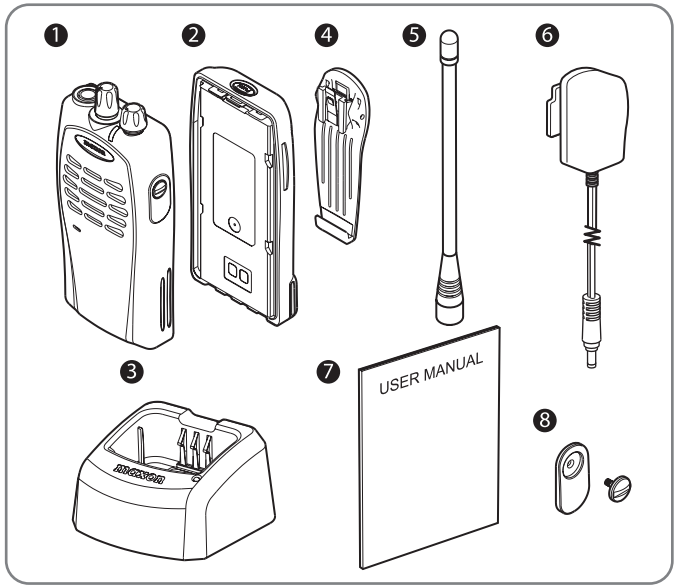
NOTE: This radio operates in FCC regulated frequency bands. All radios must be licensed by the FCC before use. Because this radio contains a transmitter, federal law prohibits unauthorized use or adjustments of this radio.

Unpacking Information

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

1. Radio
2. Battery Pack
3. Battery Charger
4. Spring Belt Clip
5. Antenna
6. Battery Charger Power Supply
7. Operating Instructions
8. Jack Cover

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

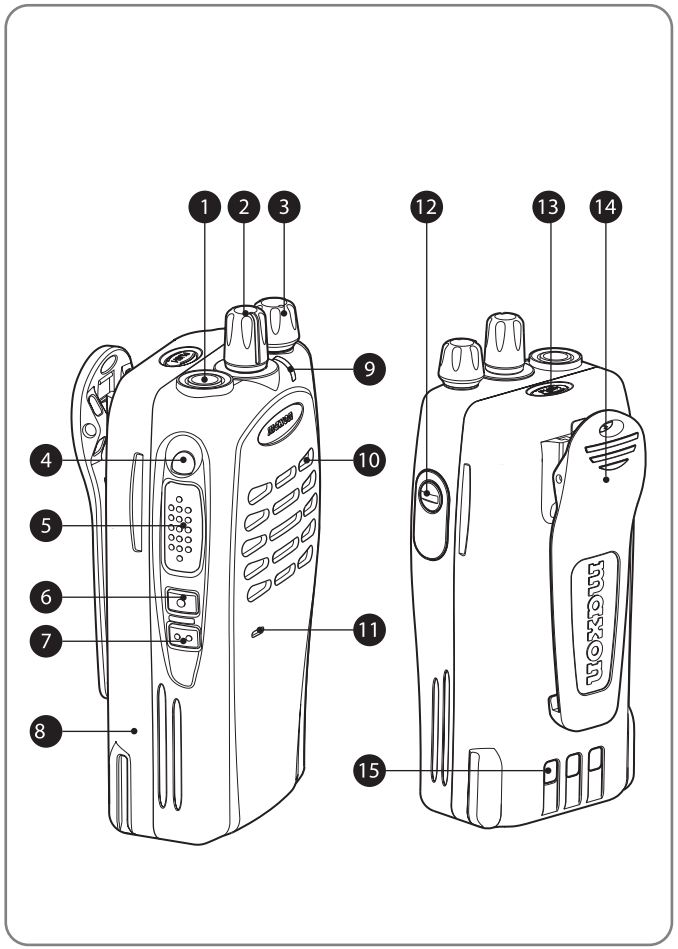


SP-1000 Series Features

- Wideband frequency separation
- 1 or 5 W programmable output power
- Programmable 12.5/25 kHz channel spacing
- Channel scan
- Priority channel scan
- Look back channel
- CTCSS/DCS tone signaling
- 2-Tone Decode
- Busy channel lockout
- Time-out timer
- Priority Channel Edit

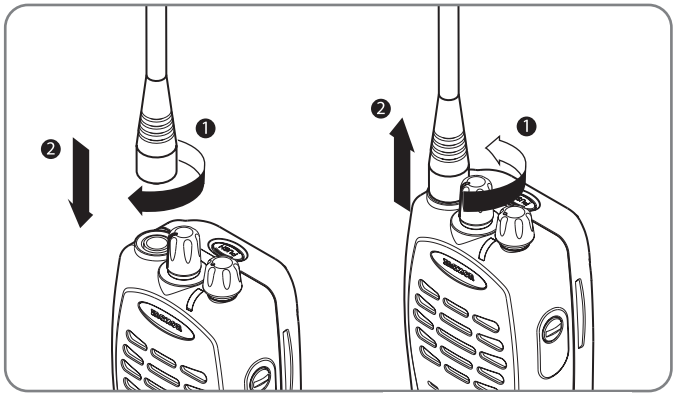
Description of Radio Components

1. Antenna Receptacle
2. Channel Selector Switch
3. On/Off - Volume Control
4. Emergency Button
5. Push-To-Talk (PTT)
6. Monitor Button
7. Option Button
8. Battery
9. RX/TX Indicator
10. Speaker
11. Microphone
12. Accessory Connector (EXT Jack)
13. Battery Latch
14. Belt Clip
15. Battery Charge Contacts



Antenna Installation

Fasten the antenna to the radio by turning the antenna clockwise into the receptacle on top of the radio



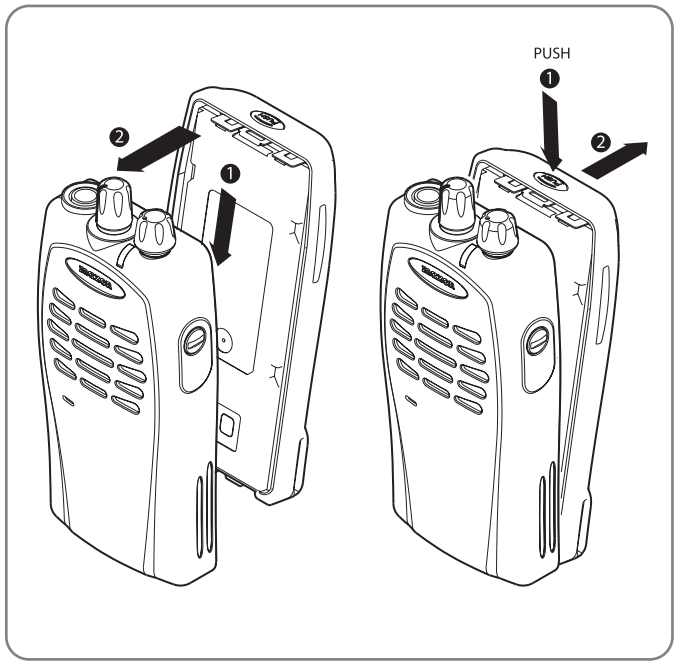
CAUTION

- **NEVER HOLD** by the antenna when carrying the transceiver.
- Transmitting without an antenna may damage the transceiver.

Installing and Removing the Battery Pack

- **To Install:**
  Connect the bottom of the battery to the rear and bottom of radio and fold it into the radio until a click is heard.

- **To Remove:**
  Press the button on the top of the battery and pull the battery out from the Radio.



Attaching and Removing the Belt Clip

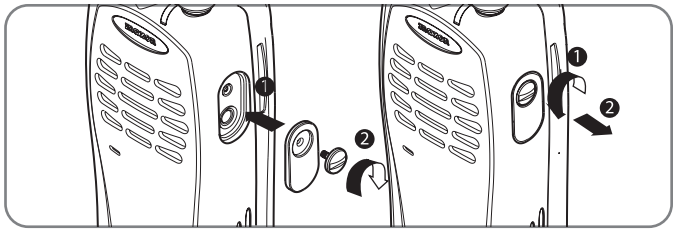
- **To Install:**
  Slide the Belt Clip downward until a click is heard.

- **To Remove:**
  Pinch the inside clip and then slide the belt Clip upward.

Attaching and Removing the Jack Cover

- **To Install:**
  Affix the jack cover by a screw until the screw is fully tightened.

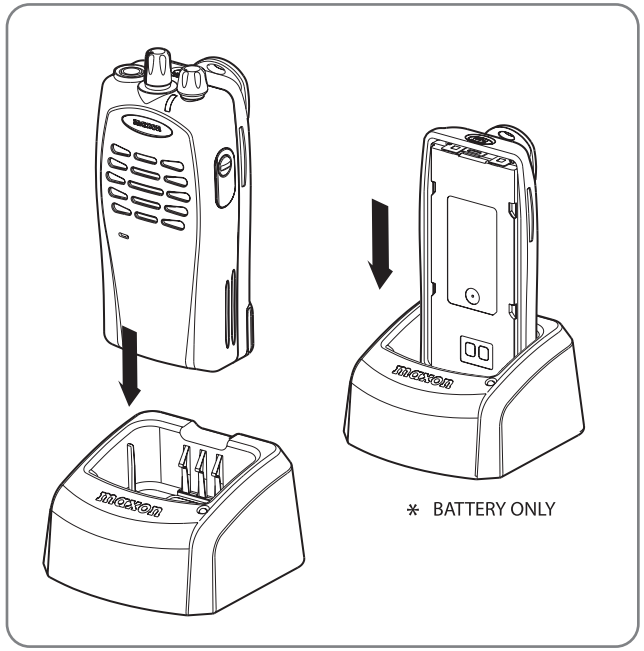
- **To Remove:**
  Loosen the screw until the jack cover is detached from the radio in order to use any accessory for SP-1000



Battery Charging and Care

To ensure peak performance from your radio, the battery pack must be fully charged. Proper care and charging will allow maximum performance and life of your battery pack.

Desktop Charger provides 2 hours charging to one radio and/or one battery.



Status Indicators and Audible Alert Tones

Your SP-1000 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 *
- Low battery condition
- 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	Audible Tone
Normal	Power On - Ready	N/A	Melody
	Call Received	Orange	N/A
	Correct Call	Green	N/A
	Busy Channel	Orange	N/A
	Transmit	Red	N/A
	Transmit not allowed	Red Flashing	Two beeps
Scanning	Normal Scan mode	Green Flashing	N/A
Warning	Low Battery	Red Flashing	2 beeps repeated
	Busy Channel lockout	Orange	2 beeps repeated
	TX Inhibit	N/A	Two beeps
	Time-out-timer	N/A	Single beep/3 beeps repeated
Error	Unlock	N/A	Two beeps

Operation Mode

This section provides general descriptions of the operating modes of the SP-1000 Series Radio.

Power Off Mode

The SP-1000 Series shall enter Off mode when the On/Off Volume knob is rotated to the most counter-clockwise position beyond the detent. Upon entering Off mode, the radio shall store its current channel (if Power On Channel function is disabled via PC programmer).

Power On Mode

The SP-1000 Series shall enter Power-On mode when the On/Off Volume knob is rotated clockwise beyond the detent. Upon entry of the Power-On mode, the radio shall perform the 1 time power-on alert to indicate that it has been turned on

High / Low Power

The radio shall be capable of programmable output power.
Each channel can be programmed via pc programmer to have either high or low power. It can also be set by pressing the option button.

Cloning

Frequencies and functions can be programmed from radio to radio by using a cloning cable.

Password

If the password function is enabled, the user must enter a password for the radio to become operational.
You can enable the password and set the password code by using the PC programmer. You can also set the password enable/disable by a programmable key (password and menu option). At this time you can enter the password code by using the EMG/PTT/MON/OPTION button in the correct sequence. Four button presses are required to enter the code. If the code is not correct, the LED will blink red and there will be a double beep repeated. To disable the password function, you can select On/Off by using the PC programmer. The default is disabled.

Scanning

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

Normal Channel Scan
Once the scan list has been established, initiate scanning by pressing the scan key or holding the monitor button and rotate the channel switch to scan the enabled channels. Then the Green LED flashes to confirm the 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, and will continue to scan until the channel is changed. The LED will flash green. When in scan mode, if power is switch off and on, the radio reverts back to "scanning" automatically.

Nuisance Scan Delete
If there are any unwanted signals on any of the channels being scanned, they can be temporarily removed from the scan list. When the scanning feature has locked onto the unwanted signal simply press the monitor button. this will delete that channel from the scan list. When the radio is switched off and back on the channel is restored in the scan channel list.

Priority Channel Scan
A single channel may be programmed as the "Priority" channel. The radio will constantly monitor this channel while scanning. If a call is detected on the priority channel, the radio will automatically move to, and remain on, the priority channel activity takes precedence over all other conversations.

Fixed Key

- **PTT**

  Press and Hold to transmit. Release to receive mode.

- **MONITOR**
  Releases the squelch and tone circuit to check whether the channel is busy.

  (OPTION)
  Short pressing: Enable/Disable Scan
  Look Back channel edit
  Tx power H/L

- **EMG**
  Transmit EMG ID 5 times and generate warning audio alert during seven seconds

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.

- **Recycling/Disposal of Batteries**
  The battery should be recycled at the end of its useful life. Under various state or local laws, such batteries must be recycled or disposed of properly and cannot be dumped in landfills or incinerators.
  For further information on how to safely dispose of your used batteries ,contact your Maxon Dealer.

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 SP-1000 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.

Clean the battery contacts on the back of the radio with a lint free cloth to remove dirt, grease, or other foreign material that may impede good electrical contact.

Limited Warranty

TecNet International, Inc. offers to the original end user:

Three (3) Year Limited Warranty on New Maxon Radio Products

A **Three Year Warranty** is effective on radios purchased after January 1, 2010. Radios purchased previous to the January 1, 2010 date are covered under all other applicable terms expressed here for a period of ***Two Years.***

EXCLUSION: The Three Year Warranty specifically ***excludes*** Maxon model radios in the series SP-200, SP-300, SM-2500, SM-6000, SD-125, SD-160/170. These excluded models are still warranted under all other applicable terms expressed here and as originally expressed for a period of ***Two Years*** from date of purchase.

One (1) Year Limited Warranty on GPS Receivers and Radio Accessories

TecNet warrants each new radio product manufactured or supplied by it to be free from defects in material and workmanship under normal use and service for the time period stated, provided that the user has complied with the requirements stated herein. The warranty period begins on the date of purchase from an Authorized TecNet Dealer. This warranty is not assignable or transferable. This warranty is void if the product serial number is altered, defaced or removed. TecNet is not responsible for any equipment that is attached to or used in conjunction with the Maxon and HeadLine products.

During the warranty period, if the product fails to function under normal use, because of manufacturing defects or workmanship, it should be returned to the Authorized TecNet Dealer from which it was purchased. The Authorized TecNet Dealer will repair the product or return the product for repair to TecNet or its Authorized Repair Depot.

The user is responsible for the removal of the product from a vehicle or any equipment attached to it, or other site of its use; transportation of the product to the Authorized TecNet Dealer; for the return of the repaired or replacement product to the site of its use and for the reinstallation of the product.

TecNet shall have no obligation to make repairs or replacement of product which results from normal wear and tear, or is necessitated by catastrophe, fault, or negligence of the user, improper or unauthorized alterations or repairs to the product, incorrect wiring, use for which it was not designed or by causes external to the product. TecNet's sole obligation shall be to replace or repair the product covered by the warranty. Replacement is done at TecNet's discretion and may consist of a similar or higher featured product. Repair may include the replacement of parts with functionally equivalent new or reconditioned parts. All replaced parts and accessories are warranted for the balance of the original time period. All parts and accessories that are replaced become the property of TecNet International Inc.

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

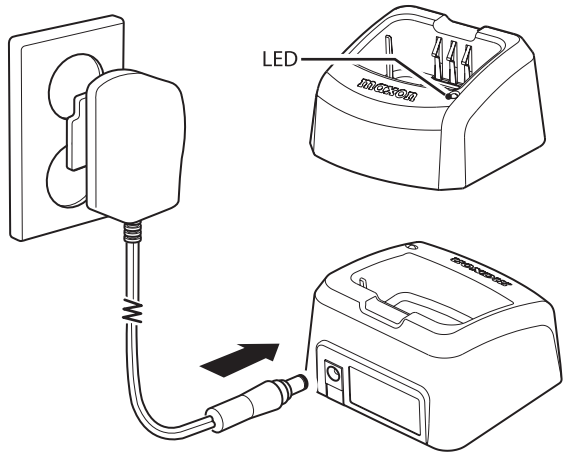
▪ CHL-100L Desktop Regular Charger

Product description

The CHL-100L is Regular Charger for Maxon's SP-1000 Series Two-way radio batteries.
The charger has been designed to fully charge only the Li-Ion, 1500mAh battery, the front charging slot charges a battery while connected to the radio, the back charging slot charges a battery that has been removed from the radio.

Orientation

- Plug the AC adapter cable into the adapter jack locked on the rear of charger.
- Plug the AC adapter into an AC outlet



Operating instruction

- Charger.
- Remove the charger base and AC adapter from packaging.
- Plug the AC adapter cable into the adapter jack located on the rear of the Plug the AC adapter into an AC outlet.
- Your charger is now ready to begin charging

Charging starts automatically when the radio equipped with battery is in place. The charging time is approx 10 hours or less, depending upon the leftover capacity, current charge status of the battery

Lighting color	Description
Red	During charging
Green	Fully charged
Blinking orange	Extreme cold(under -10° C; 14° F)
	Extreme heat(over +60° C; 140° F)
Blinking red	Error

NOTE: If your battery seems to have no capacity even after being fully charged, completely discharge them, then fully charge them again. If they still do not retain a charge, new batteries must be purchased.

Safety information

To reduce the risk of shock or injury, familiarizes you with the proper and safe operating procedures defines in this manual. Only charge Maxon's battery in this charger - other battery types may burst causing personal injury/or damage to the charger, battery or radio.

- The CHL-100L desktop charger is rated for indoor use only.
- Do not disassemble the charger, incorrect reassembly can cause fire or electric shock.
- Do not pull output plug with excessive force.

- Do not use the charger when it is covered by objects which impede heat dispersal.
- Connect the supplied Maxon adapter only to the voltage supply as specified on its label.
- Unplug the AC adapter from wall outlet before attempting inspection or cleaning of the charger.
- Do not use solvents such as benzene or paint thinner to clean the charger.

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User Instruction Manual

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