

# MICROLIGHT ML 830™ LASER SYSTEM

## OPERATING GUIDE

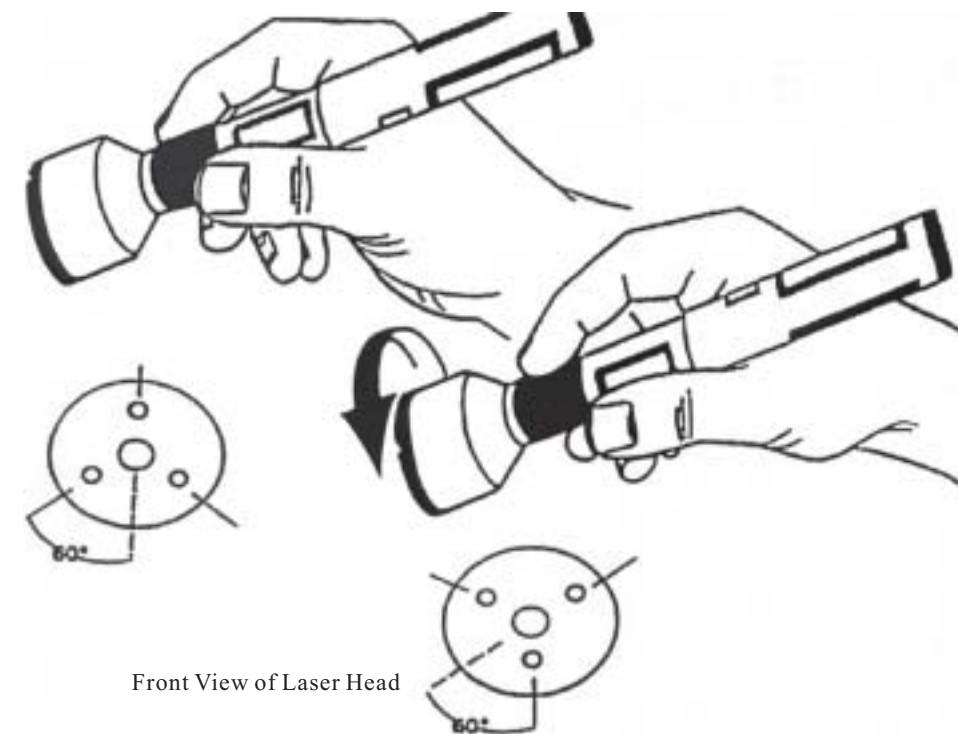
CAUTION: Federal (or United States) Law restricts this Device to sale by or on the order of a Licensed Clinician.

CAUTION: Laser Radiation. Avoid Direct Eye Exposure. Do Not Stare into Laser Beam.

See U. S. Patent No. 5,464,436  
MICROLIGHT CORPORATION OF AMERICA  
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Missouri City, Texas 77459  
281-433-4648

The ML 830™ Laser Probe should be applied as follows:

1. Place the Laser Probe to the area to be treated.
2. Activate the Laser beam by depressing the annular switch (the black vinyl area on the laser which surrounds the entire circumference of the laser probe). The laser diodes are now activated and the switch may be released.
3. Laser energy is emitted for 33 seconds (one duty cycle), which is equivalent to 1 joule of energy per laser diode or 3 joules of accumulative energy.
4. The probe has an audible radiation signal in form of an acoustic beep during the activation cycle.
5. At the end of the 33-second activation cycle, the laser automatically switches off and the beep is replaced by one continuous tone for 2 seconds.
6. During the 33-second duty cycle the laser should be held completely still and in direct contact with the tissue. The same treatment point should be maintained for three duty cycles, rotating the laser head 60 degrees after each duty cycle to ensure full coverage of the target point.



Front View of Laser Head

Laser Rotation - 60 Degrees

ML 830™ Laser Treatment Protocol for CTS

Operating Guide

Dose per treatment point: 9 joules (1 joule/laser diode x 3 diodes x 3 duty cycles)

Number of treatment points 4 points (wrist and palm area)

Treatment Intervals: 3 times / week

Treatment Session 5 weeks

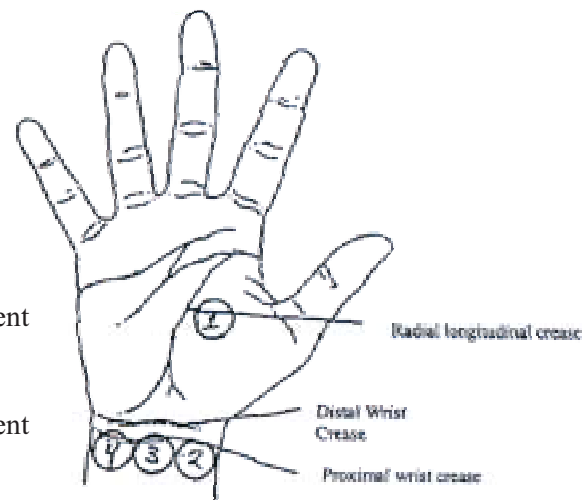
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<u>Treatment Point</u>	<u>Palmar Position</u>
# 1	across the thenar muscle between the Radial longitudinal crease and the proximal thumb joint
# 2	Radial side of wrist at the proximal wrist crease across the carpal ligament
# 3	Middle of wrist at the proximal wrist crease across the carpal ligament
# 4	Ulnar side of wrist at the proximal wrist crease across the carpal ligament
# 4	Ulnar side of wrist at the proximal wrist crease across the carpal ligament



APPENDICES

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# MICROLIGHT ML 830™ LASER SYSTEM

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## WARNING

Before connecting the Recharger Console Unit or operating the ML 830™ Laser read the Warning and Safety Instructions in Section 3.

## 1. INTRODUCTION

Welcome to the MicroLight Corporation's ML 830™ Laser System. This Operating Guide will lead you through the steps for operating the ML 830™ Laser. Please proceed through this Guide by following the steps in sequence.

## 2. COMPONENTS

The ML 830™ Laser System comes with the following components. If any item is missing or damaged, immediately call MicroLight Corporation at 281-433-4648.

- Recharger Console Unit
- Rechargeable Batteries (3)
- Remote Interlock
- Carrying Case
- Model 830 Laser Probe
- Safety Glasses (2 pair)
- Power Cord
- Keys

## 12. LIMITED WARRANTY First Year

MicroLight Corporation warrants that your new ML 830™ Laser System is free from defects in materials and workmanship for a period of one (1) year from the date of original purchase.

If you discover a defect, MicroLight Corporation, at its option, will repair, replace or refund the purchase price of this product at no charge, provided you return it during the first year warranty period. You are responsible for shipping, handling and applicable taxes.

### General

In the unlikely event your ML 830™ Laser is returned for manufacturing defects, please attach your name, address, telephone number and a copy of the Bill of Sale. Return the product with transportation charges prepaid to our Customer Service Office.

This warranty does not apply if the product has been damaged by accident, abuse, misuse or misapplication; if the product has been modified without written permission from the Company or if any serial number has been removed or defaced.

**Do not open the laser diode housing of the laser probe as this will void the warranty.**

MicroLight Corporation is not responsible for special, incidental or consequential damages resulting from any breach of warranty, or under legal theory, including but not limited to lost profits, downtime, goodwill, damage to or replacement of equipment or property.

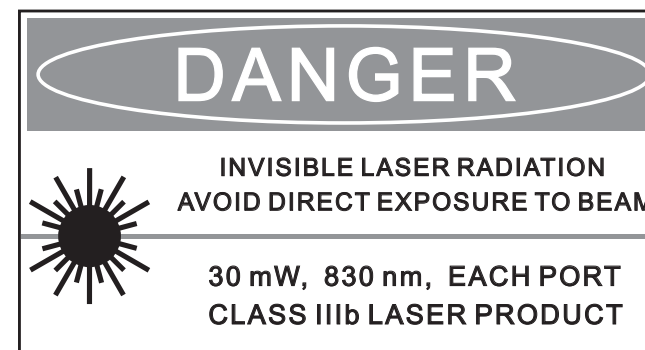
*EXCEPT AS SPECIFICALLY SET FORTH ABOVE THE COMPANY DISCLAIMS ANY AND ALL SPECIFIC OR IMPLIED WARRANTIES, INCLUDING WARRANTIES, INCLUDING WARRANTIES OR FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES OF MERCHANTABILITY. THERE ARE NO WARRANTIES, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF.*

11. TECHNICAL INFORMATION

DESCRIPTION	MODEL 830 LASER
Laser Diodes	GaAIAs
Regulatory Class	IIIb
Wavelength	830 nm
Power	3 x 30 mW continuous wave(cw)
Laser Energy delivered per Treatment Cycle	3 x 1 Joule
Treatment Cycle Duration	33 seconds
Beam Configuration	1 x 3 m m
Laser Dimensions	2.1 cm diameter x 21.0cm long
Laser Weight	300 gm
Total Laser Energy Deliverable from Fully Charged Battery	More than 100 Joules
DESCRIPTION	RECHARGER
Voltage	110/220/240 volts AC
Power Consumption	9 W
Charging Current for Batteries	60 mA
Stable Charge Current	10 mA
Fuses	2 pcs.200 mA located in rear panel
Dimension(L x W x H)	308 x 220 x 80 mm
Weight	2.33 kg

3. WARNING AND SAFETY INSTRUCTIONS

Before you begin using your ML 830™ Laser or the Recharger Unit, read these important warnings and safety instructions. For your own safety and that of your equipment, take note of the following warnings:



Warnings:

- ♦ Recharger Unit must be grounded. Connection to a non-grounded electrical outlet is unsafe. The Warranty covering this unit will become null and void if the Recharger is connected to a non-grounded electrical outlet.
- ♦ Wear the safety glasses provided with the unit to filter out 830nm infrared energy.
- ♦ Do not aim the laser beam directly into the eye(s). The lens of the eye can focus the 830nm wavelength beam, resulting in retinal burn and/or vision problems.
- ♦ When the Laser System is left unattended, the Laser Probe must be stored in the safety compartment in the base of the Recharger Unit. This compartment must be locked and the key kept by the authorized user.

Safety Instructions:

Disconnect the power plug (by pulling on the plug, not the cord) under the following circumstances:

- ♦ If the power cord or plug becomes frayed or otherwise damaged.
- ♦ If anything is spilled into the equipment.

- ◆ If your equipment is exposed to rain or any other excessive moisture.
- ◆ If your equipment is dropped or the Recharger case is damaged.
- ◆ If you suspect that your Recharger needs repair or service.
- ◆ Whenever the Recharger will not be used for long periods of time.
- ◆ Whenever power surges are expected, such as during thunderstorms or power outages.

#### 4. SETTING UP THE RECHARGER

- ◆ Plug in the Recharger. Connect the main power cord to the power inlet socket on the rear of the Recharger (Figure 1). Connect the main plug to a grounded electrical outlet. Be sure that the electrical outlet is grounded to the main breaker box.
- ◆ Switch ON the unit at the power switch. The power display meter (Figure 2) will illuminate and read "00".

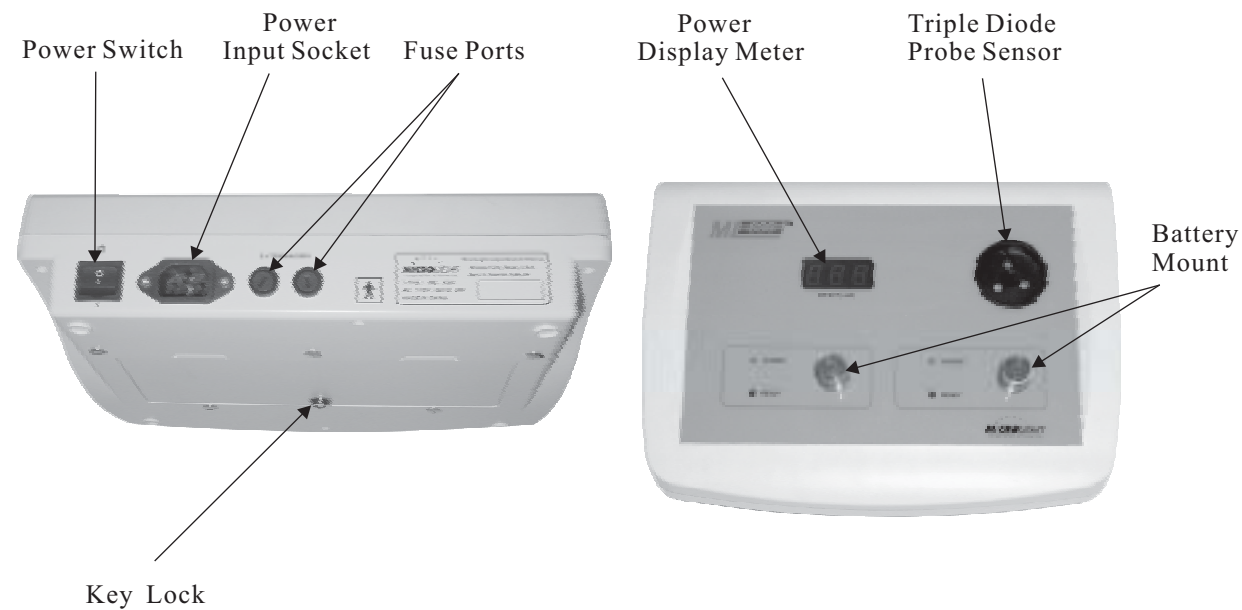


Figure 1

Figure 2

remove glasses until treatment is completed. The laser probe should be placed directly over the area to be treated with the "notch" on the laser head at the 12 o'clock position. Activate the black annular switch on the laser probe. All lasers are activated first by depressing the switch by gently squeezing anywhere on this surface. Once the laser is activated for one (1) 33 second cycle or until the annular switch is lightly depressed again.

#### TREATMENT REGIMEN:

Refer to the Treatment Regimen Protocol provided in the Appendix A of this manual.

#### 10. CARE AND MAINTENANCE

- ◆ Cleaning Laser Port: To clean the laser port, lightly moisten a lint-free cloth with 70% solution of rubbing alcohol. Gently dab laser port with the moistened cloth until clean.
- ◆ Cleaning Laser Probe: To clean the laser probe, lightly moisten a lint-free cloth with 70% solution of rubbing alcohol and gently wipe the laser diode lenses to remove any potential residue or film. Wipe the outer surface of the laser probe with a lint-free soft cloth to remove any dust or film that may build up on the outside of the laser probe.

**NOTE: DO NOT APPLY LIQUID DIRECTLY ON THE LASER PORT, LASER PROBE OR BATTERIES**