

# Rich-Mar AutoPrism®

Operation Handbook



Part #A2454  
Rev B  
Batch 001

# WARNING

Federal law restricts this device to sale by or on the order of a physician or any other practitioner licensed by the law of the state in which said person practices.

For continued protection against fire hazard, replace fuses ONLY with those of the same type and rating.

This equipment should always be grounded. Grounding reliability can only be achieved when the equipment is connected to an equivalent marked, "Hospital Grade."

This device emits high intensity monochromatic infrared light. DO NOT look directly into treatment diode array while device is in operation.

This device should be kept out of the reach of children.

# Contents

|  |        |
|--|--------|
| Warranty .....                                   | 4      |
| Operation .....                                  | 5 - 6  |
| Treatment Descriptions and Recommendations ..... | 5      |
| Troubleshooting .....                            | 7      |
| Specifications .....                             | 8      |
| Indications for use .....                        | 9      |
| Contraindications .....                          | 9      |
| General Precautions .....                        | 9      |
| Warnings .....                                   | 9 - 10 |

## AUTOPRISM LIMITED WARRANTY

This equipment is sold under an exclusive one-year warranty from date of sale, which warrants it to be free from defects in material and workmanship. We agree to repair or replace at the point of manufacture, without charge, all parts showing such defects, provided the unit is delivered to us, prepaid to our factory, intact for our examination, within two years from date of sale, and provided such examination discloses in our final judgment that it is defective.

This warranty does not apply if the equipment has been subject to misuse, neglect, accidents, incorrect wiring (not our own), improper installation, or put to use in violation of instructions furnished by us, has been damaged by excess voltage or has been repaired or altered outside our factory or if the equipment has had its serial number altered or removed.

Changes: Rich-Mar reserves the right to modify or change the equipment in whole or in part, at any time prior to delivery, in order to include refinements deemed appropriate by the Company but without incurring any liability to modify or change equipment previously delivered, or to supply new equipment in accordance with earlier specifications. This warranty will be honored only if the enclosed card is filled out and returned to the factory. This warranty is valid only to original purchaser.

This warranty is expressly in lieu of all other warranties expressed or implied including the warranties of merchantability and fitness for use and all other obligations on our part, and we neither assume, nor authorize any other person to assume for us, any other liability in connection with the sale or use of this equipment. In no event shall we be liable for consequential or special damages. We make no warranty whatsoever in respect to accessories or parts not supplied by us.



## Operation

Attach the provided power cord to the power supply and plug into a 100V-240V 50/60Hz AC supply. The AutoPrism will perform a brief self diagnostic test, the LED's will flash, and the device will beep once when power is applied.

Treatments are based on the energy delivered in Joules per square centimeter. The treatment time is determined by the treatment energy and the duty cycle. See the following table for approximate treatment durations:

| Treatment            | Duty Cycle |        |        |         |
|----------------------|------------|--------|--------|---------|
|                      | 80%        | 60%    | 40%    | 20%     |
| 1 J/cm <sup>2</sup>  | 35s        | 47s    | 1.2min | 2.4min  |
| 4 J/cm <sup>2</sup>  | 2.4min     | 3.1min | 4.6min | 9.4min  |
| 6 J/cm <sup>2</sup>  | 3.5min     | 4.7min | 7min   | 14.1min |
| 10 J/cm <sup>2</sup> | 6min       | 7.8min | 12min  | 23min   |

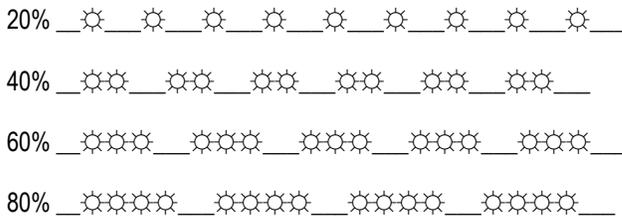
The AutoPrism continuously monitors the temperature of the patient's skin during treatment. If the skin temperature exceeds 43°C a safety program will reduce the output to 10%. Normal treatment will resume once the temperature at the treatment site falls below 43°C. If the safety program activates during a treatment, the treatment time will be extended to deliver the selected treatment energy.

NOTE: For temperature-based treatment: To achieve a 40°C surface temperature for 10 minutes, first preheat the unit by running at 4 Joules at 80%, then place applicator on the patient and use a 10 Joule treatment at 40% to maintain the temperature. To achieve 40°C for 20 minutes, preheat as above, and then use a 10-Joule treatment at 20%.

For most treatments, place the applicator directly on the skin in an appropriate position. If necessary, use straps to hold the AutoPrism in place for the duration of the treatment. (If there are any breaks in the skin, cover the AutoPrism with a clear plastic barrier, such as cellophane wrap, prior to use.) DO NOT cover the applicator with any type of compression wrap as this will prevent heat dissipation and may result in damage to the device or injury to the patient.

To select the treatment energy press the Select button located on the top of the applicator. The green indicator will illuminate over the appropriate treatment: 1, 4, 6, or 10 Joules. After selecting the desired treatment energy, press the Start/Stop button, the AutoPrism will beep, and treatment will begin. The LED indicator showing the selected treatment will flash to indicate treatment is in progress.

The pattern of flashes indicates the treatment duty cycle, as shown below.



The duty cycle will default to the last setting from the previous treatment. The duty cycle can be changed during treatment by pressing the Select button. Changing the duty cycle during treatment will not affect the total amount of energy delivered during the treatment - only the time over which the selected amount of energy is delivered.

Treatment can be stopped at any time by pressing the Start/Stop button. The device will beep and the LED indicator will stop flashing. The LED indicator will remain on, indicating the last treatment energy used. The last treatment may be repeated by pressing the Start/Stop button or a new treatment may be chosen by using the Select button.

When a treatment terminates normally, the device will emit a long beep and the indicator LED will stop flashing.

The AutoPrism monitors the temperature of the patient's skin during treatment. If the skin temperature exceeds 43°C a safety program will reduce the output to 10%. Normal treatment will resume once the temperature at the treatment site falls below 43°C. If the safety program activates during a treatment, the treatment time will be extended to deliver the selected treatment energy.

*NOTE: Operation under conditions where the ambient temperature is near 43°C (109°F) may result in all treatment modes being limited to a 10% duty cycle. The duty cycle select function will be disabled above 43°C. If it necessary to perform treatments when the ambient temperature is near or above 43°C, use the following table to determine approximate treatment durations.*

|                      |          |
|----------------------|----------|
| 1 J/cm <sup>2</sup>  | 4.8 min  |
| 4 J/cm <sup>2</sup>  | 18.8 min |
| 6 J/cm <sup>2</sup>  | 28.2 min |
| 10 J/cm <sup>2</sup> | 46 min   |

Use caution when treating with the higher energy and higher duty cycles (shorter treatment times); in spite of the safety circuit it may be possible to cause minor burns to some patients. Treatments greater than 10J/cm<sup>2</sup> on a single location can cause discomfort and are not recommended. Patients should be notified that warmth during treatment is normal but excessive heat and pain are not.

## Trouble-Shooting

Rich-Mar Corporation takes pride in its Technical Support Hotline: If you have any questions please contact your distributor or you can contact us at 800.762.4665 in the US, +1.918.543.2222 internationally, or at [info@richmarweb.com](mailto:info@richmarweb.com). We have an outstanding staff ready to take your calls and help with diagnosing and troubleshooting problems.

## Specifications

### Duty Cycles

80%, 60%, 40%, and 20%

### Light Output

600mw peak @ 880nm

50mw peak @ 670nm

### Treatment Area

17 cm<sup>2</sup>

### Timer

Treatment times will vary 35 seconds to 23 minutes depending on treatment energy and duty cycle.

### Input

100 VAC to 240 VAC 50/60Hz

### Presets

4 preset treatment energies 1J, 4J, 6J and 10J

4 preset duty cycles 20%, 40% 60% and 80%

### Weight

Approx 1lb.

### Dimensions

4.25"W x 3"D x 1"H

### Power Consumption

20 Watts Maximum

### Line Leakage

Less than 50 micro amps

## Indications for Use

The Rich-Mar AutoPrism is an infrared lamp as classified under 21 CFR Part 890.5500. As such, it emits energy to provide topical heating for the temporary increase in local blood circulation, temporary relief of minor muscle and joint aches, pains and stiffness, and the relaxation of muscles; for muscle spasms, and for minor pain and stiffness associated with arthritis. For use when heat is indicated for the treatment of the aforementioned conditions.

- 1) Symptomatic relief of minor pain.
- 2) Minor muscle and joint pain.
- 3) Minor muscle spasms.
- 4) Relief of minor stiffness and pain associated with arthritis
- 5) Promoting relaxing of muscles

## Contraindications, General Precautions, and Warnings

Infrared treatment should not be used for the following:

- 1) Where analgesia may mask progressive pathology, and where the practitioner would normally avoid the use of any other analgesia in order to retain the beneficial aspects of pain.
- 2) For direct aim into human or animal eyes.
- 3) Over areas injected with steroids in the past 2-3 weeks.
- 4) Over areas that are suspicious or contain potentially cancerous tissue.
- 5) Over areas of active hemorrhage.
- 6) With women who are pregnant.
- 7) Over neck (thyroid region) or chest (vagus nerve or cardiac region of thorax)
- 8) Directly over areas with open wounds, unless covered with a clear protective barrier.

WARNING: The AutoPrism and accessories should be operated by a healthcare professional.

WARNING: Federal law restricts this device to sale by or on the order of a physician or any other practitioner licensed by the law of the state in which said person practices.

WARNING: Use of controls, adjustments, performance or procedures other than those specified herein may result in less effective outcomes.

WARNING: Use only as directed.

WARNING: Do not immerse in water.

WARNING: Avoid excessive use.

WARNING: Special care should be taken when treating patients with circulatory problems. If in doubt, use a lower duty cycle.

WARNING: Use caution when treating with higher energies and higher duty cycles (shorter treatment times), it may be possible to cause minor burns. Treatments greater than 10J/cm<sup>2</sup> on a single location may cause injury to sensitive individuals.

WARNING: This device emits high intensity monochromatic infrared light. DO NOT look directly into treatment diode array while device is in operation.

The AutoPrism should be returned to Rich-Mar annually for testing of output energy and calibration of safety thermistor circuit.

Patients should be notified that warmth during treatment is normal - excessive heat and pain are not.