

Leading Therapy  
In a New  
Direction

# Vectra<sup>®</sup> GENiSYS



## User Manual

Model 2784

Vectra<sup>®</sup> Genisys Laser

**Electromagnetic  
Compatibility  
(EMC) Tables**










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# FOREWORD

Vectra® Genisys Laser

This manual has been written for the operators of the Vectra® Genisys Laser. It contains general instructions for operation, precautionary instructions, and maintenance recommendations. In order to obtain maximum life and efficiency from your Vectra® Genisys Laser, and to assist in the proper operation of the unit, read and understand this manual thoroughly.

The specifications put forth in this manual were in effect at the time of publication. However, owing to Chattanooga Group's policy of continuous improvement, changes to these specifications may be made at any time without obligation on the part of Chattanooga Group.

Before administering any treatment to a patient, you should become acquainted with the operating procedures, as well as the indications, contraindications, warnings, and precautions. Consult other resources for additional information regarding the application of therapeutic laser light. Users of this device should refer to CAN/CSA-Z386-92: Laser Safety in Health Care Facilities or ANSI Z-136.3, 1996: American National Standard for the Safe Use of Lasers in the Health Care Environment.

## Product Description

The Vectra® Genisys Laser, designed and manufactured by Chattanooga Group, offers a new dimension in clinical laser light therapy made possible by advanced software design and digital signal processing.

Effectiveness of this treatment is dependent upon correct use. If treatment times are exceeded, the therapy may not result in positive clinical outcomes.

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# FOREWORD

Vectra® Genisys Laser

The following features are available on the Vectra® Genisys Laser:

- **Clinical Portable Battery Powered Option**  
The Vectra® Genisys Laser is a truly portable laser unit that does not confine you to a wall socket to operate.
- **Clinical Indications**  
An efficient approach for setting up a treatment using preset parameters.
- **Real Time Feedback**  
This feature provides a measured and monitored output system that adjusts the dosage delivered to the patient.
- **Electronic Signature™**  
Automatically calibrate the system to any Vectra® Genisys Laser applicator.
- **Ergonomic Applicators**  
A new ergonomic design that offers a 20 degree contour in the applicator hand grip. This ergonomic extra will help deliver uniform laser light therapy with greater clinician comfort.
- **Clear LCD**  
Guide the operator through the setup process providing continuous feedback about treatment settings. Gives you optimal visibility during attended procedures.
- **User Protocols**  
User protocols allow you to set, save, and change the parameters of each program (protocol) in order to tailor it to meet your patients' specific needs. Ten storage slots are available for user protocols.





# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## Precautionary Instructions

The precautionary instructions found in this section and throughout this manual are indicated by specific symbols. Understand these symbols and their definitions before operating this equipment. The definition of these symbols are as follows:



=CAUTION-

Text with a "CAUTION" indicator will explain possible Safety infractions that could have the potential to cause minor to moderate injury or damage to equipment.



=WARNING-

Text with a "WARNING" indicator will explain possible Safety infractions that will potentially cause serious injury and equipment damage.



=DANGER-

Text with a "DANGER" indicator will explain possible Safety infractions that are imminently hazardous situations that would result in death or serious injury.

**NOTE:** Throughout this manual "NOTE" may be found. These Notes are helpful information to aid in the particular area or function being described.

## CAUTION

- Read, understand, and practice the precautionary and operating instructions. Know the limitations and hazards associated with using any laser light device. Observe the precautionary and operational decals placed on the unit.
- Do not operate this unit when connected to any unit other than Chattanooga Group devices.
- Do not operate this unit in an environment where other devices are being used that intentionally radiate electromagnetic energy in an unshielded manner.
- DO NOT use sharp objects such as a pencil point or ballpoint pen to operate the buttons on the control panel as damage may result.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous exposure to laser light energy.
- Handle the applicator with care. Inappropriate handling of the applicator may adversely affect its characteristics.
- Inspect applicator cables and associated connectors before each use.
- This unit should be operated in temperatures between 59 to 85°F (15 to 40°C), and transported and stored in temperatures between - 20 to 110°F (7 to 43°C), with relative humidity ranging from 30% - 60%.
- Where the integrity of the external protective earth conductor arrangement is in doubt, equipment shall be operated from its internal electrical power source.
- DO NOT disassemble, modify, or remodel the unit or accessories. This may cause unit damage, malfunction, electrical shock, fire, or personal injury.
- Failure to use and maintain the Vectra® Genisys Laser and its accessories in accordance with the instructions outlined in this manual will invalidate your warranty.
- DO NOT remove the cover. This may cause unit damage, malfunction, electrical shock, fire, or personal injury. There are no user-serviceable parts inside the unit. If a malfunction occurs, discontinue use immediately and consult the dealer for repair service.



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# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## CAUTION

- DO NOT permit any foreign materials or liquids to enter the unit. Take care to prevent any foreign materials including, but not limited to, inflammables, water, and metallic objects from entering the unit. These may cause unit damage, malfunction, electrical shock, fire, or personal injury.
- If you have difficulty operating the unit after carefully reviewing this user manual, contact your Chattanooga Group dealer for assistance.
- Before each use, clean the plastic lens with NOVUS® Polish System ([www.novuspolish.com](http://www.novuspolish.com)). Apply with a clean cloth. Failure to clean the lens between patient therapy sessions could cause beam fragmentation.
- U.S. federal law restricts this device to sale by, or on the order of, a physician or licensed practitioner.
- DO NOT operate this unit in an environment where other devices are being used that intentionally radiate electromagnetic energy in an unshielded manner. Portable and mobile RF communications equipment can affect Medical Electrical Equipment.
- This unit generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. Harmful interference to other devices can be determined by turning this unit on and off. Try to correct the interference using one or more of the following: reorient or relocate the receiving device, increase the separation between the equipment, connect the equipment to an outlet on a different circuit from that which the other device(s) are connected and consult the Chattanooga Group Service Department for help.

## WARNING

- This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. Harmful interference to other devices can be determined by turning this equipment on and off, try to correct the interference using one or more of the following: Reorient or relocate the receiving device, increase the separation between the equipment, connect the equipment to an outlet on a different circuit from that to which the other device(s) are connected and/or consult the factory field service technician for help.
- Be sure to read all instructions for operation before treating a patient.
- DO NOT drop the applicator or unit on hard surfaces. Do not submerge the applicator or unit in water. All of these conditions will damage the applicator and unit. Damage resulting from these conditions is not covered under the warranty.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous exposure to laser light energy.
- Make certain that the unit is electrically grounded by connecting only to a grounded electrical service receptacle conforming to the applicable national and local electrical codes.





# ABOUT LASER LIGHT THERAPY

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## WARNING

- This device should be kept out of the reach of children.
- This device should be used only under the continued supervision of a licensed practitioner.
- Dispose of all products in accordance with local and national regulations and codes.
- This equipment is not designed to prevent the ingress of water or liquids. Ingress of water or liquids could cause malfunction of internal components of the system and therefore create a risk of injury to the patient.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous conditions causing damage to the unit and applicator.
- Care must be taken when operating this unit adjacent to or stacked with other equipment. Potential electromagnetic or other interference could occur to this or other equipment. Try to minimize this interference by not using other equipment in conjunction with it.
- Use only accessories that are specially designed for this unit. Do not use accessories manufactured by other companies on this (table, unit, device, etc). Chattanooga Group is not responsible for any consequence resulting from using products manufactured by other companies. The use of other accessories or cables may result in increased emissions or decreased immunity of this unit.



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# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## DANGER



- DO NOT connect the unit to an electrical supply without first verifying that the power supply is the correct voltage. Incorrect voltage may cause unit damage, malfunction, electrical shock, fire, or personal injury. Your unit was constructed to operate only on the electrical voltage specified on the Voltage Rating and Serial Number Plate. Contact your Chattanooga Group dealer if the unit is not properly rated.
- Laser protective eyewear should be worn by the operator and patient to block infrared light energy from the eyes during treatment.
- DO NOT point the laser light beam directly into human or animal eyes. The lens of the eye does not detect the invisible, coherent laser light beams, potentially resulting in permanent retinal damage.
- This unit is considered to be a Class 3B laser light product and thus emits visible and invisible laser light radiation (IR). Avoid direct eye exposure to the laser light beam. The symbol to the left is located on the back of the applicator and indicates the active radiant surface (the area on the applicator that emits infrared laser light energy and the direction of the beam of light).
- When the unit is on, not all wavelengths are visible to the naked eye. Therefore, when performing any operational or functional check, always wear Chattanooga Group laser protective eyewear.



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# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## OVERVIEW OF LASER LIGHT THERAPY

In short, the light energy absorbed into the patient's tissue triggers biological changes at a cellular level to provide topical heating for the temporary increase in local blood circulation; temporary relief of minor muscle and joint aches, pains, and stiffness; relaxation of muscles and relief of muscle spasms; and temporary relief of minor pain and stiffness associated with arthritis. The dose and frequency of treatment can be adjusted to produce the desired effect.

Low Level Laser Light differs from ordinary light in four ways. Briefly, it is much more intense, directional, monochromatic and coherent. Most lasers consist of a column of active material with a partly reflecting mirror at one end and a fully reflecting mirror at the other. The active material can be solid (ruby crystal), liquid or gas (HeNe, CO2 etc.).

Low Level Laser Light has unique physical properties that no ordinary light has. This is the key to why laser light is so effective compared to other kinds of light in healing. There are more than 100 double-blind positive studies confirming the clinical effect of LLLT (Low Level Laser Therapy). More than 2500 research reports are published. The book ***Laser Therapy - clinical practice and scientific background*** by Jan Tunér and Lars Hode is a good reference guide for literary documentation.

There is no exact limit with respect to the penetration of the light. The light gets weaker the further from the surface it penetrates. There is, however, a limit at which the light intensity is so low that no biological effect of the light can be registered. This limit, where the effect ceases, is called the greatest active depth. In addition to the factors mentioned above, this depth is also contingent on tissue type, pigmentation, and dirt on the skin. Fat tissue is more transparent than muscle tissue.

Some laser applicators may cause a noticeable heat sensation, particularly in hairy areas and on sensitive tissues such as lips.

## Common Terms

**Applicator** - The hand held assembly used to deliver laser light energy. The applicator includes the laser head, diode, and related electronics.

**Collimating** - The shape of the laser light beam. While neither focused nor dispersed, this laser light beam resembles a column when applied from the unit through the applicator.





# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## OVERVIEW OF LASER LIGHT THERAPY

**Continuous Mode** – The output of the laser light is not interrupted during the treatment time.

**Dosage** – A measure of the intensity of the laser light energy over the treatment area. The unit of measure is Joules or Joules/cm<sup>2</sup>.

**Energy** – Measured in Joules, energy equals the treatment time multiplied by the power. More importantly, Energy Density equals the power output multiplied by the treatment time, and divided by the spot size (cm<sup>2</sup>). This gives a more specific measurement of energy delivered.

**Frequency** – Pulsed frequencies are selectable from 8 to 10,000 Hz.

**Laser Head** – The clear lens face of the applicator that contacts the patient's skin. It consists of laser diodes with or without LED's or SLD's (depending on the applicator).

**Power** – Measured in Watts (W), power wattage is directly proportional to the treatment time and penetration of the laser light energy. High-powered diodes will reduce patients' treatment time and give a higher amount of energy at a deeper depth. Power output can be either continuous or pulsed.

**Pulsed Mode** – This is the ratio of the "On" time to "Total" time of the cycle, expressed as a percentage. The lower the percentage, the lower temporal average intensity. 100% is continuous laser light. Pulsed Mode is 90% on and 10% off.

**NOTE:** Pulsed Mode is also equivalent to Duty Cycle.

**Treatment Time** – Measured in seconds, it is the suggested time per laser point that therapy is given.



# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## OVERVIEW OF LASER LIGHT THERAPY - COMMON TERMS (continued)

**Wavelength** – Measured in nanometers (nm), wavelength is the key component in obtaining effective therapy as different wavelengths bring about different physiological effects. Superficial skin disorders have been found to be most effectively treated at wavelengths 600-700 nm, while deeper muscular or ligament lesions and joint conditions are better treated at higher wavelengths of 700-1000 nm.



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# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## Indications for Laser Light

The Vectra® Genisys Laser is indicated to provide topical heating for the following:

- temporary increase of local blood circulation.
- temporary relief of minor muscle and joint aches, pains, and stiffness.
- temporary relaxation of muscles.
- temporary relief of muscle spasms.
- temporary relief of minor pain and stiffness associated with arthritis.

## Adjunctive Use

The Vectra® Genisys Laser may be used adjunctively for the following:

- symptomatic relief of minor pain
- minor muscle and joint pain
- minor muscle spasms
- relief of associated minor stiffness and pain associated with arthritis
- promoting relaxation of muscles

## Contraindications

The Vectra® Genisys Laser should NOT be used:

- 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.
- for direct aim into the eyes of humans or animals.
- over areas injected with steroids in the past 2-3 weeks.
- over areas that are suspicious or contain potentially cancerous tissue.
- over areas of active hemorrhage.
- over a pregnant uterus.
- over the neck (thyroid or carotid sinus region) or chest (vagus nerve or cardiac region of the thorax).
- directly over areas with open wounds, unless covered with a clear protective barrier.
- treatment over sympathetic ganglia.
- for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- on patients suspected of carrying serious infectious disease and or disease where it is advisable, for general medical purposes, to suppress heat or fevers.
- over or near bone growth centers until bone growth is complete.



# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

- over the thoracic area if the patient is using a cardiac pacemaker.
- over or applied to the eye.
- on ischemic tissues in individuals with vascular disease where the blood supply would be unable to follow the increase in metabolic demand and tissue necrosis might result.

## Additional Precautions

Additional precaution should be used when the laser light is used on patients with the following conditions:

- Over an area of the spinal cord following a laminectomy, i.e., when major covering tissues have been removed.
- Over anesthetic areas.
- On patients with hemorrhagic diatheses.

## **⚠ DANGER**

Patients with an implanted neurostimulation device must not be treated with or be in close proximity to any shortwave diathermy, microwave diathermy, therapeutic laser diathermy or laser diathermy anywhere on their body. Energy from diathermy (shortwave, microwave, ultrasound, and laser) can be transferred through the implanted neurostimulation system, can cause tissue damage and can result in severe injury or death. Injury, damage, or death can occur during diathermy therapy even if the implanted neurostimulation system is turned "off."

## Preventing Adverse Effects

Perform the following procedures to avoid the negative effects of laser light therapy:

### Patient Susceptibility

Some patients are more sensitive to laser light output and may experience a reaction similar to a heat rash. Be sure to inspect the treatment area during and following treatment, and discontinue if an adverse reaction does occur.



# ABOUT LASER LIGHT THERAPY

Vectra® Genisys Laser

## Output Power

Higher output levels have a greater potential for patient discomfort. Choose a lower dosage to reduce output or select a pulsed duty cycle to decrease patient discomfort.

## Factors that Affect Treatment

The following factors may affect laser light treatment:

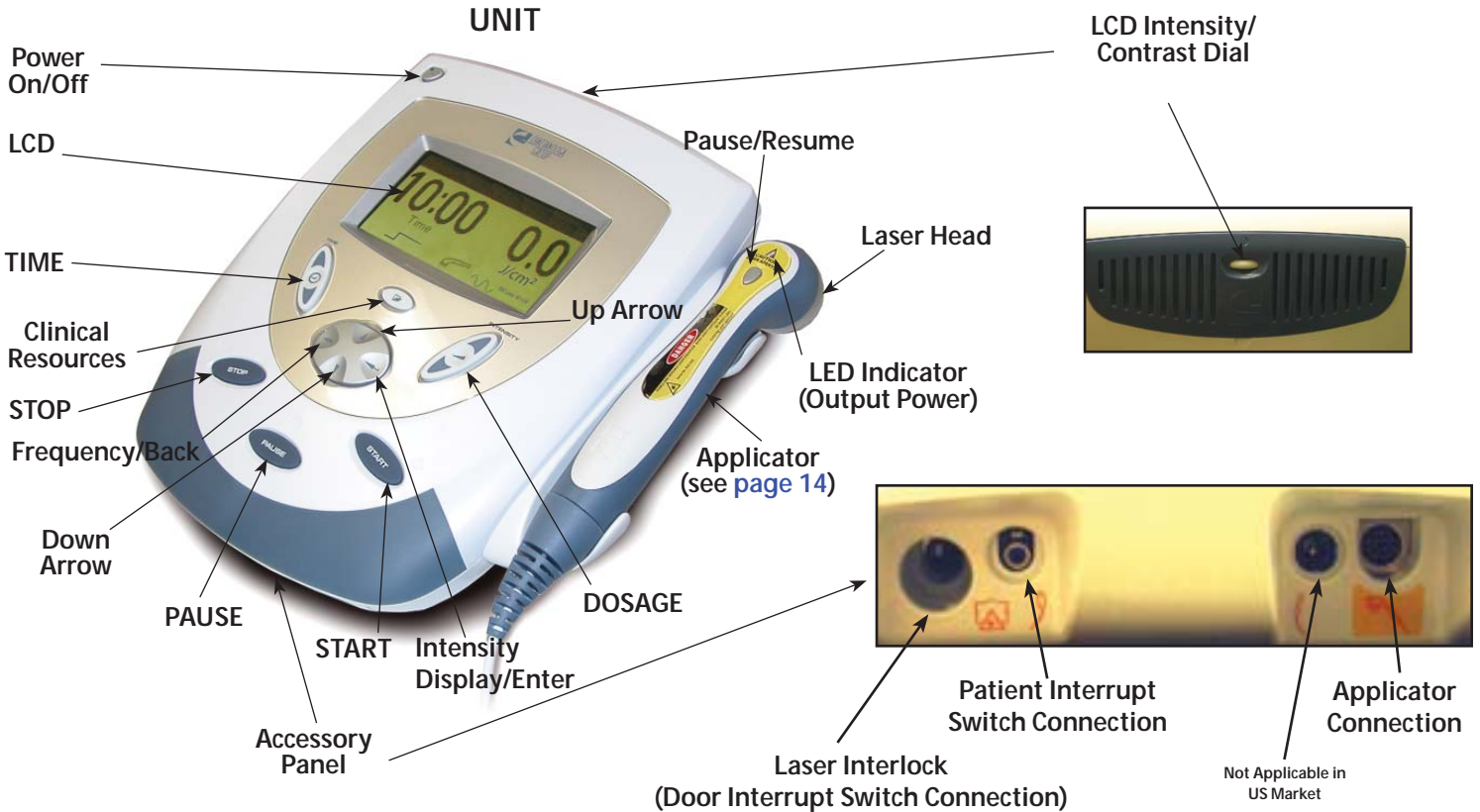
- Color of skin (light or dark)
- Age of lesion
- Depth of lesion
- Sensitivity of patient
- Type of tissue





# NOMENCLATURE

Vectra® Genisys Laser

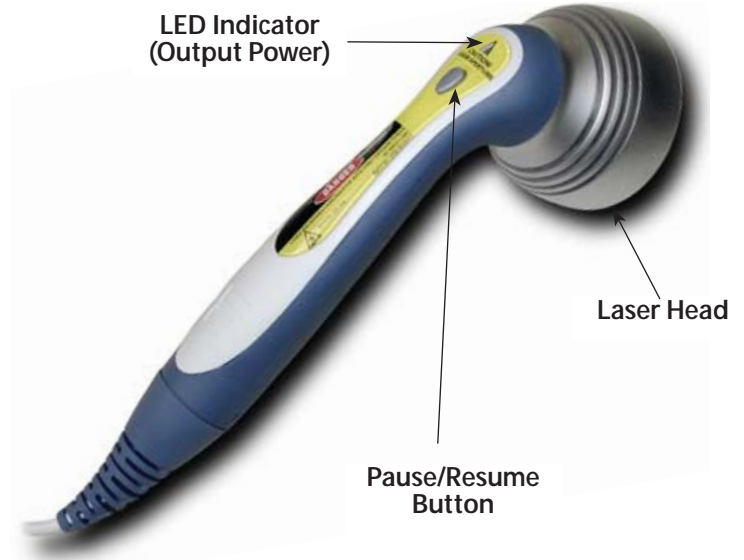
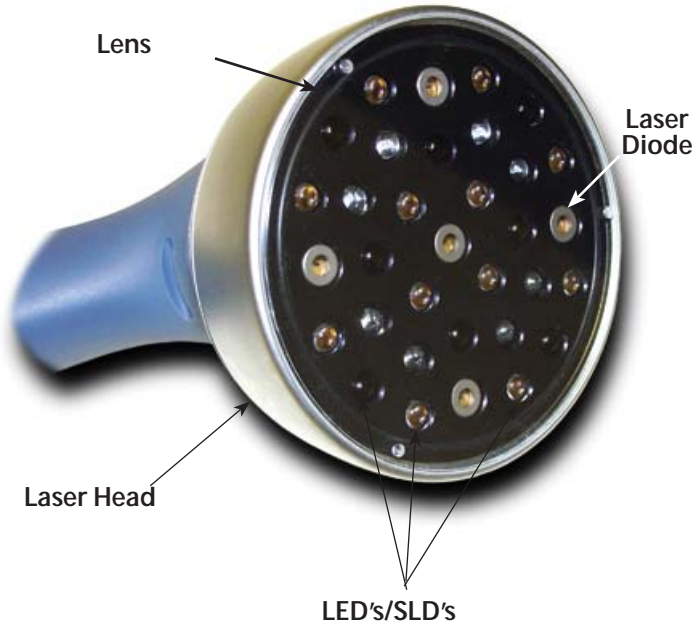




# NOMENCLATURE

Vectra® Genisys Laser

## APPLICATOR





# NOMENCLATURE



## Power On/Off

The Power On/Off button controls the flow of electricity to the unit.

## LCD

The LCD (Liquid Crystal Display) allows the user to view and monitor the information displayed during laser light therapy. The following information is displayed on the LCD:

- Frequency
- Duty Cycle
- Dosage
- Treatment Time
- Clinical Indications



## Time

Press the Up or Down arrow buttons to set total treatment time of therapy.

## Clinical Resources



Select this button to access the following functions:

- Clinical Indications
- Utilities
- Retrieve User Protocols
- Save User Protocols



Use the Up and Down arrow buttons to navigate through the available options.

## STOP

Select this button to stop a treatment session.





# NOMENCLATURE



## Frequency/Back



Use this button to return to the previous window and toggle between 12 preset frequencies.




## Down Arrow

When the window displays a list of options, press the Down Arrow button to scroll down the list.



## PAUSE

Use this button to pause the treatment session. When pressed, the  icon displays. To restart therapy, press the PAUSE button.

## Accessory Panel

The Accessory Panel serves as a port of connection for the various accessories.



## Laser Interlock (Door Interrupt Switch Connection)

This option allows you to set up a switch (similar to the patient interrupt switch) that interrupts treatment when the door of the treatment room is opened during a therapy session.



## Patient Interrupt Switch Connection

As a safety measure and to minimize any apprehension, it is recommended that you always allow the patient to hold the Patient Interrupt Switch during laser light therapy. When the red button on the end of the switch is pressed, a beeper sounds and the treatment is paused. Parameters can then be verified and changed (if necessary) and therapy can be resumed.

Use of the Patient Interrupt Switch should always be explained to the patient before starting treatment. Patients will feel safer knowing they can stop the treatment if necessary.

The Patient Interrupt Switch is very sensitive. Explain this to the patient when using it in order to prevent unnecessary interruptions in treatment.





# NOMENCLATURE

Vectra® Genisys Laser



## Applicator Connection

This port serves as the connection point between the unit and the applicator.



## START

Select Start to begin a treatment session.



## Intensity Display/Enter

Select this button to change display from  $J/cm^2$  to Joules. Also, this button is used to accept the highlighted selection.



## Dosage

Use the Up or Down arrow to increase or decrease output power dosage.

## Applicator

The hand held assembly used to deliver laser light energy. The applicator includes the laser head, diode, and related electronics.



## Up Arrow

When the window displays a list of options, press the Up Arrow button to scroll up the list.



## Battery Indicator

When displayed on the LCD, this symbol indicates the battery pack option is present on the Vectra® Genisys Laser. This symbol also displays the charge status of the battery.

## LCD Intensity/Contrast Dial

If the intensity of the LCD display diminishes, turn the dial until the display contrast is optimal.





# NOMENCLATURE

Vectra® Genisys Laser

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## Charge Indicator

This symbol displays when the unit is connected to mains power and the battery pack is charging.

**NOTE:** During battery operation, if the unit is left on, but not active, for more than five minutes, it will power off to conserve battery power. To restore power, press the Power On/Off button.

## Applicator Symbols



These symbols denote the status of the Laser Applicator.

This symbol indicates that therapy is in progress, output is being distributed to the patient, and the applicator is functioning normally.



This symbol indicates that although the applicator is plugged in, no laser light energy is being emitted from the applicator.

This symbol indicates that the Pause button has been pressed, and no output is being emitted from the applicator.



This symbol indicates that the applicator has been unplugged from the unit.

## Lens

This clear lens acts as a shield to protect the patient's skin.

## Laser Head

This aluminum housing located on the end of the applicator accommodates the lens, laser diodes, LED's, SLD's, and their associated electronics.

## Pause/Resume

Use this button to begin or pause the treatment session. To restart therapy, press the PAUSE button.





# NOMENCLATURE

Vectra® Genisys Laser

## LED's/SLD's

These Light Emitting Diodes generate different wavelengths of light that allow the user to treat topical or surface symptoms.

## Laser Diode

This mechanism generates different wavelengths of light that allow the user to treat various, deeper treating symptoms.



## LED Indicator (Output Power)

This orange light illuminates when laser light energy is being distributed by the applicator.





# SPECIFICATIONS

Vectra® Genisys Laser

## UNIT SPECIFICATIONS


### DIMENSIONS

Height (with base).....	6.4 in (16.3 cm)
Width (with applicator).....	11.3 in (28.8 cm)
Width (without applicator).....	9.4 in (23.9 cm)
Depth (front to rear).....	12.9 in (32.8 cm)

### WEIGHT

Standard Weight (with applicator and base).....	5.07 lb ..... (2.3 kg)
Battery Pack.....	1.87 lb (0.85 kg)

### POWER

Input.....	120 - 240 V - 1.0 A, 50/60 Hz 75 W Max
Fuses.....	1.0A Time Lag (not user serviceable)
Electrical Class.....	CLASS 1
Electrical Type.....	TYPE B 

Output Type.....	Infrared Lamp (laser)
Laser Class.....	3B
Battery Type.....	Nickel Metal Hydride (NiMH) ..... (1.2 V x 20 size AA)

Complies with 21CFR 1040.10 & 1040.11  
IEC/UL/EN 60601-1, 60601-1-2, and 60601-2-22  
IEC 60825-1:2001, CAN/CSA C22.2 No. 601.1-M90 w/A2

Each unit is shipped with repositional base, laser protective eyewear, patient interrupt switch, and this manual.

For a complete list of standard and optional accessories, see [page 61](#).





# SPECIFICATIONS

Vectra® Genisys Laser

## LASER TECHNICAL SPECIFICATIONS

### Duty Cycles

Pulsed ..... 90%

Continuous ..... 100%

Pulse Frequencies ..... 8 Hz - 10000 Hz  
..... and continuous.

Wavelengths ..... 670-950 nm (dependent on applicator)

Output ..... 100-1440 mW (dependent on applicator)

Output accuracy ..... +/- 20% of nominal





# SPECIFICATIONS

Vectra® Genisys Laser

## LASER APPLICATOR SPECIFICATIONS

For all single diode and cluster laser and LED applicators, the expected increase in the measured quantities after manufacture added to the values measured at the time of manufacture is  $\pm 20\%$ .

The new software incorporates a cooling function that forces the user to cool the laser clusters prior to the next treatment. The software will calculate the cooling time needed when treatment times exceed 3 minutes per application. For a 3 minute treatment, it will force a 15 second cool down period before the next treatment can begin. For a 4 minute treatment, it will force a 2 minute cool down period before the next treatment can begin. The software extrapolates for times between 3 and 4 minutes.

A message will display on the screen informing the user that the probe is cooling down and the time period required. After 5 seconds, this message will disappear. If the user attempts to use the probe before the cool down period is completed, the message will re-display to signify that the applicator is still in cool down mode. After the cool down period is complete, a message displays that informs the user that the unit is ready for use.

Single Diode Applicators								
Applicator	Wavelength (nm)	Output Power (mW)	Power Density (W/cm <sup>2</sup> )	Contact Area (cm <sup>2</sup> )	Diode Type	Nominal Ocular Hazard Distance (NOHD-in meters for AEL < .0175 W/cm <sup>2</sup> )	Divergence a1 (rad)	Divergence a2 (rad)
850 nm 100 mW Laser	850	100	8.33	0.012	GaAlA	8.80	0.0970	0.54334
850 nm 200 mW Laser	850	200	5.32	0.0376	GaAlA	12.44	0.0970	0.54334
820 nm 300 mW Laser	820	300	1.24	0.242	GaAlA	15.24	0.0970	0.54334





# SPECIFICATIONS

Vectra® Genisys Laser

## LASER APPLICATOR SPECIFICATIONS continued

Cluster Diode Applicators								
Applicator	Output Power (mW)	Power Density (W/cm <sup>2</sup> )	Contact Area (cm <sup>2</sup> )	Diode Type	Diode Specifications	Nominal Ocular Hazard Distance (NOHD-in meters for AEL<.0175 W/cm <sup>2</sup> )	Divergence a1 (rad)	Divergence a2 (rad)
9 Diode Cluster laser 540 mW	540	8.33	7.55 .012	GaAlAs SLD LED	Four 670 nm (10 mW) LED Five 850 nm (100 mW) Laser	6.713164	0.0970	0.54334
9 Diode Cluster laser 1040 mW	1040	5.32	7.55 .0376	GaAlAs SLD LED	Four 670 nm (10 mW) LED Five 850 nm (200 mW) Laser	9.493848	0.0970	0.54334
13 Diode Cluster laser 415mW	415	8.34	7.55 7.55 .012	GaAlAs SLD LED	Seven 670 nm (10 mW) LED Three 850 nm (100 mW) Laser Three 950 nm (15 mW) SLD	6.713164	0.0970	0.54334
13 Diode Cluster laser 715 mW	715	5.33	7.55 7.55 .0376	GaAlAs SLD LED	Seven 670 nm (10 mW) LED Three 850 nm (100 mW) Laser Three 950 nm (15 mW) SLD	9.493848	0.0970	0.54334
33 Diode Cluster laser 1440 mW	1440	5.33	31.2 31.2 31.2 .0376	GaAlAs SLD LED	Twelve 670 nm (10 mW) LED Eight 880 nm (25 mW) SLD Eight 950 nm (15 mW) SLD Five 850 nm (200 mW) Laser	9.493848	0.0970	0.54334

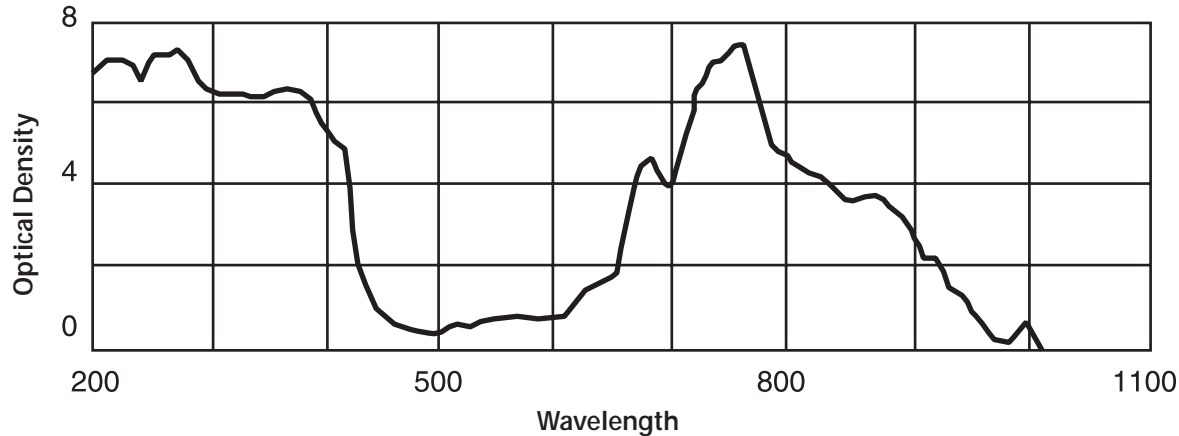


# SPECIFICATIONS

Vectra® Genisys Laser

## LASER PROTECTIVE EYEWEAR SPECIFICATIONS

OPTICAL DENSITY vs. WAVELENGTH



### Useful Range

- Optical Density 5+ ..... 190-400 nm
- Optical Density 3+ ..... 625-830 nm

Each Vectra® Genisys Laser is shipped with Laser Protective Eyewear (L3 rated and  approved).





# SETUP

## INSTALLING THE LASER INTERLOCK DOOR INTERRUPT SWITCH

The Laser Interlock is an optional safety device designed to interrupt Laser Light Therapy anytime the door to the the therapy room is opened. Contact only qualified electricians to install the Laser Interlock kit and have them refer to the wiring diagram below.

The Laser Interlock kit consists of a switch resistor and a jack. You must supply the necessary cable that complies with local and international codes.

# DANGER

The Laser Interlock must be installed by a professional or qualified electrician. Serious eye injury can result if the device is not properly installed. Also, when installing the device for multiple doors, the resistance total may not exceed 4800 ohm.

Diagram for Therapy Room with One Door

Laser Interlock  
Series Connected (RT = 4.8k max)

Interlock Resistor  
4.0-4.3k single

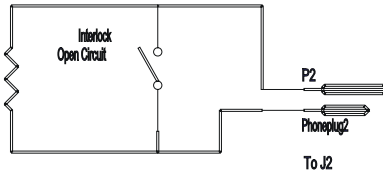
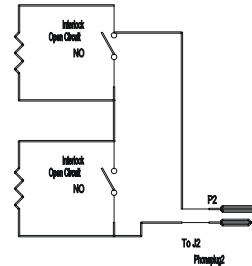


Diagram for Therapy Room with Multiple Doors

Laser Interlock  
Series Connected (RT = 4.7k max)  
RT = 4.5-4.8k Chained

Interlock Resistor  
2.0k single

Interlock Resistor  
2.0k single



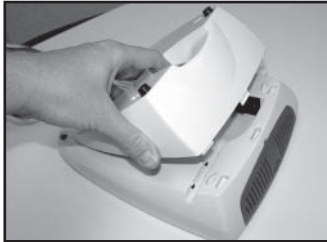


# SETUP

Vectra® Genisys Laser

## MOUNTING THE UNIT ON THE WALL

The Vectra® Genisys Laser can be operated while the unit is resting on a flat surface, or mounted on a wall. To mount the unit on a wall, do the following:



1. Remove the repositional base from the bottom of the unit.



2. Using the repositional base as a guide, mark the 4 wall holes with a pencil or pen.



TOC

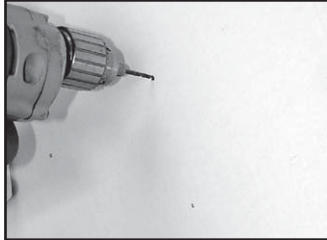




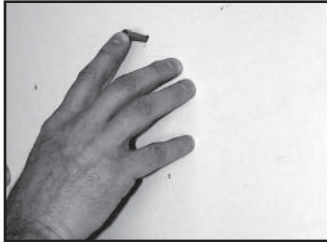
# SETUP

Vectra® Genisys Laser

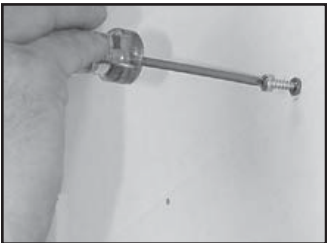
## MOUNTING THE UNIT ON THE WALL continued



3. Using a 9/64 (3.6 mm or 0.357 cm) drill bit, drill four holes you marked in the previous step.



4. Press 4 appropriately sized sheetrock anchors into the wall so that the sheetrock anchor is flush with the wall.



5. Screw four #8 flathead wood screws (1 inch or 2.54 cm) into the wall anchors. Make sure you leave 1/4 of an inch (0.635 cm) between the wall and the head of the screw.



# SETUP

Vectra® Genisys Laser

## MOUNTING THE UNIT ON THE WALL continued



6. Replace the repositional base on the bottom of the unit.



7. Line up the screw heads with the holes on the repositional base, and slide the unit down slightly until the screw heads are securely fastened to the repositional base.



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# SETUP

Vectra® Genisys Laser

## INSTALLING THE BATTERY PACK

The Vectra® Genisys Laser accommodates both AC mains power and an optional battery pack. The pack contains 20 Nickel Metal Hydride (NiMH) drycell batteries. The unit can operate with the rechargeable power supply for approximately five hours of continuous use.

To install the battery pack in the Vectra® Genisys Laser, do the following:



1. Locate the battery access door at the bottom of the unit and loosen the screw with a regular screwdriver.



2. Remove the battery access door and retain this cover.





# SETUP

Vectra® Genisys Laser

## INSTALLING THE BATTERY PACK (continued)



3. Connect the battery pack cable to the unit's battery connector in the bottom of the battery recess.



4. Put the battery pack into the unit, making sure to orient it as shown.



5. Replace the battery access door and re-tighten the screw using the screwdriver.
6. Reverse the steps in this section in order to remove the battery pack.





# SETUP

Vectra® Genisys Laser

## CHARGING & USING THE BATTERY PACK

### CHARGING THE BATTERY PACK

The battery pack is automatically charged by the unit whenever there is mains power connected. Charging may be interrupted during operation of the unit by the control circuitry to limit total power consumption. A fully charged battery will provide 2-5 hours of treatment depending on the power, pulsed mode, and frequency used.

**NOTE:** Even when the battery pack is connected, the unit will default to mains power.

### USING THE BATTERY PACK

To save battery power, the Vectra® Genisys Laser is equipped with a “power off” function. This function is activated when the unit is powered on and has been left idle for approximately 5 minutes, at which time the unit powers off. To restore power, press the Power On/Off button.

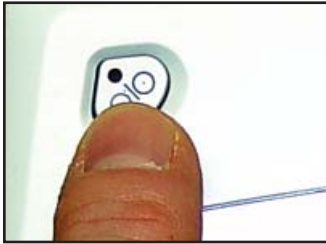




# OPERATION

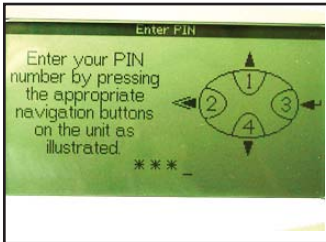
## ENTERING AND CHANGING THE PIN

To gain access to any part of the Vectra® Genisys Laser unit, you must enter a Personal Identification Number (PIN). The unit is shipped with a default PIN that allows you initial access, but you may change the number anytime. To enter and change the PIN, do the following:



1. Turn the system power "ON" by pressing the Power On/Off button.

The unit displays the message "Initializing System." Then, the Enter PIN window displays.



2. 1 1 1 1 is the default PIN. Press the button representing the number 1 four times so that \* \* \* \* displays briefly.

The main window displays.

If you enter the wrong PIN, the message "Incorrect PIN was entered. Please try again. Press any key to continue" displays. Press any key on the Operator Interface.

**NOTE:** If you lose or forget your PIN, contact Chattanooga Group Service Department at (866) 864-0598 or (423) 870-2281.



































































