



Centurion
EQUINE SYSTEM

Magnetic Field Therapy

for the treatment of soft tissue and bone damage conditions

OWNER'S MANUAL



Centurion

4PH SYSTEM

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1. SYSTEM INFORMATION

1.1 INTRODUCTION

Congratulations on purchasing your **Centurion Veterinary System** from the leader in the field of magnetotherapy equipment! Around the world, equine clinics, veterinarians and colleges are using Pulsating Magnetic Fields as an aid in the management of musculoskeletal disorders in horses and other animals.

This manual will give you a much better understanding of the **Centurion 4PH System**, how to properly use the therapy to achieve maximum benefits, and how to take care of the equipment so that you can continue to enjoy the benefits for years to come. The settings recommended in this owner's manual have been derived from these sources:

- Working with thousands of trainers over the past two decades and seeing first hand the benefits from the therapy.
- By analyzing the results of numerous veterinarians and equine clinics with testing on numerous combination settings.

NOTE: The settings suggested are intended to be a guide to help you achieve the best possible results. Consult your veterinarian for assistance in determining the proper settings for your horse or animal.

This manual gives operating instructions for the Centurion 4PH system as well as routine maintenance, safety and troubleshooting instructions. Please read carefully before using your Centurion system. Keep the manual for future reference and refer to it for safe and efficient use of the equipment.

1.2 SYSTEMS DEFINITIONS, SYMBOLS, WARNINGS, CAUTIONS AND NOTES

OVERVIEW

Please read this section thoroughly before operating your **Centurion System**. Included below are definitions of terminology and symbols used in this manual and/or used on equipment markings, operational warnings, cautions and notes for the safe operation of the Centurion ‘4PH’ System.

DEFINITIONS



WARNING

- Specific information provided to the user to advise of situations where the misuse or unlabelled use of the device could present potential harm to the user or animal and/or could result in irreparable damage to the device or property.



CAUTION

- Specific information provided to the user to prevent misuse of the device that may cause it to malfunction.

NOTES

- General information provided to the user to further explain or clarify the proper operation of the device and or its accessories or applied parts.

APPLIED PARTS

- An applied part is the term used to refer to any of the applicators that are used to provide the actual treatment to the horse. (i.e.: “Spat”, “Hock Boot”, “Hoof Pad”)

SYMBOLS

Symbols are contained in the documentation and on the markings on the equipment to alert you to cautions and permit easier comprehension of a marking or indication in a restricted space. The following symbols are used in Centurion Systems.

SYMBOL

DEFINITIONS



- Protective Earth (Ground)



- On Equipment -Attention, consult accompanying documents
- In Manual - Alerts you to a Warning or Caution that you need to read.



- Type BF Applied Part



GENERAL WARNINGS

- Only properly trained and qualified personnel should use the system
- Do not splash or expose electric parts of the system to water or moisture. Doing so may permanently damage it.
- The Centurion 4PH System is not suitable for use in the presence of a **FLAMMABLE ANAESTHETIC MIXTURE WITH AIR, OXYGEN or NITROUS OXIDE** or other explosive gases. Failure to heed this warning may result in fire or explosion.

NOTE: The applied part is intended to supply a subtle amount of warming heat as a part of its normal operating function.

1.3 INDICATIONS AND CONTRAINDICATIONS

- Pulsed Magnetic Fields are used as an aid in the management of musculoskeletal disorders in the horse.
- Do not use iodine based leg paints when using the 1, 2, 4 or 5Hz. frequency settings. Iodine induces heat into tissue and the lower frequency treatments, designed to take heat out of the heated areas, will not be as successful.



WARNING - Magnetic fields are produced when machine is operational and may interfere with Pacemakers and Electronic Stimulators.

2. INSTALLATION INSTRUCTIONS

2.1 SYSTEM CONTENTS

Your Centurion 4PH comes packaged in two boxes. You will have the following components included in your system:

BOX 1

1 - Aluminum Carrying Case

BOX 2

1 - 4PH Generator Assembly

1 - Accessory Carry Bag

1 - 4PH Blanket Assembly

4 - Spat Applicator Assemblies

2 - Splitter Box Assemblies

1 - Magnet

1 - Operating Manual

1 - Power Cord

2.2 SYSTEM ASSEMBLY

The Centurion 4PH System is completely portable and can be moved wherever you have a need for the system. You may also decide to set up a specific treatment area to treat your animals. To ensure the safe installation of the equipment, you should observe the following guidelines:

- The green and yellow ground wire found at the rear of the 4PH generator assembly must be attached to the ground wire receptacle at the time of mounting the assembly inside the aluminum carrying case and prior to energizing.
- The generator should be placed in a safe area where it cannot be damaged. Do not place in the stall with the horse.
- The horse should not be able to access any of the cables from the equipment. This will prevent a potential hazard from natural chewing behaviors. To ensure that the cables are safe and accessible, a tie can be placed into the roof of the treatment stall to suspend the splitter box cables over top and out of reach of the horse. The other end of the splitter box cable can then be led to the generator storage area outside the stall to ensure the equipment is safe.
- The horse should always have a cross-tie or tie chain. If using a tie chain, the lead should be short enough so that the head of the horse can only move halfway across the width of the stall. The cables should then be led into the stall from the other side to prevent the horse from reaching the cables or pulling the cables from the machine.
- Use a grounded power outlet to provide power to the equipment.

WARNING - Failure to attach the ground wire to the aluminum carrying case prior to energizing, could result in injury to the operator and/or animal.



CAUTION - The generator is energized when connected to mains power supply. The applied parts are energized when in use. Take appropriate precaution to carefully route power supply cables, extension cords and applied part cables away from the animal's mouth and in such a way that they do not present a tripping hazard to animals or operators. It is recommended to disconnect power supply to the generator when the equipment is not in use.

2.2.1 CONNECTION OF POWER AND APPLIED PARTS


Referring to Figure #6, the 4PH generator is connected as follows:

POWER CORD - Insert the power cord into the POWER INPUT FILTER (#9). The power cord can then be plugged into the power source/receptacle. Refer to the SERIAL PLATE LABEL (#13) in the lid of the 4PH case to determine the power requirements of your unit. Depending on local supply, your power source will be either 115 Volts/60 Hertz or 230 Volts/50 Hertz. The local power supply must match the input power rating of the Centurion System (found on the serial plate label).


APPLIED PARTS - The applied parts supplied with the 4PH system are: Four (4) – SPATS and One (1) BLANKET. The supplied SPLITTER BOXES provide additional length and connector outputs to the Applied Parts. Splitter Boxes connectors are plugged into the APPLIED PART OUTPUT CONNECTORS (#8). Visually align the pin arrangement between the applied part connector and the output connector. Insert the connector until you hear a “click” indicating the connector is locked into place. The Spats are connected to the Splitter Box in the same manner. To remove the connector, push down on the lock tab at the top of the output connector and pull back while grasping the connector. With the connector in place, and the generator energized, you are now ready to operate your equipment.

NOTE: The optional Applied Parts, available separately, are the HOCK BOOT, specifically for use on the hock, and the HOOF PAD, which is used to treat hoof problems. These two accessories are connected to the Splitter Box in the same way as the Spat. You may use up to four (4) Applied Parts of any type (with the exception of the WARNING below) connected to the Splitter Boxes in any combination to suit your treatment schedule.


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 **WARNING** - The safety of this equipment relies on a properly installed Earth connection. Do not connect to an unearthed mains plug or socket. It is the responsibility of the customer to ensure the mains supply in the installation location is correctly earthed.


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 **WARNING** - Do not remove the ground pin from the power cord or bend it over or use an extension cord that will allow the cord not to be connected to ground. Failure to maintain a proper ground while operating the equipment may result in injury to the operator and/or animal.


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 **WARNING** - Check the serial plate for voltage and frequency requirements. These requirements vary between countries.


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 **WARNING** - Only two (2) hoof pads may be connected simultaneously. If two (2) hoof pads are connected simultaneously, no additional applied parts may be connected. Failure to comply could overload the generator.

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 **WARNING** - Connect only Centurion manufactured applied parts recommended for your equipment model to the output connectors. Failure to comply could result in damage to the equipment and/or injury to the operator or animal.

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 **CAUTION** - Where an extension cord is used in the connection of the mains power supply to the generator, ensure that the extension cord is properly rated for the voltage/current requirements of the system

2.2.2 ATTACHING THE APPLIED PARTS TO A HORSE UNDER TREATMENT

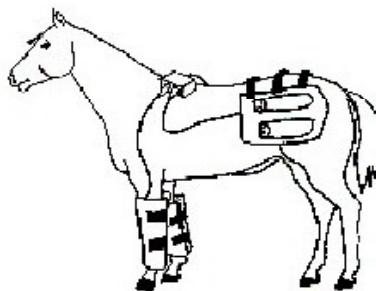
SPATS - The spat is an all purpose applied part designed to be applied to the horse in three different ways as follows:

- 1) Wrap around legs using the Velcro straps to hold the spat in place. Face the open part of the spat to the back of the legs (See Figure #1). It is important to put the top strap above the knee and fasten tightly.
- 2) Using the Velcro strips, attach two spats together so that the edges of the spats are 6" apart. Lay the spats across the back, shoulder or neck areas (See Figure #2).

Figure #1 - Spat placement on Legs



Figure #2 - Spat placement on Back



- 3) Open the spats flat and insert the spats into the pockets of the blanket either lengthways or crossways in the area under treatment. Place the blanket over top of the horse and attach the front and the belly straps by connecting the buckles (see Figure #3). Adjust the straps so that they firmly hold the blanket in place.

HOCK BOOT - The Hock Boot is a specialized applied part that is available as an optional accessory. It is attached to the hock of the horse as per Figure #4.

HOOF PAD - The Hoof Pad is a specialized applied part that is available as an optional accessory. It is placed under the feet of the horse as per Figure #5. Please be sure to use the protective cover supplied with the hoof pad to protect the hoof pad connector from damage while in use.

Note: The Spat or the Hock Boot can be placed over a leg wrap for better support on the legs.



CAUTION - Ensure that stall floor is dry when utilizing the HOOF PAD.

Figure #3 - Blanket placement on Horse

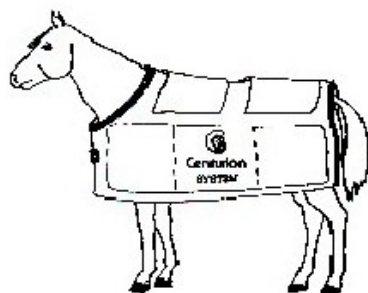
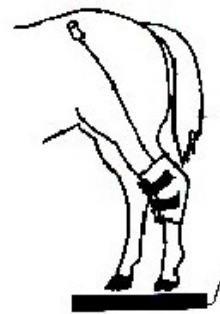


Figure #4 - Hock Boot placement on Horse



Figure #5 - Hoof Pad placement



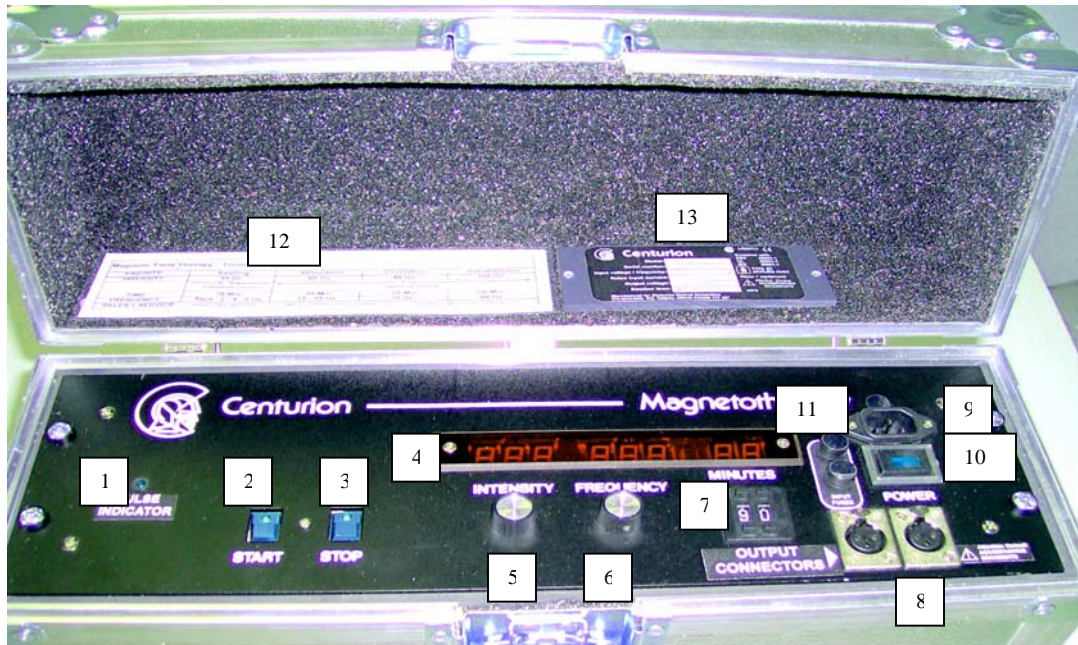
3. OPERATING INSTRUCTIONS

3.1 4PH GENERATOR FEATURES

The 4PH System has a full line generator that offers the user the choice of ten (10) different frequencies and nine (9) different intensity settings. The settings are adjusted with selection switches that are conveniently located on the front of the unit. Treatment time can be varied from one to ninety nine (1-99) minutes using a push wheel timer switch also located on the front of the unit for easy access. The selected settings and treatment time remaining can be monitored on the full digital display. A buzzer, freeing the user from continuous monitoring of the session, signals treatment conclusion. When TIME, INTENSITY and FREQUENCY selections have been made, the treatments are then easily started or stopped with the START and STOP switches. LED lights built into these switches indicate their current status.

All of the controls to operate the system are located on the front panel of the 4PH unit as per Figure #6:

Figure #6: 4PH Front Panel Features



- | | |
|------------------------------|-----------------------------------|
| 1) Pulse Indicator LED | 8) Applied Part Output Connectors |
| 2) Start Switch | 9) Power Input Filter |
| 3) Stop Switch | 10) Line Power Switch |
| 4) LED Readout | 11) Input Fuses |
| 5) Intensity Selector Switch | 12) Priority Settings Label |
| 6) Frequency Selector Switch | 13) Serial Plate Label |
| 7) Timer Selector Switch | |

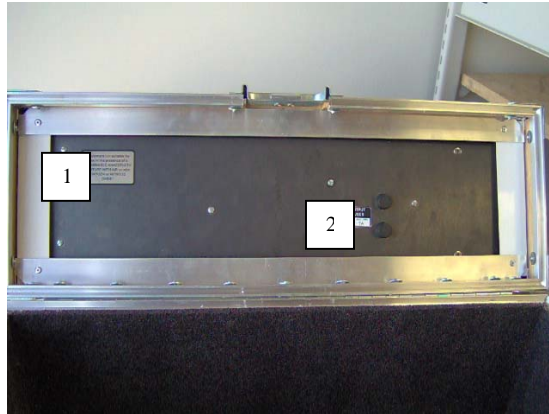
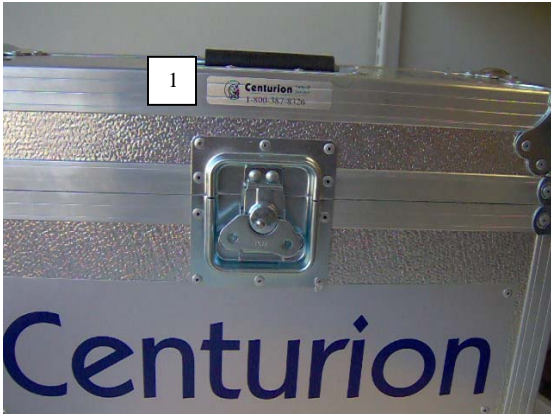
At the rear of the unit there are two (2) fuse holders both containing output fuses (see Figure #8).

3.2 LABELING AND MARKING

The markings for the basic operation of the 4PH are printed directly on the faceplate. In addition, there are five (5) labels attached to the equipment as per Figures #6, #7 and #8.

Figure #7 – Label on the front of enclosure

Figure #8 – Labels on the back of generator



1) Sales and Service Label

1) Anesthetic Warning Label
2) Output Fuses Label

3.3 EQUIPMENT OPERATION (See Figure #6 for control location)

- Place the applied part selected onto the area of the horse requiring treatment.
- Depress the POWER SWITCH (#10) to initiate power to the generator. An audible buzzer will indicate the equipment is ready for use, and the power switch will illuminate.
- Select the intensity required with the INTENSITY SELECTOR SWITCH (#5) - turn clockwise to increase and counter clockwise to decrease. The values selected for the intensity will be shown on the LED READOUT (#4). Available settings are:

5, 10, 15, 20, 30, 40, 50, 60, 80, 100 Gauss (Gz.)

- Select the frequency required with the FREQUENCY SELECTOR SWITCH (#6) - turn clockwise to increase and counter clockwise to decrease. The values selected for frequency will be shown on the LED READOUTS (#4). The PULSE INDICATOR LED (#1) will also pulse at the frequency selected.


Available settings are:

For 60 Hz Mains Power Supply: 1, 2, 4, 5, 8, 10, 12, 15, 30, 60 Hertz. (Hz.)

For 50 Hz Mains Power Supply: 1, 2, 4, 5, 8, 10, 12, 16, 25, 50 Hertz. (Hz.)

- Select the duration of the treatment session by dialing in the minutes with the **TIMER SELECTOR SWITCH (#7)**. Any value from One to Ninety Nine (1-99) minutes can be selected. Depressing "+" increases the time; depressing "-" decreases the time. Adjust until the time you require is shown on the timer selector switch.
- Press the **START SWITCH (#2)** to initiate the treatment. The green LED in the start switch will illuminate and the time selected will appear in the **LED READOUT (#4)**. As the treatment session progresses, the time display will count down to "0" at which time the light in the start switch will go out, the output of the generator will stop, and a buzzer will sound signaling the end of the treatment session.
- At any time, the **STOP SWITCH (#3)** may be depressed to terminate the session. The light in the stop switch will illuminate while the stop switch is pressed. The light in the **START SWITCH (#2)** will go out, the output of the generator will stop, and a buzzer will sound signaling the end of the treatment session.
- When all treatments for the day have been completed, the generator can be turned off by depressing the **POWER SWITCH (#10)**.

NOTE: The start switch will not start the treatment if the timer is set to "00".

 **CAUTION** – Unplug the equipment from mains power supply when not in use.

4. USING MAGNETIC FIELD THERAPY

4.1 EXPLAINING MAGNETIC FIELD THERAPY

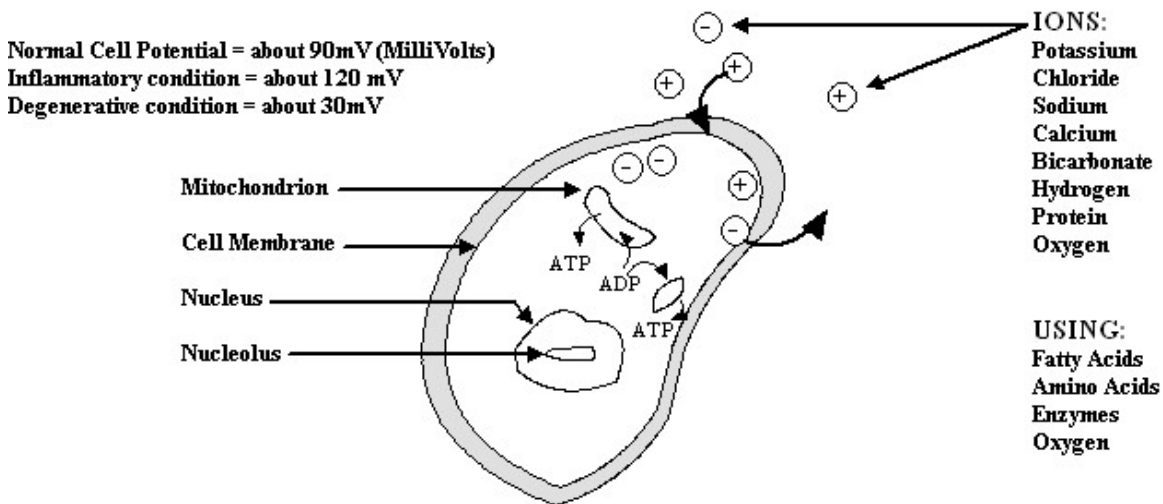
Centurion Pulsating Magnetic Fields (PMF) therapy is a very efficient and easy to use form of physical therapy. From extensive field experience, it has been found that pulsating magnetic fields can aid in the reduction of swelling and the stimulation of tissue. It is particularly beneficial as an aid in the management of musculoskeletal and soft tissue disorders.

Centurion PMF works by permeating the body either generally or locally with a magnetic field packed in paramagnetic impulse bundles.¹ The pulsating magnetic field has a high biological effectiveness – cellular function can be improved considerably - and is being used in the medical field as a means of pain control and rehabilitative therapy.

¹ We often differentiate between paramagnetic substances, in which a bundling or a concentration of magnetic field lines occur, and diamagnetic substances, in which a decentralization of the field lines results. The only magnetic therapy with a proven, clinical track record uses pulsating, paramagnetic treatment. Static magnetic treatment using diamagnetic substances, commonly found in an ordinary fridge magnet, have minimal or no proven effectiveness in treating musculoskeletal and soft tissue disorders.

Human and animal organisms consist of a large number of cells which function electrically (See Figure #9). Electric potential has a strong relationship to cellular viability. Typical mammalian cells have a basic (or rest) potential that is necessary for normal cellular metabolism. The oxygen utilization of the cell, key to cellular rest potential, is proportional to the ion exchange occurring at the cell membrane. The ion exchange can be dramatically influenced by pulsating magnetic fields thereby greatly improving the oxygen utilization of the diseased or damaged tissues. The deterioration of oxygen utilization is known to be a problem in the areas of delayed healing and arthritis of the joints.

Figure # 9 - Ionization in a Cell



Pulsating magnetic field therapy permeates all cells and enhances ion exchange, to normalize circulation and increase the oxygen utilization of the cell. Invisible magnetic field lines permeate all cells in the body simultaneously, down to the last molecular level, reaching parts of the body that cannot be influenced efficiently with other methods. The wide range of indications include:

1. Orthopedic conditions - fracture and bone damage conditions
2. Open wounds and circulatory problems
3. Soft tissue problems - sore backs, muscle tightness and body soreness
4. Acute inflammation
5. Chronic pain

NOTE: Pulsating magnetic field therapy delivers a very minor level of heat from its applied parts and is, therefore, safe to use over wraps, casts and all implants (metal or plastic).

4.2 ABC's OF MAGNETOTHERAPY

By knowing your horse and how the equipment works, you can more effectively use the therapy. It is important to understand the effects that each setting will have upon the cells of the horse's body.

Note: It is always recommended to consult your veterinarian when using pulsating magnetic fields.

To effectively apply the therapy to most conditions, and to enhance the success rate, please follow these priorities (See also Figure #10 - *Priority Settings Graph*):

PRIORITIES:

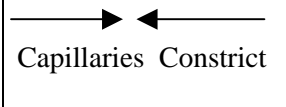

1. REDUCE PAIN AND INFLAMMATION
2. STIMULATION
3. INCREASE CIRCULATION
4. REHABILITATION

The priorities are effectively treated by adjusting the following three user controlled settings:

- A. FREQUENCY
- B. INTENSITY
- C. TIME

Frequency, intensity and time are controlled as represented in Figure #10.

Figure #10: Priority Settings Graph

PRIORITIES	1. Reduce Pain & Inflammation	Normal Magnetic Energy	2. Stimulation	3. Increase Circulation	4. Rehabilitation
INTENSITY	50 Gz.		60 Gz.	80 Gz.	100 Gz.
FREQUENCY	2 – 4 – 5 Hz.	8 – 10 Hz.	12 – 15(16) Hz.	30(25) Hz.	60(50) Hz.
					

Note: Bracketed #'s are for 230V/50Hz generator.

A. FREQUENCY

Frequency is a measurement of the number of magnetic pulses per second, and is measured in units known as Hertz (Hz). The frequency has the most impact on the result and is, therefore, the most important setting.

The frequency settings of the Centurion 4PH generator range from 1 - 60 Hz. (60Hz. Mains) or 1 – 50 Hz. (50Hz. Mains). As seen in Figure #10, normal Earth magnetic energy varies between 8 - 10 Hz. In the Centurion 4PH System, there are four (4) settings below normal Earth energy and four (4) settings above normal Earth energy. This allows treatment to progress through the different priority stages of the healing process.

B. INTENSITY

The intensity of a magnetic field is measured in Gauss (Gz). The intensity level to use dependent upon priority is as follows:

PRIORITIES

INTENSITY SETTINGS

- | | |
|---------------------------------|-----------|
| 1. REDUCE PAIN AND INFLAMMATION | - 50 Gz. |
| 2. STIMULATION | - 60 Gz. |
| 3. INCREASE CIRCULATION | - 80 Gz. |
| 4. REHABILITATION | - 100 Gz. |

C. TIME

In most cases, the length of therapy session should be set to 30 minutes. The following are exceptions:

- 1) For serious problems, the therapy should be used twice a day. This might continue for the first seven to fourteen (7 – 14) days, or longer.
- 2) If a new injury should occur, initiate the therapy as quickly as possible. Use two (2) sessions lasting one (1) hour each per day for the first two days, then return to the normal treatment program.
- 3) For bone damage problems, it is advisable to use one (1) hour treatments.

PRIORITIES:

I. PAIN AND INFLAMMATION

Settings of 2 - 5 Hz. are used in the first priority to manage pain and inflammation. Many people find that the lower settings are used most frequently in their stable.

It is extremely important to always start at the frequency setting of 2 Hz for the following reasons:

- It has a calming, relaxing effect on the body and will help precondition the horse to the therapy.
- In most cases, it will reduce the inflammation and pain in the body very quickly.

We suggest the horse stay on the lower setting of 2 Hz for a minimum of three (3) days and then evaluate the problem area prior to moving to the next priority. If heat continues on the problem area, continue on the setting of 2 Hz.

When starting the therapy, the legs may already be cold, and you may want to miss this First Priority. **NEVER SKIP PRIORITY ONE: THE REDUCTION OF PAIN AND INFLAMATION!!** You must always use the frequency of 2 Hz for the first three (3) days for the reasons mentioned above.

As the heat is coming out of the leg, proceed to 4 Hz for two (2) days and 5 Hz for two (2) days.

NOTE: Do not use iodine based leg paints while on the 2, 4 or 5 Hz. settings. Iodine will induce heat into the area contrary to the expected treatment outcome of priority one.

II. STIMULATION

After completion of the first priority, move up to the stimulation priority. It is recommended to use 12 Hz. for two (2) days and 15 Hz. (or 16Hz. for 50Hz Mains) for two (2) days. As this setting is now above normal Earth energy, the capillaries will expand and increase blood flow.

Note: The 15 Hz setting may also be used as a pre-race or pre-event setting designed to increase body energy. Some animals will respond better to 30 Hz, so it is always best to experiment during training.

III. INCREASE CIRCULATION

Next you can proceed to the increase circulation priority. At this setting, the blood vessels will expand. Stay on 30 Hz (or 25Hz. for 50Hz. Mains) for seven to twenty one (7 – 21) days until the injury is fully resolved.

Normally, this will be the highest priority frequency setting you will use, except in the case of bone injury.

Note – While the frequency settings are being increased to higher priority levels, should a new injury or heat reappear in the area of concern, the frequency must be immediately reduced to 2 Hz. After priority one treatment and successful reassessment, follow the priority steps from two through four (2 – 4) again.

IV. REHABILITATION

The last priority setting of rehabilitation is used on serious and chronic conditions. Use a 60 Hz frequency setting for priority four (4).

NOTE: It is extremely important to be on the right setting at the right time. The setting may be adjusted each day depending on what is happening. Move the settings up slowly - don't be in a hurry. If heat or soreness returns, place the settings back to low (Priority – Pain and Inflammation).

Finally, it is important to understand a part of the process that may occur with chronic injuries known as the "REACTIVE PHASE". When proceeding through the priority steps while treating a chronic injury, you may notice that the condition appears to worsen. This is normal and happens at the higher priority stages due to the increased blood circulation through a part of the body where, due to the original injury, a previous loss of circulation had occurred. The Reactive Phase can easily be recognized by a dramatic increase in heat or swelling in the area. If this happens, there is no need for alarm. Simply discontinue the therapy for one (1) day to allow that part of the body to adjust to the increase of blood in the area. Following this rest period, you may continue the therapy at 2 Hz. for three (3) days and then return immediately to Priority 3 (30 Hz. for 115 V unit or 25Hz. for 230V unit). This reactive phase normally only occurs once with any particular injury.

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CAUTION - It is advisable to consult your veterinarian should any problems persist.

4.3 TREATMENT INFORMATION

Settings for specific body parts:

Any specific settings referred to are always expressed as Intensity - Frequency - Time. (ex: "50 - 2 - 30" where Intensity is 50 Gauss, Frequency is 2 Hertz and the Treatment Time is 30 minutes).

1. THROAT – For any indication around the neck or head area (Ex: breathing or sinus problems, or neck soreness) use only the following setting without any treatment variation:

50 - 2 - 30

2. BACK - Because the back is a solid muscle mass, you can move through the settings much faster:

First three (3) days	50 - 2 - 30
Second three (3) days	60 - 15 - 30
Seventh (7th) day	80 - 30 - 30

If you are working on two horses, both of which have leg and back problems, we suggest applying the therapy as follows: Have the animals stabled side by side and apply the therapy to the front legs of both (usually on a lower setting), then do the backs of both (usually on a higher setting).

SOME THINGS TO WATCH FOR WHEN STARTING THIS THERAPY:

- 1) It is common to see an animal hang its head slightly and appear extremely relaxed when receiving the treatment.
- 2) Your horse may urinate more during the first week. This is due to the fact that all the cells in the cleansing organs are being exposed to the magnetic field and will begin to work more effectively.
- 3) Hooves may grow more quickly.
- 4) Hair growth may accelerate.

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CAUTION - If signs of pain, swelling, inflammation, or lameness worsen at any time, discontinue the use of Centurion therapy and consult your veterinarian immediately.

5. MAINTENANCE

5.1 CLEANING AND INSPECTION

A schedule of routine maintenance will greatly extend the life of your equipment and ensure that the equipment remains safe to use for both the horse and operator.

CLEANING

The generator, generator housing and all power and applied parts cords may be wiped down with a damp cloth that has been rinsed in a light detergent solution.

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WARNING: Do not clean when equipment is energized. Disconnect power cord from generator and from outlet before cleaning. When cleaning generator faceplate area, do not use excess cleaning liquid on cleaning cloth so that fluid drips into equipment. Failure to comply may cause permanent damage.

The blanket may be washed in a washing machine in warm water following known good practices. Remove spats from the blanket prior to cleaning. Pre-spray any stains from feed or medication to ensure that they are removed. Remove excess moisture in dryer on a warm setting. Remove from dryer while still barely damp, stretch and hang to dry completely.

NOTE: Repair any tears or damage to the blanket before washing to avoid damaging the blanket further.

Dirt may be cleaned from spats and hock boots by brushing the leather with a stiff bristled brush. The cords may be wiped down with a damp cloth that has been rinsed in a light detergent solution. The hoof pad may be wiped clean with a damp cloth. A product suitable for providing UV inhibition on rubberized surfaces may be used after cleaning to help protect the surface and make future cleanings easier.

INSPECTION

Before each use, the system should be inspected to ensure that all parts are in good working order. Inspect all cords for damage to the outer insulation. If there is any damage to the cords or any other parts of the system, have them serviced before using.



CAUTION – Inspect all cables and applied parts daily for any signs of deterioration and damage. Do not use damaged cables as they may present an electrical shock hazard. If damage is observed, arrange to have cables serviced by the manufacturer or authorized service personnel.

5.2 SERVICE INSTRUCTIONS



CAUTION - To prevent the risk of electrical shock, do not remove the generator from its housing. There are no user serviceable parts inside. All repairs must be referred to an authorized qualified technician who will provide advise on preparation/shipping to the nearest Service Depot. Opening of the unit by non-qualified personnel will void the warranty. Never attempt maintenance operations beyond those described in these operating instructions and comply with all warnings that appear on the equipment and in servicing instructions.

Consult the *Troubleshooting* section of this manual to help determine the possible source of your service problem.

If service is required, refer to the *Sales and Service* contact information located on the outside of the generator case and at the end of this manual.

5.3 WARRANTY

Your Centurion system has a ONE (1) Year Warranty from the date of purchase or first day of rental. This unconditional warranty covers any and all problems including labor and replacement parts (inbound freight excluded).

NOTE: Any repairs or service work performed by an unauthorized person or company will void the Warranty immediately.

An extended warranty package is available to cover any problems that may arise after the first year. This very affordable plan covers all parts and labor (inbound freight excluded).

The Warranty is honored at any of the Service Centers in North America or at any of our Service Centers around the world.

5.4 SERVICE POLICY

It is Centurion Medical Corporation's and its Dealers' Policy to, whenever possible, provide service on Centurion systems within 48 Hours of the receipt of the equipment. Return shipments will be done by the best available normal shipping method. If a customer wishes to have a higher level of shipping service, they may arrange to have the equipment picked up by their own shipping service or pay the additional cost above normal shipping costs for overnight or the best service available. When sending in equipment for servicing, please allow for shipping time.

NOTE: Unless instructed otherwise, always return all of the parts of the system when sending equipment into the Service Depot. This allows Centurion the opportunity to check over the entire system to determine if there are additional problems that require service attention.

5.5 SERVICE INFORMATION

TO OBTAIN WARRANTY SERVICE:

- Follow the *Operating Instructions* first to try and determine the problem. If the problem remains unresolved, refer to the *Troubleshooting* section for further guidance to determine what the problem may be.

Phone your nearest Service Depot and provide the following information:

- Model/Type of equipment. (i.e.: "4PH System")
 - Serial number of equipment.
 - Complete description of problem.
 - Name, address and contact number of the owner of the system.
 - Shipping name, address and contact number if different than owners.
- Once authorization for repairs has been received, package the system in its original packing, if available, or package in accordance with good commercial practices. Shipment to the Service Depot will be done at the Owner or Renter's expense.

TO OBTAIN OUT OF WARRANTY SERVICE:

- Follow the *Operating Instructions* first to try and determine the problem. If the problem remains unresolved, refer to the *Troubleshooting* section for further guidance to determine what the problem may be.

Phone your nearest Service Depot and provide the following information:

- Model/Type of equipment. (i.e.: “4PH System”)
 - Serial number of equipment.
 - Complete description of problem.
 - Name, address and contact number of the owner of the system.
 - Shipping name, address and contact number if different than owners.
 - Credit Card number for payment.
- Once authorization for repairs has been received, package the system in its original packing, if available, or package in accordance with good commercial practices. Shipment to and from the Service Depot will be done at the Owner’s expense.
 - Notify the Service Depot if you wish to receive a quote for service prior to work being performed. If the service required to repair the equipment is not authorized by the customer, there will be an estimate charge based on the time spent to evaluate the service problem.
 - All out of Warranty repairs will be warranted for Thirty (30) Days from the date of shipment to the owner.

END OF LIFE INSTRUCTIONS:

- Centurion Systems are designed to last for many years as long as the equipment is kept maintained as per the *Maintenance Instructions*. If, however, the unit becomes irreparable or is no longer required, disposal of the equipment can be made by either returning the equipment to the distributor for disposal, or by complying with your local regulations for the disposal of equipment containing basic electronic parts. This equipment may contain small amounts of materials recognized and regulated as hazardous within the European Union under the *WEEE DIRECTIVE*. EEC consumers are encouraged to contact their European distributor for instructions in proper end of life disposal.

6. TROUBLESHOOTING

If problems occur with the operation of your equipment, the following steps will help determine the cause of the problem. Please perform the following operation checkup and then refer to the *General Troubleshooting* section for assistance with determining the potential problem. This will allow you to provide specific information on the problem when phoning for warranty service.

6.1 GENERAL OPERATION CHECKUP

- Plug the equipment under test to the correct voltage source as indicated on the SERIAL NUMBER LABEL.
- Plug the two SPLITTER BOXES into the generator OUTPUT CONNECTORS.
- Plug all 4 SPATS into the splitter box output connectors. Note: If you have other applied parts, such as Hock Boots or Hoof Pads, repeat the tests with the accessories plugged into the splitter boxes after you complete the testing of the spats.
- Depress the LINE POWER SWITCH. The buzzer should sound and the LED READOUT (digital display) initiates. On the left side of the faceplate, the PULSE INDICATOR LED will pulse at the frequency selected.
- Set the TIMER SELECTOR SWITCH on the faceplate to 10 minutes. Turn the INTENSITY and the FREQUENCY controls all the way counter clockwise. The digital display should read:

5	1.0	0
Intensity	Frequency	Minutes

- Depress the START SWITCH. The light in the start button will glow to indicate the unit is operating and the minutes display will change to "10".
- Test the output to the spats as follows:
 - Place the magnet supplied with the equipment over each spat to feel the pulse. Turn the INTENSITY SELECTOR SWITCH control clockwise and check each intensity setting. As the intensity knob is turned up, you should see the digital display change to each new setting and the pulse strength felt through the magnet should increase in intensity. Repeat this check for each spat and other applied parts under test. Leave the generator at the highest intensity setting (100 Gauss) for the next step.
 - With the magnet still over the spat, feel the pulse at the frequency selected. Turn the FREQUENCY SELECTOR SWITCH clockwise and check each frequency setting. As the frequency knob is turned up, you should see the digital display change to each new setting and the pace of the pulse frequency felt through the magnet should increase noticeably. Note that, as the frequency is increased, the PULSE INDICATOR LED lamp at the left side of the faceplate will pulse at an increased rate. Repeat this check for each applied part under test.
 - Once the previous two steps have been completed, confirm that the time display continues to count down from the original set time. Next, while holding the start button down, depress the "+" or "-" button on the TIMER SELECTOR SWITCH to each number available from "0" to "9". Test both sides of the switch. Confirm that the number appearing on the digital display matches the switch setting.

NOTE: As you are cycling through the TIMER SELECTOR SWITCH settings, the buzzer will sound if the switch is set to "00". The start switch will not start the treatment if the timer is set to "00".

- Next, depress the STOP SWITCH. The buzzer should sound, and the minutes setting on the digital display should return to "0". There should be no pulse felt in the applied part under test after the stop switch is pressed.
- Test sequence is complete. Turn off the power to the unit by depressing the LINE POWER SWITCH.
- If a problem becomes evident, proceed to the *General Troubleshooting* section.

6.2 GENERAL TROUBLESHOOTING

PROBLEM: Machine won't turn on - No display, No lamp lit in power switch

SOLUTION: Check to confirm that the power cord is plugged into the power supply outlet and to the POWER INLET FILTER on the generator. Check to confirm that the power cord is in good condition with no obvious signs of damage. Check power outlet to make sure there is power at the outlet. If there is power there, check the two INPUT FUSES on the faceplate of the generator beside the LINE POWER SWITCH. If they are burnt out, replace with fuses of the same rating. See the rating labeled on the fuses directly or consult the *Electrical Specifications* section of this manual for correct fuse size.



CAUTION - Disconnect power from the system before checking fuses. Replace faulty fuses only with fuses of the correct type and ratings as per the *Electrical Specifications* section.

PROBLEM: No output on one or more of the applied parts (i.e.: Spat, Hock, Hoof Pad)

SOLUTION 1: Plug a known working applied part directly into the machine to test the APPLIED PART CONNECTOR OUTLETS. If both outlets work, plug a known working applied part into the SPLITTER BOX, checking both connectors. If the known working applied part does not work in the splitter box, then the splitter box may need servicing. If the known working applied part works in both cases (with and without the splitter box), then the faulty applied part may need servicing.

SOLUTION 2: If there is no output at either of the generator outlets, check the two OUTPUT FUSES at the rear of the machine. Replace, if necessary, with fuses of the same rating. See the rating labeled on the fuses directly or consult the *Electrical Specifications* section of this manual for correct fuse size.

PROBLEM: Equipment powers up but will not start when start button is pressed

SOLUTION: Check that a time has been selected on the TIMER SELECTOR SWITCH. Equipment will not start if it is set at "00"

PROBLEM: Applied parts don't lock into the connectors.

SOLUTION: Check the APPLIED PART CONNECTOR OUTLET for dirt and debris. Blow the connector outlet clean with compressed air.

7. TECHNICAL SPECIFICATIONS

7.1 REGULATORY COMPLIANCES

The manufacturer (Centurion Medial Corporation) declares that this product has been designed and tested in conformity with the requirements of the following reference standards.

Guideline Electrical Standards

Canada CSA 601.1
United States UL 60601-1
Europe IEC 60601-1

Electromagnetic Compatibility

IEC 60601-1-2

Additionally, the equipment is designed and manufactured in a facility operating in accordance with the following guideline standards:

Quality Assurance and Risk Management

ISO 13485:2003
ISO 14971:2000

This equipment meets the requirements of, and is declared in conformance with, European Directives 2004/108/EC (Electromagnetic Compatibility) and 73/23/EEC (Low Voltage).

This equipment has been issued a Class 2 Medical Devices License by the Therapeutic Products Directorate of Health Canada.

7.2 EQUIPMENT CLASSIFICATIONS

Class Class 1 Electrical Equipment (CSA 601.1)

Degree of protection against Electrical shock Type BF Applied Part

Protection against the harmful ingress of liquids IXPO - (Non-Protected)
Ordinary Equipment

Protection against Explosion
Equipment not suitable for use in the presence of a

**"FLAMMABLE ANAESTHETIC MIXTURE WITH AIR OR WITH
OXYGEN OR NITROUS OXIDE"**

Mode of Operation Continuous

7.3 ELECTRICAL SPECIFICATIONS

Electrical:

Power supply	Voltage/Maximum Current	Fuse Type and Rating
115V/60 Hz.	Input - 115V/60Hz. - 1.97Amp Output - 18V/60Hz - 6.35Amp	3A/250V (Type AGC) 7A/250V (Type AGC)
230V/50 Hz.	Input - 230V/50Hz - 1.0Amp Output - 18V/50Hz. - 6.43Amp	3A/250V (Type AGC) 7A/250V (Type AGC)

INTENSITIES (Adjustable): 5, 10, 15, 20, 30, 40, 50, 60, 80, 100 Gauss

FREQUENCIES (Adjustable): 1, 2, 4, 5, 8, 10, 12, 15, 30, 60 Hertz (60 Hertz mains)
1, 2, 4, 5, 8, 10, 12, 16, 25, 50 Hertz (50 Hertz mains)

TREATMENT DURATION (Adjustable): One to Ninety Nine (1-99) minutes

CONTROL IMPULSE BUNDLE: One to sixty (1-60) Hertz (60 Hertz mains)
One to fifty (1-50) Hertz (50 Hertz mains)

OUTPUT JACKS: Two locking three pin female receptacles

7.4 PHYSICAL SPECIFICATIONS

DIMENSIONS:

Model "4PH" Generator	- 19 1/2" x 20 1/4" x 7 1/2"	- 495mm x 514mm x 190mm
Spats	- 20" x 12" x 1 1/4"	- 508mm x 305mm x 32mm
Splitter Box	- 4" x 2 1/4" x 2 1/4"	- 100mm x 58mm x 58mm
Blanket	- 75" x 52" x 1/8"	- 1905mm x 1320mm x 3mm
Box 1 - 4PH system (Aluminum case)	- 20" x 21 1/4" x 7 3/4"	- 508mm x 540mm x 197mm
Box 2 - 4PH system (generator, four spats, bag, 2 splitter boxes, blanket, power cord, magnet, manual)	- 12" x 12" x 24"	- 305mm x 305mm x 610mm

WEIGHTS:

4PH 115V/60 Hz. box 1	- 20 lb./9 Kg.	
4PH 115V/60 Hz. box 2	- 42 lb./19 Kg.	
4PH 230V/50 Hz. box 1	- 20 lb./9 Kg.	
4PH 230V/50 Hz. box 2	- 42 lb./19 Kg.	
Spat	- 4.5 lb./2 Kg.	
Splitter Box	- 1.5 lb./ .7 Kg.	
Blanket	- 4 lb./ 1.5 Kg.	
Optional Accessories		
Hock Boot	- 13 3/4" x 15" x 1 1/4" - 3.5 lb.	- 349mm x 380mm x 32mm - 1.5 Kg.
Hoof Pad	- 17 3/8" x 24" x 2 3/8" - 39 lb.	- 441mm x 610mm x 60mm - 17.6 Kg

8. ACCESSORIES AND REPLACEMENT PARTS

DESCRIPTION

4PH/9PH Applied Part Cord

Power Cord – North American

Power Cord – German (Standard with Euro Equipment)

Power Cord – British

Power Cord – Italian

Power Cord – Swiss

4PH Manual – English

4PH Manual – French

4PH Manual – Spanish

4PH Manual – German

Magnet

Fig #11 - Splitter Box - #Y601



Fig #12 - Spat - #Y602



Fig #13 - Hock Boot - #Y603



Fig #14 - Hoof Pad - #TS607



9. THREE MONTH RENTAL PROGRAM

You may not be sure if this is the type of therapy you want to have in your stable or wish to practice for a lifetime. But, you have probably heard a lot of positive things being said about the **Centurion Systems** and you might wonder if the therapy will work for you.

Our three (3) month rental program will allow you to use the therapy in your stable or practice on a trial basis. This program is long enough to enable you to experience the benefits of magnetic field therapy first hand, and short enough that you are not bound to a long-term agreement.

At the end of the three-month rental period, there are a number of programs available to help you acquire the **Centurion System** for your stable or practice on a lifetime basis.

10. STORAGE

For best results, always store your equipment in a dry environment.

11. SHIPPING AND TRANSPORTATION

The equipment can easily be moved in the carry case and bag provided or can be shipped by putting the equipment into the shipping boxes provided or other shipping boxes suitable for commercial transportation and the product dimensions and weights.

12. COMMONLY ASKED QUESTIONS

Q1. Is it normal for a horse to feel very relaxed during or after a treatment, especially on a low frequency setting?

ANS: Yes - The low frequency setting has an extremely relaxing effect on the body and it is common to see an animal hang its head slightly and look extremely relaxed.

Q2. How does this therapy compare with traditional laser therapy?

ANS: Magnetic Field Therapy has a much deeper total depth penetration into the tissue than traditional laser therapy. For this reason, Magnetic Field Therapy can be used with bone damage conditions as well as soft tissue injuries. Laser Therapy is more often used for close to the surface tissue injuries, open wound care and as a non-invasive acupuncture tool.

Q3. Can Magnetic Field Therapy be used in conjunction with other therapies?

ANS: Yes - The therapy can be used by itself or in combination with other therapies.

Q4. Will Magnetic Field Therapy make a champion out of my horse?

ANS: No - This would be impossible. However, by utilizing the therapy, you will minimize performance problems related to your horse's injury or soreness. Without those distractions, the animal should be performing closer to its maximum potential.

Q5. Will I have guaranteed results from using Magnetic Field Therapy?

ANS: No! No therapy or drug will ever be 100% successful in treating all conditions. As each animal is different, the results can vary from one to another. The three-month rental program allows you to find out if this therapy will benefit your horse and alleviate the particular problems you experience in your stable.

13. CONTACT INFORMATION

SALES AND SERVICE

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Centurion
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