VITALITYWEB.COM
BACKSPORT HEALTH PRODUCTS

Electronic Muscle Stimulator Manual

EMS 4000 and 4000R

Vitalityweb.com, Inc.
Attn: Repairs
13820 Stowe Dr
Poway, CA 92064

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It is recommended that you read this entire manual thoroughly before using your EMS unit. EMS can be used safely in the clinic or in the comfort and privacy of your home. If you have questions related to an injury or condition please consult your doctor for specific directions and instructions on how to use this EMS Unit.

GENERAL CAUTIONS

1. DO NOT use near or in water.
2. DO NOT use on the front of your neck.
3. DO NOT use with a pacemaker without manufacturer (pacemaker) approval.
4. DO NOT use if you suffer from a heart condition.
5. DO NOT use if you are pregnant.
6. DO NOT use on genitals.
7. DO NOT use on undiagnosed conditions or cancerous lesions.
8. DO NOT use over wounds, moles, varicose veins or healing fractures.
10. DO NOT use with or in conjunction with other electronic devices or equipment.
11. DO NOT use while operating motor vehicles or other machinery.
12. DO NOT use with nervous tissue disorders, epilepsy, diabetes or MS.
13. Consult your physician for all specific directions and Usage

PRECAUTIONS/SIDE EFFECTS

Long-term stimulation at the same electrode site may cause skin irritation. Should this occur, remove the electrodes and discontinue stimulation. Consult your physician to determine the cause of the irritation. Pregnancy – The safety of stimulation for use during pregnancy or delivery has NOT BEEN established. Adequate precautions should be taken with suspected heart problems or epilepsy. Take precaution when stimulating over menstruating uterus or where sensory nerve damage is present by a loss of normal skin sensation.

The user’s psychological state and use of drugs will influence treatment outcome.

LIMITED WARRANTY

VITALITYWEB.COM, Inc. warrants each new VITAL EMS unit only (excluding lead wires, carbon electrodes and battery) for one year from defects in materials and workmanship. This warranty only applies to the original purchaser and starts from the date of purchase (invoice date).

This warranty covers parts and labor for one year from the date of purchase. This warranty does not cover abuse, accident and damage resulting from failure to follow operating instructions and alteration/disassembly other than by VITALITYWEB.COM, Inc.

The defective VITAL EMS unit must be returned to VITALITYWEB.COM, Inc. postage prepaid and insured. Please include $10 return shipping for the unit can be returned to you.

VITALITYWEB.COM, Inc. shall not be liable for any direct or indirect consequential damages resulting from the use and/or misuse of this EMS unit. Maximum liability will never exceed the original invoice amount. The user of the EMS unit will accept all responsibility for its proper use and care.

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TROUBLE SHOOTING:

If the EMS Unit does not work or turn on:
Disconnected the power supply from the wall outlet and check the fuse in the back of the unit. Replace the fuse with an exact duplicate (available at most electronic stores) and try turning the unit on again. Be sure that the Russian Stim and Wave switch are both off (down) before turning on.

Please note: Even though a fuse may look okay, it may not be.

If your unit continually burns fuses:
Disconnected the wires, replace the fuse, turn off Russian Stim, turn off Wave switch and try turning on the unit. If the power comes on, make sure all the intensity controls are turned down and reconnect the lead wires. If the power light still does not come on, please contact Vitalityweb for troubleshooting at 800-796-9656.

Please note: Do not put the Russian Stimulation and Wave switches up (on) at the same time. Russian is an independent mode and having both switches in the on position will blow a fuse.

If the EMS Unit turns on but does not function properly:

1. Check all control settings. Are the electrodes in the proper position?
2. Check lead wires. Make sure all connectors are firmly seated.
3. Make sure the electrode pads have a good connection to your skin. If using the rubber electrodes, be sure to use water or a conductive gel to maintain the contact between your skin and the electrode pad.
4. Replace the lead wire cord set with another lead to check for broken wires.

If one channel is on and cannot be turned off:
Disconnected and do not use. Contact Vitalityweb to have the unit repaired immediately.

If you feel a sharp tingling sensation when stimulating:
Make sure you have a good connection between your skin and the electrode pad. When using the rubber pads, be sure to use a conductive agent such as water or a conductive gel between your skin and the electrode pads. Make sure the pads are located over the muscle belly (thick areas of muscle). Try repositioning the electrode pads.

GENERAL INFORMATION

Neuromuscular stimulation is achieved by sending small electrical impulses through the skin to the underlying motor units (nerves and muscles) to create an involuntary muscle contraction. Involuntary muscle contractions by electronic muscle stimulation can help to improve and maintain muscle tone without physical activity. This passive exercise can also be used for therapeutic treatment to minimize the degeneration that occurs following partial denervation or immobilization. The electrical impulses are “ramped” (slow, gradual and comfortable muscle contraction) so that they closely emulate natural muscle contractions.

TECHNICAL SPECIFICATIONS

- Channels: 4(EMS4000 and 4000R)
- Waveform: Bi-phasic and Mono-phasic
- Frequency: 2-140 Hertz
- Reciprocation: Yes
- Pulse Width: 300 microSeconds
- Ramp Time: 3 seconds
- Contraction Time: Variable 3-45 seconds
- Relaxation Time: Variable 3-45 seconds
- Power Output: 0-34.3 microColumbs
- Dimensions: 3 ¼"(H) x 8"(W) x 8"(L)

COMMON APPLICATIONS OF EMS

- Relaxation of the muscles.
- Increasing range of motion.
- Reduction or prevention of muscle atrophy.
- Re-education of muscles.
- Increasing blood circulation.
- Muscle toning.
- Reduction of muscle pain.
OPERATING MODES

Normal:
Normal Operation of this unit is with all its toggle switches in the off position (down). The unit works as a Bi-phasic device, meaning there is an electrical pulse on both sides of the pads thereby allowing an even distribution of electrical stimulation on both pads for symmetrical development of the muscle. All Channels are active and the FREQUENCY knob controls how many pulses per second are delivered to the pads. The STIM knob controls how long pulses are on (between 3-45 seconds) and the REST knob controls how long the pulses are off (3-45 seconds). Stimulation occurs when you see the red light (between the channel knobs) come on.

WHEN TURNING ON THE UNIT BE SURE ALL CHANNEL CONTROL KNOBS ARE TURNED OFF (Counter-clockwise to the left). The unit will not start unless both channels are in the off position and then slowly turned on.

Mono-Phasic Mode:
Mono-phasic is when the electrical pulses are active on one pad (current flows in one direction). This can be activated by pressing the WAVE switch to on. This mode is commonly used for neck/back pain with a low frequency setting of 2-23 Hz. Do not use Mono-phasic and Russian Stim (switch up-on) at the same time.

Reciprocation Mode:
Pressing the RECIP switch to ON activates the Reciprocation mode. This mode is used for stimulating antagonistic muscle groups (i.e. Biceps and Triceps or Quadriceps and Hamstrings). This is done by turning on two channels during one STIM cycle and the other channels during the next STIM cycle. The Reciprocation mode can also be used to exercise upper/lower abdominals, upper/lowerback muscles, and abdominals/obliques. The Reciprocation channels are 1 & 2 and 3 & 4.

DO’S AND DON’TS

DO Follow the advise of your Physician/Health care professional.
DO Turn all intensity knobs off (counterclockwise to left) before turning on the EMS unit.
DO Keep the stimulator clean.
DO Make sure you use a conductive agent such as water or a conductive gel.
DO Clean the cables only with water and mild soap. Do not use rubbing alcohol or any other solvents.
DO Remove the electrodes and discontinue stimulation if you experience skin irritation, until the source of that irritation is determined by your physician.
DO Follow the advise of your physician/Health care professional.
DO See your physician if you have any problems or questions regarding your EMS unit.

DO NOT Damage your EMS unit by bumping, dropping or rough use.
DO NOT Get the EMS unit wet or use the EMS unit near or in water.
DO NOT Pull or Kink the cables.
DO NOT Clean the cables with alcohol or Freon
DO NOT Let children use the EMS unit.
DO NOT Give the EMS unit to other individuals
DO NOT Store the unit below 32 degrees or above 100 degrees F.
DO NOT Use on the front of your neck.
DO NOT Use with or in conjunction with a pacemaker
DO NOT Use if you suffer from a heart condition.
DO NOT Use if you are pregnant.
DO NOT Use on genitals.
DO NOT Use on undiagnosed conditions.
DO NOT Use over wounds or healing fractures.
DO NOT Use on children. Keep out of the reach of children.
DO NOT Use with or in conjunction with other electronic devices or equipment.
DO NOT Use while operating motor vehicles or other heavy machinery.

As is true with any new exercise, precautions should be observed.
QUADRICEPS:
Place your medium strap about 3” from the top of your leg and your other strap about 3 “ above your knee. Draw an imaginary line from the center of your knee to the top of the leg. Place one pad on one side of the imaginary line and the other pad on the opposite side. Make sure there is about a ¼” gap between the pads. You are now ready to adjust the unit for stimulation.

HAMSTRINGS:
Place your straps as you did for your quadriceps. Draw an imaginary line from the center of your knee to the top of the leg (back of the leg). Place one pad on one side of the imaginary line and the other pad on the other side of the opposite side. Make sure there is about a ¼” gap between the pads. You are now ready to adjust the unit for stimulation.

This can be very effective in toning your leg by using the Reciprocation (A Mode) feature on your unit. Make sure that channel 1 is on the quadriceps and channel 2 is on the hamstrings/obliques.

Russian Stimulation Mode
Russian stimulation is 2500 hertz at 50 pulses per second. The purpose of this frequency is to allow a deeper penetration of the muscles by the electrical pulses and is often used by bodybuilders, scoliosis patients and chronic pain sufferers. Russian stimulation is a higher frequency and more intense than the normal operating mode. You must use caution when using this mode by reducing time durations and power levels. Please consult your physician for specific recommendations and usage. This mode is activated by pressing the RUSSIAN STIM switch to ON(switch turned on). Generally the control settings are 10s Stim – 10s Stim – 45s relax. This mode is for the experienced user of muscle stimulators, or under the close direction of a doctor or physical therapist.

General Operating Settings:
(For use as a guide only – consult your physician)

Back/Neck Pain: 6 seconds on 3 seconds off with the frequency set from 2-23Hz. Use small gel adhesive pads on the back of the neck/back (DO NOT USE ON THE FRONT OF YOUR NECK) and mono-phasic mode (WAVE switch up – on). Use a light stimulation similar to thumping on the neck. Please consult your physician for specific recommendations. Please see pad placement chart on page 7.

Scoliosis/Bodybuilding/Chronic Pain: Generally the control settings are 10s Stim – 10s Relax or 10s Stim – 45s Relax depending on the muscle group. Russian Stimulation switch in ON. Wave switch is OFF (Down). Please consult your physician for specific recommendations.
BASIC TIPS

1. Make sure all channel knobs are turned off (counterclockwise to the left and all switches are OFF/Down) before turning on/plugging in the EMS unit.

2. Be sure to have a good contact between your skin and the electrodes with the electrodes from the same channel 1-2” apart. When using the non-adhesive rubber electrodes, be sure to use water or a conductive gel as a conductive agent use the straps to hold the rubber pads on the skin. Do not force the Lead Wire connectors into the corresponding female socket on the EMS unit (Forcing will damage the unit).

3. Start with the REST and STIM times set to 20 seconds. This is about 20 seconds on 20 off. The channel intensity control knobs should be turned all the way off (counter clockwise to 0)/

4. Only Set the channel control knobs as you are being stimulated (light on the top of the unit is on). This gives you a better feeling of the contractions and you can adjust the knob up or down for comfort. The channel control knobs should be set at zero (0) counterclockwise to the left when starting/connecting the unit.

5. Set the FREQUENCY to the fifth notch. This is about 50 pulses per second and should be comfortable. If not, adjust to the next notch or adjust the knob until you find a frequency that is comfortable for you.

6. DO NOT OVER STIMULATE. Only use the EMS unit for 5 - 10 minutes at a time for the first few days. You can then gradually increase to longer intervals. To much stimulation in the beginning can make your muscles sore, much like going to the gym and lifting weights that are too heavy for you. We do not subscribe to or promote the “No pain, no gain” myth.

7. CONTACT US if you have a problem or question. We generally can solve 99% of the problems over the telephone or by e-mail. (sales@vitalityweb.com) We are here to answer any questions that will allow you optimize the effectiveness of your NEW VITAL EMS unit.

UPPER BACK:
Place a large Velcro strap across the upper back, going under the arm pits. Draw an imaginary line down the center of the back. Using one channel, place the pads on the right side of the centerline. Put one pad one inch from the centerline, and the other pad ¼” to the right. Now repeat the process for the left side using a different channel. Make sure the 2 center pads are about one inch from the center of the back. This will give you a 2-inch space between the pads on either side of the back. You are now ready to adjust the unit for stimulation.

CALVES:
Use the small Velcro straps and place around the center of the calf muscle. Place large or small pads on either side of the center of the calf muscle. Make sure there is a ¼” separation between the pads. You are now ready to adjust the unit for stimulation.

BUTTOCK:
Use 1 large strap and 2 medium straps. Place the large strap around the buttock and the 2 medium straps around the upper leg about 1 inch below the buttock. Using any channel, place 1 pad on one side of the buttock and the other pad just below it on the leg. Using a different channel do the same thing on the other side. You are now ready to adjust for stimulation.
ABDOMINALS:
You will need two large Velcro straps. Place one strap about 3 inches above your belly button. Make sure the strap is below the breast bone. Now place the other strap 1 inch below the belly button. Draw an imaginary line from your belly button to your chin. Place one pad on one side of the imaginary line and the other pad on the opposite side. Now do the same for the other pads. Make sure there is about a ¼" gap between the electrode pads. You are now ready to adjust the unit for stimulation.

OBLIQUES:
Place the straps as you did for the abdominals. Place the pads on the side of your body as shown in the picture. Make sure there is about a ¼" gap between the pads. You are now ready to adjust the unit for stimulation. This can be very effective in reducing waistline by using the Reciprocation (A) feature of your unit. Make sure that Channels 1 electrodes are on the abdominals, and Channels 2 electrodes are on the obliques.

LOWER BACK:
Place the straps as you did for the abdominals. Place the straps as described in the abdominal section. Draw an imaginary line down the center of the back. Put one pad on the top and one pad on the bottom. Now repeat the process for the left side using the second channel. Make sure the pads are each about one inch from the center of the back. You may now adjust the unit for stimulation.

CONTROLS

1. Frequency Knob: This controls the frequency level or how many pulses per second are sent to the electrode pads. The frequency can be sent between 2-140 pulses per second.
2. Rest Knob: This controls how long the pulses are off. This setting adjust the length of the rest period after each stimulation (between 3 – 45 seconds).
3. Stim Knob: This controls how long the pulses are on. It adjust the duration of the muscle contraction period (3 – 45 seconds)
4. Channel Intensity Knobs: These are your power control Knobs. They determine the intensity of the muscle contraction. (Turn slowly only while contraction light between the channel control knobs is on.)
5. Wave Switch: ON is mono-phasic (on pad per channel is active), OFF is bio-phasic (two pads per channel are active – symmetrical muscle contraction).
6. Recip Switch: ON is reciprocation mode (please see operating section on page 3)
7. Russian Stim: Optional Russian Stimulation Mode. DO NOT use Russian and Wave at the same time.
Electrode Placement Guide

Please consult your physician for specific recommendations.

Electrode placement should be determined by and under the supervision of a trained medical professional. The electrodes should be placed directly on the pain site. The sensation of the stimulation should be comfortable, not just tolerable. Never allow prolonged muscle reaction such as twitching or spasm with stimulation.

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Biceps:
Place the small Velcro strap around the middle of the biceps. Extend your arm with the palm of your hand facing up. Draw an imaginary line from your middle finger along your arm to your shoulder. Place one pad on one side of the imaginary line and the other pad on the opposite side. Make sure there is about a ¼” gap between the pads. You are now ready to adjust the unit for stimulation.

Triceps:
Place the small Velcro strap around the middle of the biceps or a little above the middle. Extend your arm downward with the palm of your hand facing towards the back. Draw an imaginary line from the center of your elbow to the top of the shoulder. Place one of the small pads on one side of the imaginary line and the other small pad on the opposite side. Make sure there is about a ¼” gap between the pads. You are now ready to adjust the unit for stimulation.

Forearm:
Extend your arm. With the palm facing upward, draw an imaginary line from your middle finger to the center of the elbow. Place the pads, with a ¼” space, on either side of that line. Make sure that the pads are in the center of the forearm.

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