# J A C E
## TRI-STIM™

# O P E R A T I N G   M A N U A L

# TRI-STIM™

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## SYSTEM COMPONENTS:

1  Tri-Stim Device
2  AC Adapter
3  9 Volt Battery
4  1 set of Leadwires (3)
5  Protective Skin Wipes
6  1 set of HVPC Electrodes
7  1 set of NMES Electrodes
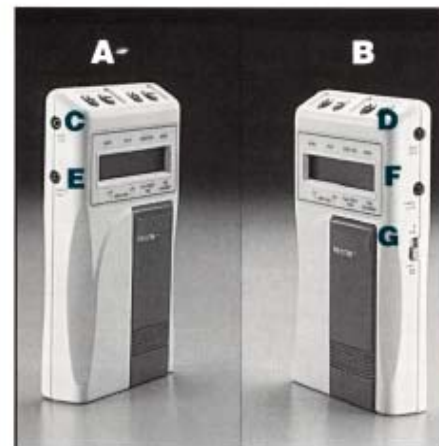
## Specific Components to Control the Device

A  Intensity Control Buttons-Channel 1
B  Intensity Control Buttons-Channel 2
C  A/C Channel 1 Connector
D  A/C Channel 2 Connector
E  HVPC Channel 1 Connector
F  HVPC Channel 2 Connector
G  On/Off Switch

H  Mode Indicator
I  Rate Indicator
J  Duration Indicator
K  Channel Order Indicator
L  Display
M  Channel 1 Amplitude Indicator
N  Channel 2 Amplitude Indicator
O  Treatment Time Setting
P  Treatment Time Remaining

Q  Panel to cover the Clinician Controls
R  Battery Compartment
S  Positive/Negative Polarity Selector for HVPC Mode
T  Function Control
U  Preset Control
V  Increase Value
W  Decrease Value
X  Accessory Connector
Y  Power Connector

## INDICATIONS

The Tri-Stim is indicated for:

- Relaxation of muscle spasm
- Prevention or retardation of disuse atrophy
- Increasing local blood circulation
- Muscle Re-education
- Immediate post-surgical stimulation of calf muscles to prevent venous thrombosis
- Maintaining or increasing range of motion

NMES devices should only be used under medical supervision for adjunctive therapy for the treatment of medical diseases and conditions.

## CONTRAINDICATIONS

- NMES devices are contraindicated for patients with cardiac demand pacemakers
- NMES devices should not be used on cancer patients

## WARNINGS

- Safety has not been established for the use of NMES devices during pregnancy.
- Long term effects of chronic electrical stimulation are unknown.
- Precautions should be taken in the case of persons with suspected heart problems.
- Precautions should be taken in the case of persons with suspected or diagnosed epilepsy.
- An electrical stimulator should not be placed across a patients heart or transthoracically, which may cause arrhythmia's.
- Do not stimulate over the carotid sinus nerves, especially in patients with known sensitivity to the carotid sinus reflex.
- Severe spasm of the laryngeal or pharyngeal muscles may occur when the electrodes are positioned over the neck or mouth. The contractions may be strong enough to close the airway or cause difficulty in breathing.
- NMES devices should not be applied transcerebrally.
- NMES devices should not be used over swollen, infected or inflamed areas, or skin eruptions e.g. phlebitis, thrombo phlebitis, varicose veins.
- An electrical stimulator should be kept out of the reach of children.

## PRECAUTIONS

Precautions should be observed in the presence of the following:

a. When there is a tendency to hemorrhage following acute trauma or fracture.

b. Following recent surgical procedures when muscle contraction may disrupt the healing process.

c. Over the menstruating uterus.

d. Where sensory nerve damage is present by a loss of normal skin sensation.

- When using electrical stimulators, some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium. The irritation can usually be reduced by use of an alternative conductive medium, or alternate electrode placement.

## ADVERSE EFFECTS

Skin irritation and burns beneath the electrodes have been reported with the use of electrical muscle stimulators.

## CAUTION

Federal law restricts the device for sale by or on the order of a licensed physician or any other practitioner licensed by the law of the state in which she/he practices to use or order the use of this device.

## TRI-STIM

The Tri-Stim is a portable electrical stimulator with three treatment waveforms:

**Symmetrical biphasic (SYMM)**

**Asymmetrical biphasic (ASYM)**

**Twin Peak monophasic (HVPC)**

The Tri-Stim has all digital controls, which makes it easy to change from one mode to another, and allows more precise control of treatment values.

The Tri-Stim has been designed for easy patient usage. The patient intensity buttons are clearly marked at the top of the stimulator. The Clinician buttons are covered by a sliding panel to prevent accidental changes.

The Tri-Stim has been designed to meet UL544 safety requirements for medical equipment.



## STEP 1

### UNPACKING THE DEVICE

The Tri-Stim ships in a plastic carry case, which should contain the following components:

1 - Tri-Stim device
2 - One AC adapter
3 - One 9v battery
4 - One set of 36" leadwires consisting of two bifurcated leads and one single pin leadwire.
5 - One set of five HVPC electrodes consisting of four active and one dispersive electrode.
6 - One set of four NMES electrodes
7 - Protective skin wipes
8 - Operator's manual.

## STEP 2

### POWERING THE DEVICE

The Tri-Stim can be AC or battery powered. Before you connect the AC adapter, or install the battery, make sure that the power switch, located on the right side of the device, is in the **"OFF"** position.

For AC power, plug the supplied AC adapter into a wall outlet, and plug the power jack into the **"POWER"** connector located at the base of the device.

For battery power, remove the battery compartment cover in the base of the device, and slide in the battery. Make sure the positive (small) terminal of the battery lines up with the **"+"** label on the bottom of the **"device"**. There is an outline drawing of the battery, showing correct orientation, inside the battery compartment. Replace the battery compartment cover.

To turn the device on slide the power switch to the **"ON"** position.

## STEP 3

### UNDERSTANDING THE DISPLAY

When the Tri-Stim is first turned on the display shows the current settings of the stimulator.

**MODE** (waveform) is either **SYMM** (Symmetrical Biphasic), **ASYM** (Asymmetrical Biphasic) or **HVPC** (High Voltage Pulsed Current).

**CHANNEL AMPLITUDE** (intensity) is measured in milli-amps for Symmetrical Biphasic and Asymmetrical Biphasic or in volts for HVPC mode.

**NOTE:** When a channel is active an asterisk is displayed next to its intensity. If the intensity reads **NC**, the channel is disconnected from the patient.

**RATE** (frequency) is measured in pulses per second (pps). The rate control determines the rate of stimulation for both channels and is adjustable from 1 to 100 pps in 1 pps increments.



MODE    RATE    DURATION    ORDER

CLINICIAN VALUES
MODE:HVPC

CH1    CH2    TREATMENT    TIME
AMPLITUDE    TIME    REMAINING

**TREATMENT TIME** in minutes, or the word **CONT** for continuous treatment.

**TIME REMAINING.** For non-continuous treatments, time remaining counts down the number of minutes to the end of the treatment. When time remaining reaches zero, both channels switch off.

**PULSE DURATION** (pulse width) is measured in micro-seconds ($\mu$sec). Controls the pulse duration for both channels in Symmetrical Biphasic and Asymmetrical Biphasic modes and is adjustable from 50 to 300 $\mu$sec in 2 $\mu$sec increments. Preset at 100 $\mu$sec in HVPC.

**ORDER: SIM** (simultaneous), **ALT** (alternate), or **C-C** (co-contraction). Simultaneous (SIM) stimulation activates Channel 1 and Channel 2 at the same time. Alternate (ALT) stimulation causes activation of first one channel and then the other in an alternating sequence allowing exercise of agonist/antagonist muscle groups. Co-contraction (C-C) stimulation allows Channel 1 and Channel 2 to overlap.

## STEP 4

### CONNECTING THE ELECTRODES

The Tri-Stim accessory pack contains two sets of electrodes, one set for Symmetrical Biphasic or Asymmetrical Biphasic modes, the other for HVPC mode. The stimulator has two sets of output jacks, the top set **A/C** for Symmetrical Biphasic and Asymmetrical Biphasic modes, the other set for HVPC mode.

### Symmetrical Biphasic and Asymmetrical Biphasic modes

For single channel use, plug the angled connector of one of the two-pronged leadwires into the stimulator jack marked either **A/C CH1** or **A/C CH2**.

For dual channel use, plug the angled connector of both two-pronged leadwires into the stimulator jacks marked **A/C CH1** and **A/C CH2**.

Plug the leadwire pins into the NMES electrodes. Use two electrodes for single channel operation, or four electrodes for dual channel operation. *The red leadwire pin is positive, the black leadwire pin is negative.* Remove the backing from the electrodes and apply the electrodes to the skin.

### HVPC mode

For single channel use, plug a two-pronged leadwire into either **HVPC CH1** or **HVPC CH2**. For dual channel use, plug the single-pronged leadwire into the remaining jack.



Plug the black leadwire pin into the large dispersive electrode and the red leadwire pin into the smaller active electrode. For dual channel use, plug the single-pronged leadwire into an active electrode. Remove the backing from the electrodes and apply the electrodes to the skin.

## STEP 5

### SETTING THE CLINICIAN VALUES

Before using the stimulator, you must set the clinician values. These values include the pulse characteristics such as rate, pulse duration, cycle timing, and treatment time.

To set the clinician values, first slide down the front cover of the stimulator to reveal the clinician buttons. Push the **FUNCTION** button. The top line of the display reads **CLINICIAN VALUES** and the bottom line shows the current **MODE**. Push the ▲ or ▼ buttons to scan through the different mode options (**AC:SYMM**, **AC:ASYM** or **HVPC**). Both channels switch off if you change the mode.

After setting the mode, push the **FUNCTION** button to scan through the other clinician values. Use the ▲ button to increase the value, or the ▼ button to decrease the value.

As you push the **FUNCTION** button, only those clinician values applicable to the mode and order are shown. The parameter list for each mode and order are as follows :

**Clinician values: HVPC mode**

| SIM | ALT |
|---|---|
| rate | rate |
| ch. order | ch. order |
| treatment | treatment |
| time | time |



**Clinician values, AC:SYMM and AC:ASYM modes**

| SIM | ALT | C-C |
|---|---|---|
| rate | rate | rate |
| duration | duration | duration |
| ch. order | ch. order | ch. order |
| ch1 on | ch1 on | ch1 on |
| off time | off time | off time |
| ramp up | ch2 on | ch2 on |
| ramp down | ramp up | C-C time |
| treatment | ramp down | ramp up |
| time | treatment | ramp down |
| | time | treatment |
| | | time |

If you do not push a clinician button within 10 seconds, the display changes back to the main display. If you are not finished setting the **CLINICIAN VALUES**, push the function button again to cycle through the **CLINICIAN VALUES**.

The stimulator remembers the **CLINICIAN VALUES** when you switch off the device.

## CLINICIAN VALUE DETAILS

### Mode

**Mode** selects the waveform of each pulse. Three waveforms are available:
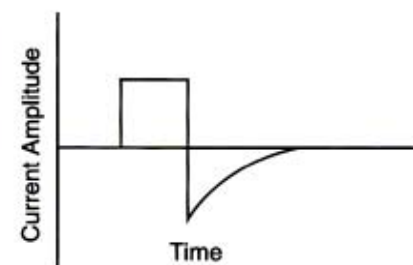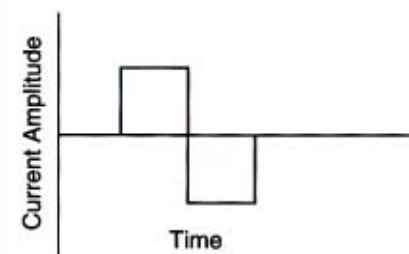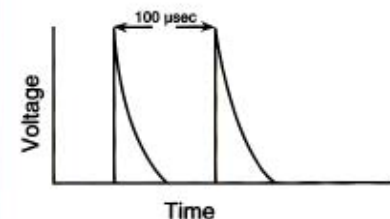




After changing the **mode**, both intensities reset to zero.

The other clinician parameters depend on the **mode**. Symmetrical Biphasic and Asymmetrical Biphasic modes have one set of parameters, High Volt Pulsed Current mode has a different set.

### Symmetrical Biphasic and Asymmetrical Biphasic modes

### Rate

**Rate** selects the *number of times* the waveform repeats every *second*.
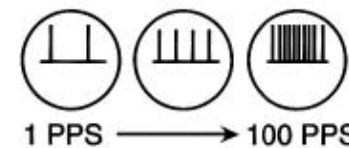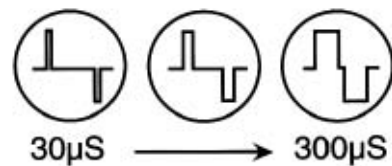


1 PPS ──────▶ 100 PPS

**Rate** can be adjusted from 1 to 100 pulses per second, in 1 pps increments. While adjusting **rate**, both channels ramp to their preset intensities and stimulate continuously (regardless of duty cycle) until rate adjustment is completed.

## Pulse Duration

**Pulse Duration** selects the *time* each pulse is *on*.



30μS ⟶ 300μS

It can be adjusted from 50 microseconds to 300 microseconds, in 2 microsecond increments. While adjusting duration, both channels ramp to their preset intensities and stimulate continuously until adjustment is completed.
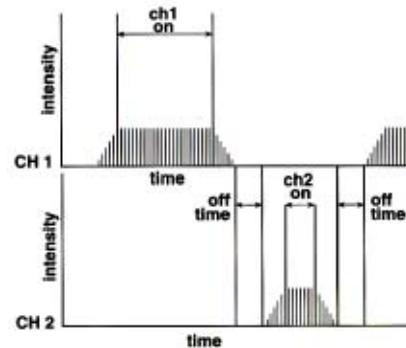
## Order

**Order** selects the sequencing of the output from each channel. **SIM (Simultaneous)** means both channels are active at *the same time*. Four values time the cycle. **Ramp up** sets the time *both* channels take for stimulation to reach maximum strength. **Ch1 on** sets the time *both* channels are on at the preset maximum intensity. **Ramp down** sets the time *both* channels take for stimulation to drop from maximum strength back down to zero. **Off time** sets the time *both* channels are off.
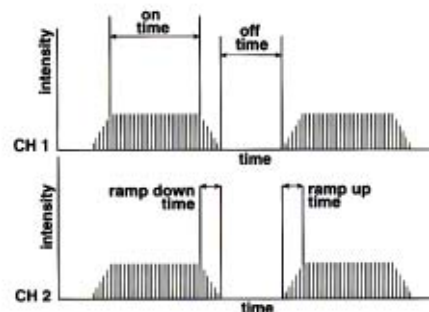


**SIMULTANEOUS CHANNEL ORDER**

**ALT (Alternate)** means while Channel 1 is on, Channel 2 is off, and vice versa. Five values time the cycle. **Ramp up** sets the time *both* channels take for stimulation to reach maximum strength. **Ch1 on** sets the time Channel 1 is stimulating at the preset maximum intensity. **Ch2 on** sets the time Channel 2 is stimulating at the preset maximum intensity. **Ramp down** sets the time both channels take for stimulation to drop from maximum strength back down to zero. **Off time** sets the time *both* channels are off.



**ALTERNATE CHANNEL ORDER**

**C-C (Co-contraction)** means Channel 1 and Channel 2 *overlap*. Channel 1 turns on first, and Channel 2 turns on before Channel 1 turns off. Six values time the cycle. **Ramp up** sets the time *both* channels take for stimulation to reach maximum strength. **Ch1 on** sets the time Channel 1 is on at maximum intensity. **Ch2 on** sets the time Channel 2 is on at maximum intensity. **Ramp down** sets the time *both* channels take for stimulation to drop from maximum strength back down to zero. **C-C time** sets the time that Channel 2 overlaps Channel 1. **Off time** sets the time *both* channels are off.
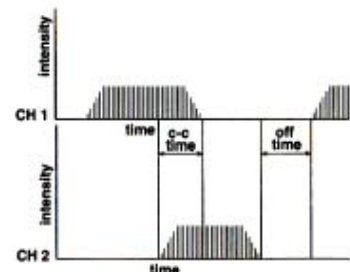


**CO-CONTRACTION CHANNEL ORDER**

**NOTE:**

It is possible to set **C-C time** and **Ch1 on** incorrectly. The channel overlap cannot be greater than the total time of **Channel 1** stimulation (Ramp Up plus On Time plus Ramp Down). The display will then read **C-C TIME ERROR**. To correct, either decrease **C-C time**, or increase **Ch1 on**.

### Channel Timing

After the order is set, pushing the **FUNCTION** button lists each channel timing value in turn. The values listed depend on the channel order; the display shows only the relevant values (see page 10).

**Ramp up** and **ramp down** ranges from 0.2 to 10 seconds, set in 0.2 second increments. **On time** is adjustable from 1 to 60 seconds in 1 second increments. **Off time** is adjustable from 1 to 180 seconds in 1 second increments.

## HVPC mode

### Rate

**Rate** selects the *number of times* the waveform repeats every *second*.
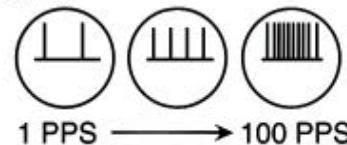


1 PPS ⟶ 100 PPS

**Rate** can be adjusted from 1 to 100 pulses per second, in 1 pps increments. While adjusting rate, both channels ramp to their preset intensities and stimulate continuously until rate adjustment is completed.

### Order

**Order** selects the output from each channel. **SIM** (Simultaneous) means Channel 1 and Channel 2 are *permanently on*.

CH1
CH2

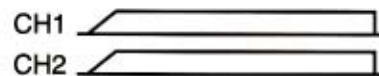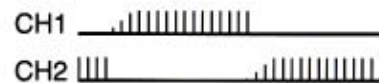**ALT** (Alternate) means each channel is on half of the time. While Channel 1 is on, Channel 2 is off, and vice versa. Each channel takes 2 seconds to ramp from off to on and remains at full intensity for an additional 7 seconds.

CH1
CH2

### Polarity Switch

The **HVPC POLARITY** slide switch selects between positive and negative HVPC pulses.

### COMMON VALUES

#### Treatment Time

**Treatment time** can be set to continuous, 15, 30, or 60 minutes. When the treatment time expires, both channels turn off. Changing the **treatment time** sets the **time remaining**.

#### Compliance Time

Compliance **time** is the total time the device is in use. Compliance **time** ranges from 0 to 999.9 hours in 0.1 hour increments. The value cannot be changed in the clinician menu, but can be reset to zero in the options function. (See page 16.)

Compliance **time** will not count if both intensities are set to zero.

## STEP 6

### SETTING THE PATIENT INTENSITY CONTROLS

The four buttons on the top of the device control the stimulation intensity. Channel 1 is on the left, and Channel 2 on the right.

For each channel, push the "+" button to increase the intensity, or the "-" button to decrease the intensity. The display shows the intensity in digital and bar graph form. Intensity is shown in milliamps for **AC:SYMM** (Symmetrical Biphasic) and **AC:ASYM** (Asymmetrical Biphasic) modes, and in volts for **HVPC** (High Voltage Pulsed Current) mode.

The Tri-Stim has an automatic constant stimulation function. When you push an intensity key, the channel being adjusted ramps

up to its preset intensity, and ramps back down to zero after adjustment is completed.

The Tri-Stim incorporates a **PAT. SENSE** (Patient Sense) function. If you increase the intensity without the patient connected, the display reads **NO CONNECTION**, and the intensity falls to zero. See options (page 16) for details on disabling this feature.

**NOTE:**
If the display reads **LOW BATTERY** while you are increasing the intensity, replace the battery (see page 7). The stimulator may shut off if you continue to increase the intensity.

## STEP 7

### PRESETS

The Tri-Stim can remember the current **CLINICIAN VALUES** and recall them later. The Tri-Stim also has frequently used clinician values, called protocols, stored in its memory.

Press the **PRESET** button to enter the preset mode. The display's top line reads **PRESET** and the bottom line reads **ACTION**. Push the ▲ or ▼ buttons to scan through the different options. There are three options.

| | |
|---|---|
| **Store** | Saves the current clinician values |
| **Recall** | Recalls previously saved clinician values |
| **Protocols** | Recalls a fixed clinician protocol |

Once you have selected the action, push the preset button again. The bottom line shows the **preset** number if you selected **store** or **recall**, or the protocol number if you selected a fixed **protocol**. Push the ▲ or ▼ buttons to scan through the **preset** or **protocol** numbers. There are *three fixed protocols*, and *seven presets*. While scanning, the display's top line shows the mode, rate, duration and channel order of the stored program. If the top line is blank, no program is stored in that preset.

Once you have selected the preset or protocol number, push the preset button again. The display flashes a confirmation message, indicating you have completed the operation.

**NOTE:**

If you originally selected the store option, the present **CLINICIAN VALUES** will be stored in the selected preset number. If values already exist in that preset number, the new **CLINICIAN VALUES** will replace the old values.

The three fixed protocols are:

### Fixed Clinician protocols

| protocol # | 1 | 2 | 3 |
|---|---|---|---|
| mode | NMES | P-DC | HVPC |
| rate | 35pps | 35pps | 30pps |
| duration | 300 μS | 250 μS | 100 μS |
| ch. order | SIM | SIM | ALT |
| ch1 on | 10sec | 10sec | 7sec |
| off time | 30sec | 30sec | |
| ramp up | 4sec | 2sec | 2sec |
| ramp down | 2sec | 1sec | |
| treatment | CONT | CONT | CONT |

When you get a protocol, or recall a preset, the intensities reset to zero.

## STEP 8

### OPTIONS

The Tri-Stim has three option features:

> *Compliance*
> *Patient Sense*
> *Key lock*

Press the **FUNCTION** and **PRESET** buttons together, to enter the options function. The display's top line reads **OPTIONS**, and the bottom line reads **SOFTWARE** Vx.x, where x is the software version number. Press the **FUNCTION** button again, the bottom line reads **COMPLIANCE**. Push ▲ or ▼ buttons to switch between **KEEP** and **RESET**. Access the other options by pushing the **FUNCTION** button and adjust their values with the ▲ or ▼ button.

### Compliance Time

The stimulator keeps track of the time it stimulates patients. The time is in hours, up to a maximum of 999.9 hours. To view the compliance time, press the **FUNCTION** button until the display's bottom line reads **TIME**. To reset the compliance time, go to the options function by pressing the **FUNCTION** and **PRESET** buttons together, press the **FUNCTION** button until the display's bottom line reads **COMPLIANCE**, then push the ▲ or ▼ button to select **RESET**.

### Patient Sense

The stimulator will not output stimulation waveforms when the patient is not connected. If a patient becomes disconnected from the stimulator the display reads **NO CONNECTION**, and the stimulation intensities reset to zero.

To switch off the **patient sense** feature, go to the options function by pressing the **FUNCTION** and **PRESET** buttons together. Press the function button until the display's bottom line reads **PAT. SENSE**, then push the ▲ or ▼ buttons to select **OFF**.

### Key lock

If the **key lock** feature is enabled none of the clinician values can be changed. If you press the **FUNCTION**, **PRESET**, ▲ or ▼ buttons, with this feature enabled, the display reads **KEYS ARE LOCKED**. The intensity buttons still operate normally.

To switch on the **key lock** feature, go to the options function by pressing the **FUNCTION** and **PRESET** buttons together, press the **FUNCTION** button until the display's bottom line reads **KEY LOCK**, then push the ▲ or ▼ button to select

**ON**. Switch the key lock feature off by selecting **OFF**.

### ACCESSORY JACK

The **ACCESSORY JACK** allows the stimulator to be triggered from a remote switch or a CPM machine. To connect a remote triggering device, simply connect the lead from the triggering device into the **ACCESSORY JACK** at the base of the device.

### CARE AND CLEANING

Do not store the Tri-Stim with the battery installed. Battery acid causes non-repairable damage which is not covered by the warranty.

When not in use, make sure the unit in turned off.

Turn off the power when cleaning the device. Do not leave connected to the AC adapter. Do not immerse the device in liquids. Avoid spilling liquids on the stimulator.

The surfaces of the stimulator, and the leadwires may be wiped with a soft cloth or sponge dampened with a mild soap solution. A 10% solution of household bleach (sodium hypochloride) and water may be used as a disinfecting wipe on the device only. Avoid caustic cleaners.

Do not remove the electrode leadwires by pulling or yanking on the cord.

## BATTERY CARE

The stimulator uses one 9 volt battery. When the battery is low, the stimulator displays a **LOW BATTERY** message. If the **LOW BATTERY** message appears while adjusting the intensity, increasing the intensity may cause the stimulator to shut off.

To replace the battery, open the battery compartment at the base of the device and slide in a new battery.

## AC ADAPTER

Use _only_ the AC power adapter supplied by the manufacturer, use of any other adapter renders the warranty null and void.

## TROUBLE SHOOTING

### LOW BATTERY

- Change the battery

### NO CONNECTION

- Check the leadwires to determine if they are plugged into the appropriate jack for the waveform you have selected.
- Check the electrodes for application to the patient.
- Check the treatment time for expiration.

### C-C TIME ERROR

- Increase **Ch1 on** or decrease **C-C Time** so **C-C time** is less than **Ch1 on** time.
- Adjust Parameters

### PROGRAM FAIL

- Unit is not working properly. Call your Tri-Stim dealer.

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 5.8" x 3.5" x 1.1" |
| Weight: | 9 oz. |
| Waveforms: | Selective: A/C - SYMMETRICAL Biphasic and ASYMMETRICAL Biphasic with zero net DC component. HVPC - Twin peak monophasic. |
| Intensity: | A/C - Adjustable from 0 to 100mA in 1mA increments. HVPC - Adjustable from 0 to 330 volts in 5v increments. |
| Rate: | Adjustable from 1 to 1 100 pps in 1 pps increments. |
| Pulse Duration: | A/C - Adjustable from 50 to 300uS in 2uS increments. |
| Order: | A/C - Selectable to Simultaneous (SIM), Alternate (ALT) or Co-Contraction (C-C). |
| | HVPC - Selectable to Simultaneous (SIM) or Alternate (ALT). |
| On Time: | A/C - Adjustable from 1 to 60 seconds in 1 second increments. HVPC - Preset at 7 seconds in Alternate (ALT), and continuous in Simultaneous (SIM). |
| Off Time: | A/C - Adjustable from 0 to 180 seconds in 1 second increments. HVPC - Preset at 9 seconds in Alternate (ALT). Co-Contraction. A/C - Adjustable from 0-60 seconds in 1 second increments. |
| Ramp Up: | A/C - Adjustable from 0.2 to 10 seconds in 0.2 second increments. HVPC - Preset at 2 seconds. |
| Ramp Down: | A/C - Adjustable from 0.2 to 10 seconds in 0.2 second increments. |
| Treatment Time: | Selectable - 15,30,60 minutes or continuous operation. |
| Polarity Control: | HVPC - Positive or negative. |
| Compliance Time: | Times operation from 0 to 999.9 in 0.1 hour increments. |
| Accessory Connector: | For remote activation from a CPM device or a remote switch. |
| Power Source: | One 9v battery, or AC line adapter. |

## LIMITED WARRANTY

The Tri-Stim is warranted against defects in material for one (1) year from the date of purchase. During the warranty period, defective parts will be repaired or replaced by the manufacturer at no charge when the stimulator has been properly packaged and returned prepaid to the manufacturer.

This warranty is rendered void if damage to the device is a result of mishandling, misuse, abuse, or if the device is disassembled. Furthermore, no warranty will apply to damage resulting from the customer's use of parts, fittings, or accessories not specified by the manufacturer, or from service or modifications performed by unauthorized personnel.

This warranty shall not apply to leads, electrodes and batteries.

The manufacturer shall not be liable for incidental or consequential damages including loss of use, property damage or to the extent allowed by law, personal injury which results from breach of warranty. This warranty is in lieu of all other warranties, expressed or implied, including warranties of merchantability and fitness for a particular purpose.

## REPLACEMENT PARTS

| Description | Part No. |
|---|---|
| 4- Active and 1 Dispersive Electrode | 93KE0001 |
| 4- 2"x4" Electrodes | 93KE0002 |
| 9 Volt Battery | 37BA0901 |
| Power Supply (US) | 37PS0401 |
| Power Supply (GERMAN) | 37PS0501 |
| Dual prong leadwire | 55PA0101 |
| Singe prong leadwire | 55PA0102 |

## OPTION ACCESSORIES

| Description | Part No. |
|---|---|
| Bifurcated leadwires | 55PA0105 |
| Cable for CPM interface | 55PA0103 |
| Hand Switch | 55PA0104 |
| 48" Dual prong leadwire | 55PA0106 |
| 48" Single prong leadwire | 55PA0107 |

# J·A·C·E™

**J·A·C·E™ SYSTEMS**

*SUPERIOR BY DESIGN*

*1-800-800-4CPM*

**SUPERIOR BY DESIGN**