DUAL CHANNEL STIM UNIT

NeuroTrac™ Sports XL

Operators Manual

Visit our website: www.VerityMedical.co.uk for detailed application protocols

VERITY MEDICAL LTD

Warnings

* This unit must be used with the guidance of a Physiotherapist or Doctor

* Type BF equipment

* Do not insert lead wires into a mains power supply

* Do not immerse unit into water or any other substance

* Do not use the NeuroTrac™ Sports XL STIM unit in the presence of a flammable anaesthetic gas mixture and air or with Oxygen or Nitrous Oxide

* If using rechargeable 9 volt PP3 Nickel Metal Hydride or Ni-Cad batteries be sure to use a CE approved battery charger

* Never connect the NeuroTrac™ Sports XL STIM device directly to a battery charger or any other mains powered equipment

* Patient Electrodes are for ***single patient use only***

* Keep out of reach of children

* Do not use this stimulator on your face unless under the guidance of a clinician

Contents

What is STIM?

Neuromuscular Stimulation has been used for many years to stimulate muscle and nerve fibres to treat a number of muscle and nerve related conditions. Over the last 30 years numerous clinical trials and papers have been written.

The NeuroTrac™ Sports XL is one of a new breed of modern Neuromuscular stimulators which Verity Medical have developed with the Therapist and Patient in mind. Our principle aim is to design products that have high levels of functional use, are sensibly priced, compact and user friendly.

The NeuroTrac™ Sports XL is a dual channel device (with 2 lead wires for each channel giving a total of 8 electrode positions) combining several treatment programmes into one unit. Neuromuscular Stimulation is increasingly understood by Therapists and Doctors. There is a better understanding of the mechanisms which exist between nerves and muscles that make it possible to stimulate the neuromuscular system with precise electrical signals. The NeuroTrac™ Sports XL offers precision giving full control of Pulse Widths, Rates, Ramp up times, Work / Rest cycles as well as alternating or synchronous application if two channels are being applied.

Customer Care
We welcome constructive comments regarding our equipment particularly those that might help us to improve existing features, add new ones or develop new products for the future.

Contra Indications & Precautions

Before using this equipment you must first seek the advice of your Physiotherapist or Doctor.
Read this operating manual before using the STIM unit

STIM should not be used:

* By patients fitted with a demand style cardiac pacemakers unless so advised by their Doctor

* During pregnancy [unless medically advised]

* By patients with undiagnosed pain conditions

* With patients who have diminished mental capacity or physical competence who cannot handle the device properly

* On anaesthetised or desensitised skin

* When driving a vehicle or operating potentially dangerous equipment

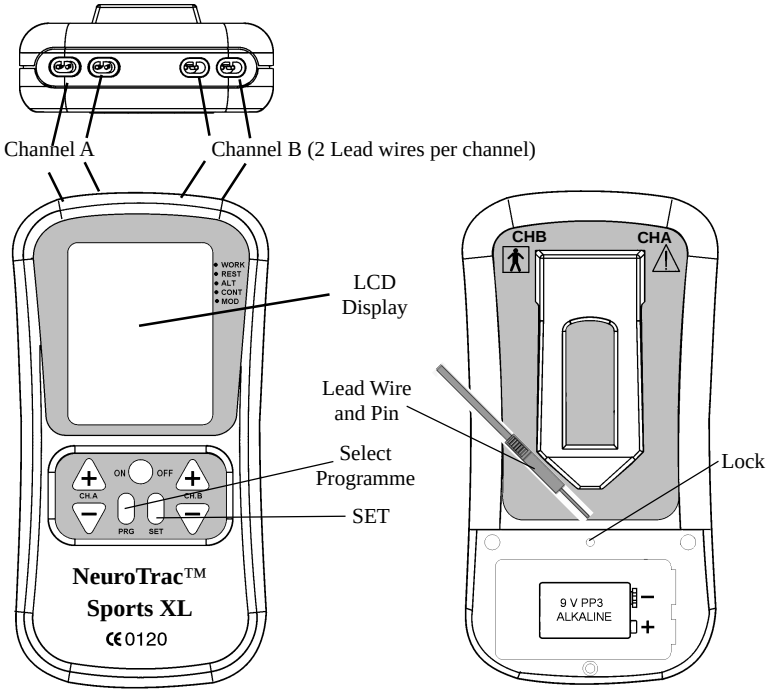
* Do not place electrodes:
    * Over carotid sinus nerves
    * Over larynx or trachea
    * Inside mouth
    * Over the area of the heart unless so advised by your Doctor
    * On the face unless under the guidance of a clinician

* The patient should use the unit only as prescribed

* Do not immerse the unit in water or any other liquid

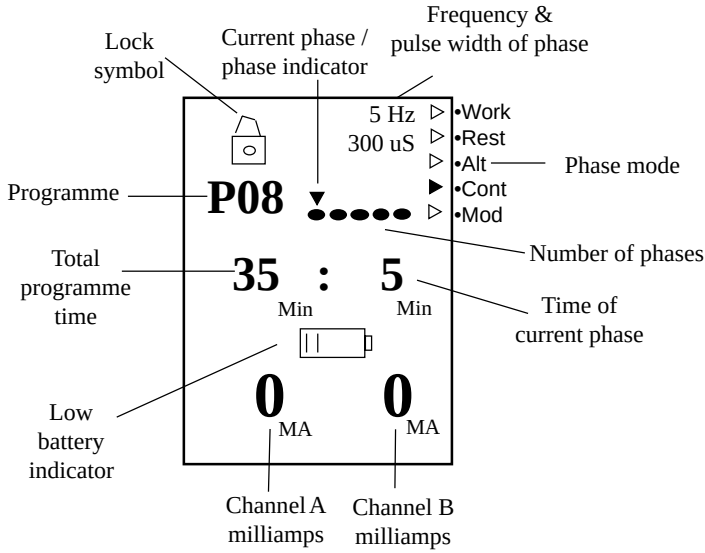
* Keep unit out of reach of children

Description of STIM Unit & Functions

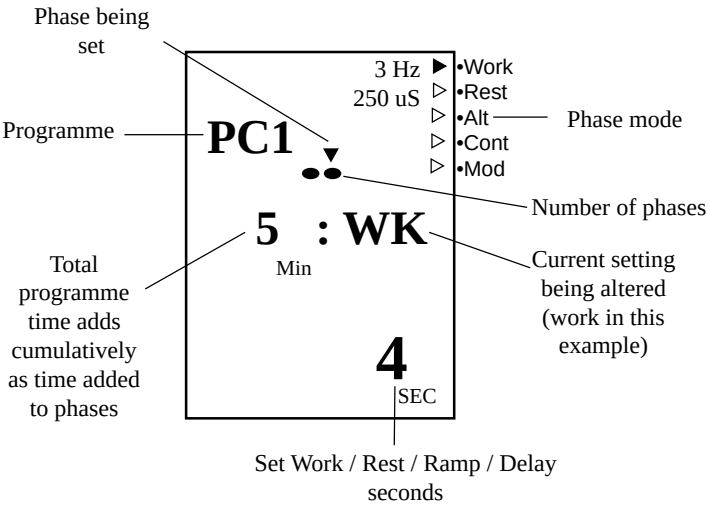


* **PRG button** Selects the desired set programme from P01 - P21 or customised programme PC1 - PC3.
Pauses (reducing the intensity (MA) to zero) and escapes from a running programme.

* **SET button** Reduces the intensity (MA) to zero and pauses the programme (if a programme is running) and moves the phase one step forward.
Displays the menu for programmes PC1 - PC3 and allows the parameters for Time, Work, Rest, Ramp up time, CH.A / CH.B Synchronous or Alternating and delay to be set.



Example of preset programme



Example of custom programme

Quick Start Instructions

1. Insert a 9 volt PP3 Alkaline battery. Alternatively insert a rechargeable Nickel Metal Hydride battery {which has a much longer life than the Ni-Cad rechargeable batteries} into the battery compartment.
2. Insert lead wire/s in to Channel A and B, if you are using two channels. You may use up to four sets of lead wires, two for channel A and two for channel B giving either 4 or 8 electrode placements on the body. [Ivory = Channel A, Black = Channel B]
3. Switch on the unit by pressing the on/off button on the front of the unit.
4. Press the PRG button to select one of the pre-set programmes P01 - P21 outlined in the tables on page 11 to 21 or PC1 - PC3 for the customised programmes (see page 9 for setting customised programmes).
5. You can press the set button to change to the next phase of the current programme if required.
6. To start the programme, press channel A + and / or B + if you are using both channels, then increase the mA intensity to the desired level.
7. To stop the programme press the on/off button which will turn the unit off or alternatively press the PRG button twice to return to the home screen.

Low Battery Indicator
When the battery power is low, the low battery indicator will appear on the screen (shown in the diagram on page 7). When the battery indicator shows one bar, replace the battery.

Electrode Disconnection Indicator
When an electrode becomes disconnected or when an electrode no longer conducts the electrical current or if the lead wires are faulty, the milliamp level will return to zero and the effected channel will flash on and off.

Setting up the Customised Programmes PC1, PC2 or PC3

First, if a programme is running, press the PRG button twice to return to the home screen.

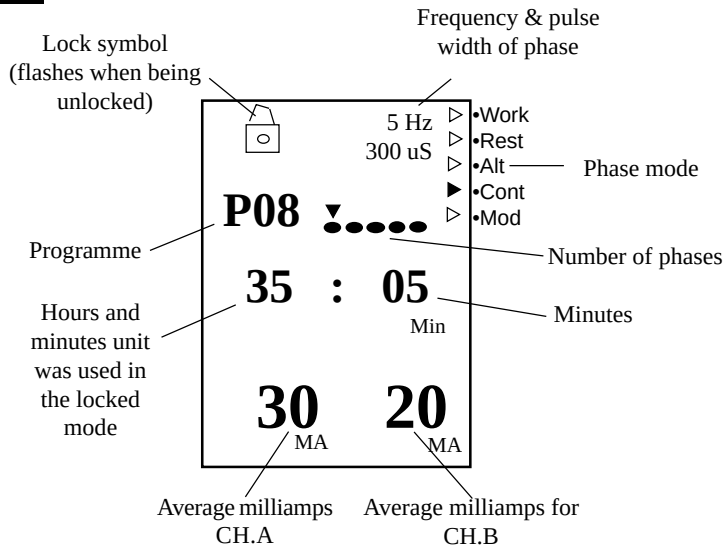
Refer to the example of custom programme diagram on page 7.

1. Press the PRG button until PC1, PC2 or PC3 is selected.
2. Press and hold the SET button for three seconds, the phase indicator arrow and Hz symbol will flash on and off.
3. Press CH.B +/- to set the frequency between 2 Hz and 100 Hz.
4. Press CH.A +, the µS symbol will flash, press CH.B +/- to set the pulse duration between 50 µS and 450 µS.
5. Press CH.A +, the MIN symbol will flash, press CH.B +/- to set the length of the phase time between 1 and 99 minutes.
   Set the time to zero to end the programme on this phase.
6. Press CH.A +, the WORK / REST or the CONT symbols will flash, Press the CH.B +/- to select WORK / REST or CONT (continuous).
   Note: if continuous is selected, the menu will loop back to step 2.
7. Press CH.A +, WK will appear and flash, press CH.B +/- to set the work seconds between 2 and 99 seconds.
8. Press CH.A +, RT will appear and flash, press CH.B +/- to set the rest seconds between 2 and 99 seconds.
9. Press CH.A +, RP will appear and flash, press CH.B +/- to set the ramp seconds between 0.1 and 9.9 seconds.
10. Press CH.A +, AL or SY will appear and flash, press CH.B +/- to select alternating or synchronous current.
    Note: if alternating is selected, the menu will loop back to step 2.
11. Press CH.A +, DY will appear and flash, press CH.B +/- to set the delay of channel B starting between 0 and 4 seconds after channel A.
12. The menu will now loop back to step 2 and the Hz symbol will flash.
13. To set the next phase, press the set button. The phase symbol will flash over the next phase, continue with step 2 to set this phase.
14. When finished setting the phases, press the PRG button to save the settings and return to the home screen.
    The programme will be saved permanently.

Setting the phase time of phase 2,3,4 or 5 to zero will cause the programme to end at that phase.

Following procedures 1 to 12 can reprogramme a customised programme.
If for example there are 5 pre-set phases in one overall programme and only 4 phases are now required, input 0 (zero) into the phase time that is no longer required and press the PRG key to store the new information.

Lock Button



A "concealed" lock button is included in the NeuroTrac™ Sports XL which allows the clinician to accurately monitor "Home Compliance" of the patent between appointments. It records the time in use and the average intensity (MA). It also locks the customised programmes, stopping them from being altered.

To Lock the Unit

1. Select the pre-set or customised programme required. In the case of a customised programme, make sure that the pulse width, frequency, time etc. are set-up correctly.
2. Remove the battery cover and, using a thin rod gently press on the lock button as shown in the diagram on page 6 until you hear a double beep. The unit is now “locked” and cannot be altered until “unlocked”. Note: The lock symbol will appear on the LCD when the unit is “locked”.

To Unlock the Unit

Remove the battery cover and press the concealed switch with a thin rod until a single beep is heard. Now the LCD will display the average mA used on each channel and the total hours and minutes the unit has been in use as shown in the diagram. To return to normal "unlocked" operation, simply press SET.

Sports Treatment Programmes

Programme : P01	**Warm up**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	6				
Mode		Cont				
Frequency work	Hz	5				
Frequency rest	Hz					
Pulse duration	µS	300				
Modulation time	secs					
Ramp up time	secs					
Ramp down time	secs					
Work time	secs					
Rest time	secs					
Alternating						
Synchronous		*				
Overall time	6 min					
Used before starting strenuous physical activity. Activates the metabolism, increases the muscle/s temperature and oxygenates the muscle by speeding up blood flow .						

Programme: P02	**Capillary**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	20				
Mode		Cont				
Frequency work	Hz	10				
Frequency rest	Hz					
Pulse duration	µS	250				
Modulation time	secs					
Ramp up time	secs					
Ramp down time	secs					
Work time	secs					
Rest time	secs					
Alternating						
Synchronous		*				
Overall time	20 min					
Developing the capillary bed density system surrounding the muscle fibres to improve the resistance qualities of the fast glycolytic muscle twitch fibres and its recovery. Used for all type of sports activities						

Programme: P03	**Endurance**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	50				
Mode		W/R				
Frequency work	Hz	20				
Frequency rest	Hz	3				
Pulse duration	µS	300				
Modulation time	secs					
Ramp up time	secs	2				
Ramp down time	secs	1.5				
Work time	secs	10				
Rest time	secs	10				
Alternating						
Synchronous		*				
Overall time	50 min					
Improving the capacity to sustain long periods of aerobic muscle activity. Developing the efficacy of oxygen muscle consumption and storage of glycogen in the fast twitch fibre white muscle.						

Programme: P04	**Resistance force output 1**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	12	7	10	16
Mode		Cont	W/R	Cont	W/R	Cont
Frequency work	Hz	5	50	5	50	5
Frequency rest	Hz		5		5	
Pulse duration	µS	300	300	300	300	300
Modulation time	secs					
Ramp up time	secs		2		2	
Ramp down time	secs		2		2	
Work time	secs		8		8	
Rest time	secs		8		8	
Alternating						
Synchronous		*	*	*	*	*
Overall time	50 min					
Increasing the capacity to habitually develop a high level of muscle force. Improving oxygen consumption at muscular level and to increase the capacity to withstand toxin amassing. Used on sports activities requiring prolonged and high levels of muscle force: Cycling, Rowing, Middle distance running						

Programme: P05	**Resistance force output 2**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	12	5	12	6
Mode		Cont	MF	Cont	MF	Cont
Frequency work	Hz	5	50-75	5	40-75	3
Frequency rest	Hz		3		3	
Pulse duration	µS	300	300	300	300	300
Modulation time	secs		10		10	
Ramp up time	secs		2		2	
Ramp down time	secs		1		1	
Work time	secs		10		10	
Rest time	secs		8		8	
Alternating						
Synchronous		*	*	*	*	*
Overall time	40 min					
Improving and increasing the capacity to develop very high level of muscle force over a long period of time. Improving the efficacy of the oxygen consumption at the muscle level and the capacity to with stand toxin accretion, such as lactic acid. For sports activities that require very high levels of prolonged muscle activity: Rowing, Cycling, Middle distance running.						

Programme: P06	**Resistance force output 3**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	10	10	12	
Mode		Cont	MF	MF	Cont	
Frequency work	Hz	5	40-60	45-75	5	
Frequency rest	Hz		3	3		
Pulse duration	µS	300	300	300	300	
Modulation time	secs		10	10		
Ramp up time	secs		2	2		
Ramp down time	secs		1.2	1.2		
Work time	secs		10	10		
Rest time	secs		4	4		
Alternating						
Synchronous		*	*	*	*	
Overall time	37 min					
Same as Programme 5						

Programme: P07	**Maximum force output**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	20	10		
Mode		Cont	W/R	Cont		
Frequency work	Hz	5	75	2		
Frequency rest	Hz		3			
Pulse duration	µS	300	300	250		
Modulation time	secs					
Ramp up time	secs		1.5			
Ramp down time	secs		1			
Work time	secs		5			
Rest time	secs		12			
Alternating						
Synchronous		*	*	*		
Overall time	35 min					
Developing the muscle to cope with and produce maximum muscle force output, and to develop muscle bulk. Used in activities of Anaerobic activity. Used in sports such as weight lifting, Judo, Ball games, sprint running and cycling.						

Programme: P08	**Explosive force output**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	15	15		
Mode		Cont	W/R	Cont		
Frequency work	Hz	5	90	10		
Frequency rest	Hz		3			
Pulse duration	µS	300	250	250		
Modulation time	secs					
Ramp up time	secs		2			
Ramp down time	secs		1.5			
Work time	secs		6			
Rest time	secs		6			
Alternating						
Synchronous		*	*	*		
Overall time	35 min					
Anaerobic activity- increasing the muscle capacity to a level of instantaneous maximum muscle force, changing muscle force into explosive action. Used for all activities requiring maximum muscle output in a very short space of time, such as Judo, short distance sprinting, throwing the discuss or shot put.						

Programme: P09	**Lipolysis-Anti Cellulite**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	5	5	5	5
Mode		Cont	W/R	Cont	W/R	Cont
Frequency work	Hz	2	30	50	30	50
Frequency rest	Hz		3		3	
Pulse duration	µS	250	250	150-250	250	150-250
Modulation time	secs			3		3
Ramp up time	secs		1.5		1.5	
Ramp down time	secs		1.2		1.2	
Work time	secs		7		7	
Rest time	secs		7		7	
Alternating						
Synchronous		*	*	*	*	*
Overall time	25 min					
Increasing the flow of blood circulation, and modifying the metabolism of the lipocytes. To help stimulate the subcutaneous deposits of fat. To assist reduce or eliminate the Orange Peel effect of the skin surface.						

Programme: P10	**Muscle at Rest**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	20	20	10		
Mode		MF	MF	W/R		
Frequency work	Hz	2-5	5-10	10		
Frequency rest	Hz			3		
Pulse duration	µS	150-250	150-250	200		
Modulation time	secs	10	10			
Ramp up time	secs			2		
Ramp down time	secs			2		
Work time	secs			10		
Rest time	secs			10		
Alternating						
Synchronous		*	*	*		
Overall time	50 min					
To help improve recovery after high levels of training and to reduce the possibilities of muscle contraction commonly know as Cramp. Used after intense levels of sporting activity and completions in particular.						

Programme: P11	**Mass Muscle Contraction**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	15	10		
Mode		Cont	W/R	Cont		
Frequency work	Hz	5	60	2		
Frequency rest	Hz		3			
Pulse duration	µS	300	350	250		
Modulation time	secs					
Ramp up time	secs		2			
Ramp down time	secs		1.5			
Work time	secs		7			
Rest time	secs		14			
Alternating						
Synchronous		*	*	*		
Overall time	30 min					
To increase muscle bulk and volume and to improve muscle force. Searching for muscular hypertrophy.						

Programme: P12	**Active Recovery**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	10	25			
Mode		Cont	Cont			
Frequency work	Hz	2	2-10			
Frequency rest	Hz					
Pulse duration	µS	250	150-250			
Modulation time	secs		10			
Ramp up time	secs					
Ramp down time	secs					
Work time	secs					
Rest time	secs					
Alternating						
Synchronous		*	*			
Overall time	35 min					
To help improve muscle recovery after prolonged activity, helps to rid the system of toxin waste. Used 10 to 24 hours after prolonged activity.						

Programme: P13	**Resume Training**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	15	10	15	5
Mode		Cont	W/R	W/R	W/R	Cont
Frequency work	Hz	10	20	30	20	5
Frequency rest	Hz		3	3	3	
Pulse duration	µS	250	300	300	300	250
Modulation time	secs					
Ramp up time	secs		2	2	2.5	
Ramp down time	secs		1.8	1.8	1.8	
Work time	secs		6	10	6	
Rest time	secs		10	10	10	
Alternating						
Synchronous		*	*	*	*	*
Overall time	50 min					
To promote the slow twitch fibres to build muscle strength to help reduce muscle atrophy ready for resuming training activities. Used for all type of sports.						

Programme: P14	**Muscle Toning**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	5	3	3	2	2
Mode		Cont	W/R	W/R	W/R	W/R
Frequency work	Hz	5	75	50	75	50
Frequency rest	Hz		3	3	3	3
Pulse duration	µS	250	250	300	300	250
Modulation time	secs					
Ramp up time	secs		3	2	3	2
Ramp down time	secs		2	1.5	2	1.5
Work time	secs		4	6	4	6
Rest time	secs		10	10	10	10
Alternating						
Synchronous		*	*	*	*	*
Overall time	15 min					
Strengthening the muscles, improving blood circulation and capillary bed density. Ideal for applying to the Thigh, Legs, Bottom and Abdomen.						

Programme: P15	**Calming the Muscle**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	25	20	10		
Mode		Cont	Cont	W/R		
Frequency work	Hz	2-10	5-15	10		
Frequency rest	Hz			3		
Pulse duration	µS	150-250	150-250	150		
Modulation time	secs	10	10			
Ramp up time	secs			2		
Ramp down time	secs			2		
Work time	secs			10		
Rest time	secs			10		
Alternating						
Synchronous		*	*	*		
Overall time	55 min					
Relaxing the muscles as much as possible and to promote the bodies natural endorphins to promote pain relief and to improve the blood circulation and provide oxygen into the muscle. Used on the Trapezius , Deltoid area of the shoulder, upper and lower Trapezius and neck area.						

Programme: P16	**Pain Relief**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	40				
Mode		MF				
Frequency work	Hz	1-150				
Frequency rest	Hz					
Pulse duration	µS	250				
Modulation time	secs	10				
Ramp up time	secs					
Ramp down time	secs					
Work time	secs					
Rest time	secs					
Alternating						
Synchronous		*				
Overall time	40 min					
Reduces uncomfortable pain.						

Programme: P17	**Cellulite**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	30				
Mode		Cont				
Frequency work	Hz	2				
Frequency rest	Hz					
Pulse duration	µS	250				
Modulation time	secs					
Ramp up time	secs					
Ramp down time	secs					
Work time	secs					
Rest time	secs					
Alternating						
Synchronous		*				
Overall time	30 min					
Reduces fat cells.						

Programme: P18	**Explosive Strength Level 1**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	35				
Mode		W/R				
Frequency work	Hz	60				
Frequency rest	Hz	2				
Pulse duration	µS	220				
Modulation time	secs					
Ramp up time	secs	1.5				
Ramp down time	secs	1.5				
Work time	secs	4				
Rest time	secs	30				
Alternating						
Synchronous		*				
Overall time	35 min					
Please see Programme notes on page 21						

Programme: P19	**Explosive Strength Level 2**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	20	10	10		
Mode		Cont	W/R	Cont		
Frequency work	Hz	5	70	5		
Frequency rest	Hz		2			
Pulse duration	µS	220	220	220		
Modulation time	secs					
Ramp up time	secs		1.5			
Ramp down time	secs		1.5			
Work time	secs		4			
Rest time	secs		30			
Alternating						
Synchronous		*	*	*		
Overall time	40 min					
Please see Programme notes on page 21						

Programme: P20	**Explosive Strength Level 3**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	20	10	10		
Mode		Cont	W/R	Cont		
Frequency work	Hz	5	80	5		
Frequency rest	Hz		2			
Pulse duration	µS	220	220	220		
Modulation time	secs					
Ramp up time	secs		1.5			
Ramp down time	secs		1.5			
Work time	secs		4			
Rest time	secs		30			
Alternating						
Synchronous		*	*	*		
Overall time	40 min					
Please see Programme notes on page 21						

Programme: P21	**Explosive Strength Level 4**	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Phase time	min	20	10	10		
Mode		Cont	W/R	Cont		
Frequency work	Hz	5	90	5		
Frequency rest	Hz		2			
Pulse duration	µS	220	220	220		
Modulation time	secs					
Ramp up time	secs		1.5			
Ramp down time	secs		1.5			
Work time	secs		4			
Rest time	secs		30			
Alternating						
Synchronous		*	*	*		
Overall time	40 min					
Please see Programme notes						

Notes for Programmes 18, 19, 20 and 21:
These programmes incorporate a very high working load and the training consists of inducing repeated strong muscle contractions whilst holding the muscle and tendinous mechanism under tension, followed by rapid and explosive muscle contractions. In these programmes, treating the rhythm of motor neurons is very specific, which occurs at the high end of the frequency range between 80 & 90 Hz in level 3 & 4.

These explosive programmes reproduce the sequence of nervous discharges occurring during this type of training. These treatment programmes enable the muscle structure to improve by responding to the nervous stimulation. This aggressive stimulation improves the muscle explosive characteristics without the risk of injuries normally expected from aggressive voluntary exercises.

These programmes would only be used by experienced sports people who are in sports that require explosive force and have used the neuromuscular stimulation of a less aggressive nature such as the strength programmes.

These programmes would be suitable for people that regularly practice sports that require explosive activity and want to increase the level without any risk of injury, such as throwing and sprinting events.

This treatment normally would be used for periods of up to 10 weeks starting with level 1 and increasing to level 4 over a 10 week period. After the training programme, one should continue to use level 3 or 4 once per week.

The positioning of the electrodes is very important and the electrode positions as detailed in the manual should be studied before applying the programmes. The stimulation training should be completed isometrically with the muscles extended and fixed. i.e. the ankle for the Quadriceps to achieve static (isometric) muscle contraction making sure the muscle stays in the same position and the muscles are not extended as this would cause some pain and aching.

The level of stimulation determines the percentage of muscle fibres that will be recruited. The higher the intensity (mA) the more fibres that will be stimulated and thus more effective the stimulation training will be. After the warming up phase, one should increase the intensity gradually for the first 2-3 rest phases so that muscle contraction is visible (30-40 mA).

MF = MODULATED FREQUENCY IN LINEAR STEPS
W/R = INTERMITTENT WORK/REST
CONT = CONTINUOUS

MODULATION TIME = EXPONENTIALLY
Example: Modulation time 10 seconds 150µS-250µS:- means starting at 150µS increasing exponentially (fast then slow) to 250µS in five seconds and returning (fast then slow) back to 150µS to complete the cycle in 10 seconds.

Electrode Types & Tips

Types Available:

* Self-Adhesive Hypoallergenic electrodes have a typical life span (if looked after) of 4/6 weeks. We recommend cleaning the skin before use. After use place the electrodes back onto the plastic film then enclose them back into the ziptag plastic pouch and store in a cool environment.

  Types available:
  VS.4040 40 x 40 mm (square),
  VS.5050 50 x 50 mm (square) (recommended for general use),

  VS.9050 90 x 50 mm (rectangular)
  VS.10050 100 x 50 mm (rectangular) (recommended for large muscles),
  VS.13050 130 x 50 mm (rectangular),

  VS.30 30 mm Diameter (round),
  VS.50 50 mm Diameter (round),
  VS.62 62 mm Diameter (round),
  VS.75 75mm Diameter (round).

Self- Adhesive Electrode tips

* If you find the electrodes will not stick due to oily skin, cleanse the skin with soap and water, then rinse and dry the area around the electrode site. If this does not work, try cleansing the skin with a swab impregnated with alcohol.

* Clip away hairy skin using scissors; don't use a razor to remove the hairs!

* Ensure the stimulator is turned off before connecting the electrodes to the lead wires.

* Skin electrodes are for single patient use only!

The electrodes conductive material is water based. If it becomes saturated (e.g. from perspiration), it will loose its adhesive qualities. After use leave the electrodes face up overnight to dry out. At some point the electrodes will become dry. Moisten the adhesive surface with a few drops of water, and apply back onto the plastic film overnight.
This procedure will give you a few more days of electrode life.

Care & Maintenance

Control Unit:

* Wipe the surface once a week with a damp cloth or antiseptic wipe
* Do not use cleaning sprays or alcohol based cleaning solutions

Battery:

* Check periodically for any discharge from the battery
* Remove battery completely from unit if not in use for any extended period of time (typically one week)
* Low battery indicator of 6.9 volts shown on LCD display. When flashing change battery for a new one
* Preferably use a heavy duty or PP3 alkaline battery

Lead Wires

* The lead wires should be handled carefully and never stretched, as this can cause the stimulation to function below normal standards or not at all
* Examine lead wires before each treatment for loose connections or damage
* Avoid stretching and twisting the lead wires
* Store the lead wires carefully after each use

Self-Adhesive Electrodes

* Check the short connectors have not become separated from the electrodes
* Replace electrodes onto plastic film after use. If they drop onto the floor debris will adhere to conductive gel rendering the electrodes ineffective

Caution: Static electricity may damage this product

NOTE: *Only Verity Medical Ltd or appointed distributors / importers are approved to undertake servicing.*

Applications

* Increases muscle strength
* Maintains or improves range of movement
* Increases and improves the blood supply to the muscle in cases of intermittent caudication
* As a warm up prior to exercise
* Prevents disuse atrophy (e.g. rheumatoid arthritis)

Specifications

STIM

1. Dual channel: individually isolated circuits.

2. Amplitude: 0-90 mA; indication only; actual mA will tend to be less than indicated due to electrode impedance.

3. Type: Constant Current.

4. Waveform: Symmetrical, rectangular bi-phasic with zero DC current.

5. Selectable pulse width: 50µS – 330µS [2% accuracy].

6. Pulse Rate selection: in the continuous mode 2 – 100 Hz [2% accuracy].

7. Time duration of the treatment selectable: 1 minute to 90 minutes.

8. Low Battery Indicator: If the battery goes below 6.9 volts +/- 0.2 volts the battery symbol will flash on/off once every second.

9. Open Electrode Detect: If an open circuit is detected at the output of channel A or B the output current will be reset at zero.

10. Ramp up time 0.1 - 9.9 seconds.

11. If the battery voltage is below 6.6 (+/- 0.2) volts the unit will not turn on.

12. Physical dimensions: 134 x 69 x 29.7 mm.

13. Weight: 0.18 KG with battery.

14. Environmental conditions for storage & transport:
-10 to +50 degrees Centigrade
0-90% Humidity.

Warranty

Verity Medical Ltd provides a warranty to the original purchaser that this product will be free from defects in the material, components and workmanship for a period of 2 years from the date of purchase [invoice date]. If Verity Medical Ltd are satisfied that the product/s is defective the purchaser may return this unit/s to Verity Medical Ltd or the appointed distributor for repair or replacement with a new unit. All returns must first be authorised by Verity Medical Ltd in advance. The liability of Verity Medical Ltd under this limited product warranty does not extend to any misuse or abuse such as dropping or immersing the unit in water or other liquid substance or tampering with the unit or normal wear and tear. Any evidence of tampering will nullify this warranty.

Customer Service

Any queries should be addressed to:

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CE 0120 The NeuroTrac is CE Approved

Design Registration Numbers: 2095095, 2095096, 2098278

Clinical References

Neuromuscular Stimulation:

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