body clock

# 3-IN-1
# COMBO
## ELECTROTHERAPY

Instructions for use

# Contents

# 1. Foreword

The 3-in-1 COMBO is a dual channel output TENS, EMS and MASSAGE stimulator. Before using, please read all of the instructions in this user manual carefully and keep it safe for future reference.

The unit has three functions - TENS (Transcutaneous Electrical Nerve Stimulation), EMS (Electronic Muscle Stimulation) and MASSAGE.

The 3-in-1 COMBO stimulator has 22 programs (9 TENS programs, 8 EMS programs and 5 MASSAGE programs). Each program controls the generated electric impulses, their intensity, frequency and pulse width.

**Please see page 42 for a summary of the programs available**. The unit works by passing mild electrical impulses through the skin, via electrode pads, into the nerve and muscle fibres which lie below.

The intensity of the unit can be adjusted independently and applied individually to one or more body parts. The unit can be used with 4 self-adhesive electrodes, which means that it will allow you to stimulate two muscle groups simultaneously with a wide selection of standard programs.

## 1.2 GENERAL INFORMATION

### 1.2.1 About pain

Pain is felt in an injured area when messages travel to the brain, along small nerves leading to the spinal cord. These messages are then transmitted via other nerves that travel up the spinal cord to the brain. At the brain, they are decoded, analysed and reacted to.

### 1.2.2 What is TENS?

TENS (Transcutaneous Electrical Nerve Stimulation) can be effective in the relief of pain. It can be used daily and is clinically proven to be effective. High-frequency TENS currents activate the pain-inhibiting mechanisms of the nervous system. Electrical impulses from electrodes, placed on the skin over or near the pain area, stimulate the nerves to block the pain signals to the brain, thus creating the perception of there being no pain. Low-frequency TENS currents facilitate the release of endorphins, the body's natural painkillers.

### 1.2.3 What is EMS?

EMS stands for Electronic Muscle Stimulation. This treatment consists of delivering electrical impulses through the skin into the nerve fibres and muscles that lie beneath. Skin contact is made via surface electrodes placed on the body. The EMS unit will then stimulate the muscles to contract and relax. EMS can be used for toning and strengthening all muscle groups for athletic training, bodybuilding and sports injuries, after pregnancy, weight loss, cosmetic purposes, chronic back pain and incontinence.

### 1.2.4 What is MASSAGE (in electrotherapy)?

This is very similar to TENS and EMS as explained above, except the treatment consists of delivering electrical impulses to relax muscles and decrease stress.

# 2. Safety information

2.1 INTENDED USE

The 3-in-1 COMBO stimulator is specifically designed for home use by adults. It is intended for the relief and management of pain and the stimulation and massaging of muscles. This unit provides the user with three modes.

**1. TENS mode**
Used for temporary relief of pain associated with sore and aching muscles in the neck, shoulder, back, joint, hip, hand, abdomen, foot, upper extremities (arm) and lower extremities (leg) due to strain from exercise or normal household work activities.

**2. EMS mode**
The EMS stimulation program stimulates muscles in order to improve and facilitate muscle conditioning.

**3. Massage mode**
The Massage stimulation program provides muscle relaxation to loosen tight muscles.

## 2.2 IMPORTANT SAFETY PRECAUTIONS & WARNINGS

See page 40 for safety symbols. It is important that you read all of the warnings and precautions included in this manual because they are intended to keep you safe, prevent risk of injury and avoid a situation that could result in damage to the device.

### 2.2.1 Contraindications

1) Do not use this device if you are using a cardiac pacemaker, implanted defibrillator, or other implanted metallic or electronic devices. Such use could cause electric shock, burns, electrical interference, or death.
2) Stimulation should not be applied over swollen, infected, inflamed areas or skin eruptions (e.g. phlebitis, thrombophlebitis, varicose veins, etc.).
3) Electrode placements must be avoided in the carotid sinus area (front and side of neck) or transcerebrally (through the head).
4) Do not use if you have a suspected or diagnosed Inguinal Hernia.
5) Do not use on scarred areas following a surgery for at least 10 months after the operation.
6) Do not use with serious arterial circulatory problems in the lower limbs.

### 2.2.2 Warning

1) If you have had medical or physical treatment for pain, consult with your physician before use.
2) If your pain has not lessened, or becomes more than mild, then please consult with your physician.
3) Do not apply stimulation at the front or at the side of your neck because this could cause severe muscle spasms resulting in the closure of your airways, difficulty breathing, or adverse effects on your heart rhythm or blood pressure.
4) Do not apply stimulation across your chest because the introduction of electrical currents into the chest may cause rhythm disturbances to your heart, which could be lethal.
5) Do not apply stimulation over, or in proximity to, cancerous lesions.
6) Do not apply stimulation in the presence of electronic monitoring equipment (e.g., cardiac monitors, ECG alarms), which may not operate properly when the electrical stimulation device is in use.
7) Do not apply stimulation when in the bath or shower.
8) Do not apply stimulation while sleeping.
9) Do not apply stimulation while driving, operating machinery, or during any activity when electrical stimulation can put you at risk of injury.
10) Apply stimulation only to intact, clean, healthy skin.
11) The long-term effects of electrical stimulation are unknown. The device cannot replace drugs.

12) Stimulation should not take place while the user is connected to high-frequency hospital equipment, which may cause burn injuries on the skin under the electrodes, as well as problems with the unit.

13) Do not use the unit in the vicinity of shortwave or microwave therapy equipment since this may affect the output power of the stimulator.

14) Never use the unit near the cardiac area. Stimulation electrodes should never be placed anywhere on the front of the thorax (marked by ribs and breastbone) or the two large pectoral muscles due to the increased risk of ventricular fibrillation which could lead to cardiac arrest.

15) Never use on the eyes, head and face or genital areas.

16) Never use on skin areas lacking normal sensation.

17) Keep electrodes separated during treatment. Improper stimulation or skin burns could result if electrodes are in contact with each other.

18) Keep the stimulator out of reach of children.

19) Consult your doctor or supervisory medical professional if you are in any doubt whatsoever.

20) Discontinue use if any discomfort is felt.

21) TENS must NOT be used before the 37th week of pregnancy.

22) If you are pregnant, do NOT place the electrodes over your abdomen.

**2.2.3 Precautions**

1) TENS is not effective for pain of central origin including headache.

2) TENS is not a substitute for pain medications and other pain management therapies.

3) TENS is a symptomatic treatment which suppresses the sensation of pain that would otherwise serve as a protective mechanism.

4) Effectiveness is highly dependent upon patient selection by a practitioner qualified in the management of pain patients.

5) Since the effects of stimulation of the brain are unknown, stimulation should not be applied across your head, and electrodes should not be placed on opposite sides of your head.

6) The safety of electrical stimulation during pregnancy has not been established.

7) You may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium (gel). If this occurs please discontinue use.

8) If you have a suspected or diagnosed heart disease or epilepsy, you should follow precautions recommended by your physician.

9) Caution if you have a tendency to bleed internally, e.g. following an injury or fracture. Seek medical advice before using this unit.

10) Consult with your physician prior to the use of the device after a recent surgical procedure, because stimulation may disrupt the healing process.

11) Proceed with caution if stimulation is intended to be applied over the menstruating uterus.

12) Instructions for use in this manual should be followed fully. Improper use may be dangerous.

13) Rare cases of skin irritation may occur at the site of the electrode placement following long-term application. Electrode pads should be re-located or use discontinued.

14) Do not use this device in the presence of other equipment which sends electrical pulses to your body.

15) Do not use sharp objects such as a pencil or ballpoint tip to operate the buttons on the control panel.

16) Check the electrode connections before each use.

17) This device should only be used with electrodes recommended by Body Clock Health Care Ltd.

**2.2.4 Adverse Reactions**

1) Possible skin irritation or electrode burns under the electrodes may occur. If so, discontinue use immediately.

2) On very rare occasions, first time users of TENS report feeling light-headed or faint. We recommend that you use the product while seated until you become accustomed to the sensation.

3) If the stimulation makes you uncomfortable, reduce the stimulation intensity to a comfortable level and contact your physician if problems continue.

# 3. Getting to know your device

3.1 CONTENTS

1 x 3-In-1 COMBO unit

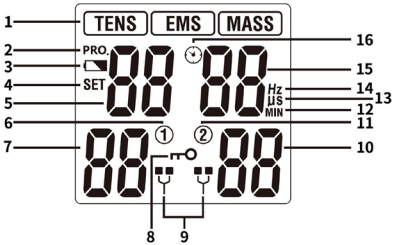
4 x Self adhesive electrodes

2 x Lead wires

3 x AAA Batteries

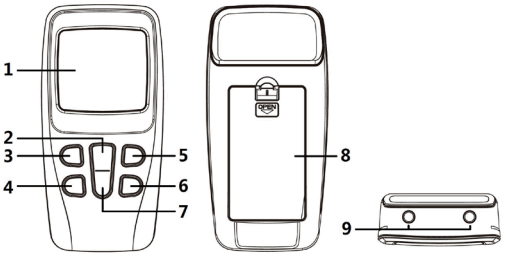
Instruction manual

## 3.2 LCD DISPLAY




| No | Function description | No | Function description |
|---|---|---|---|
| 1 | Treatment mode | 9 | Indicator of no load (Channel 1 and Channel 2) |
| 2 | Program Identifier | 10 | Channel 2 indicator |
| 3 | Low battery indicator | 11 | Intensity for Channel 2 |
| 4 | Symbol of setting function | 12 | Symbol of treatment time (min) |
| 5 | Program number | 13 | Pulse width indicator (uS) |
| 6 | Channel 1 indicator | 14 | Pulse rate indicator (Hz) |
| 7 | Intensity for Channel 1 | 15 | Treatment time |
| 8 | Key locking symbol | 16 | Timer sign |

## 3.3 DEVICE ILLUSTRATION



| No | Description |
|---|---|
| 1 | **LCD display** |
| 2 | **[ON/OFF/M] button:**<br>Press the [ON/OFF/M] button to turn on the device; in standby mode, press the [ON/OFF/M]button to select the treatment mode. Press and hold the [ON/OFF/M] button to turn off the device; In treating mode, press the [ON/OFF/M] button to stop the treatment. |
| 3 | **CH1 [+] button:**<br>Press the CH1 [+] button to increase the intensity of CH1; Press the CH1 [+] button to increase the treatment time (or to increase the pulse rate, and pulse width in the user mode which is only relevant to the TENS and EMS treatment modes). |
| 4 | **CH1 [-] button:**<br>Press the CH1 [-] button to increase the intensity of CH1; Press the CH1 [-] button to increase the treatment time (or to increase the pulse rate, and pulse width in the user mode which is only relevant to the TENS and EMS treatment modes). |
| 5 | **CH2 [+] button:**<br>Press the CH2 [+] button to increase the intensity of CH2; Press the CH2 [+] button to increase the treatment time (or to increase the pulse rate, and pulse width in the user mode which is only relevant to the TENS and EMS treatment modes). |
| 6 | **CH2 [-] button:**<br>Press the CH2 [-] button to increase the intensity of CH2; Press the CH2 [-] button to increase the treatment time (or to increase the pulse rate, and pulse width in the user mode which is only relevant to the TENS and EMS treatment modes). |
| 7 | **[P] button:**<br>On standby mode, press the [P] button to select the treatment program. At standby mode, press and hold [P] button to enter the setting mode. |
| 8 | Battery cover. |
| 9 | Jack plug socket. |

# 4. Specification

## 4.1 TECHNICAL INFORMATION

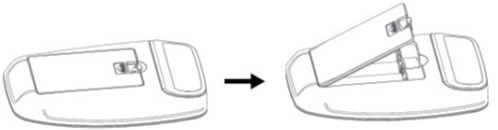
| | |
|---|---|
| Device name | 3-in-1 COMBO Electrotherapy Device |
| Power sources | 4.5V D.C., 3x AAA batteries |
| Output channel | Dual channel |
| Waveform | Bi-phase square-wave pulse |
| Output current | Max. 120mA (at 500ohm load) |
| Output intensity | 0 to 40 levels, adjustable |
| Treatment mode | TENS, EMS and MASSAGE mode |
| Operating condition | 5° C to 40° C with a relative humidity of 15%-93%, atmospheric pressure from 700 hPa to 1060 hPa |
| Storage condition | -10° C to 55° C with a relative humidity of 10%-95%, atmospheric pressure from 700 hPa to 1060 hPa |
| Dimension | 109 x 54.5 x 23mm (L x W x T) |
| Weight | Approx 70g (without batteries) |
| Automatic Shut-off | 1 minute |
| Classification | BF type applied part, internal power equipment, IP22 |
| Electrodes pads | 50x50mm, square |
| Output precision | ±20% error is allowed for all the output parameters |
| TENS MODE (9 PROGRAMS) | |
| P.W. (Pulse Width) | 100-300μs |
| P.R. (Pulse Rate) | 2-120Hz (Hz=vibration per second) |
| Treatment time | 5-90 minutes |
| EMS MODE (8 PROGRAMS) | |
| P.W. (Pulse Width) | 100μs-300μs |
| P.R. (Pulse Rate) | 2-100Hz (Hz=vibration per second) |
| Treatment time | 5-90 minutes |
| MASSAGE MODE (5 PROGRAMS) | |
| P.W. (Pulse width) | 5-90 minutes 100-250μs |
| P.R. (Pulse Rate) | 8-100Hz (Hz=vibration per second) |
| Treatment time | 30 minutes |

# 5. Operating Instructions

5.1 BATTERY

**5.1.1 Check/replace batteries**

Open the battery cover by pressing down on the flap; insert three batteries (type AAA) into the battery compartment. Take care when installing the batteries noting the positive terminal (+) and negative terminal (-) in the battery compartment of device. Ensure the unit is switched off until you are ready to use it.



**5.1.2 Disposal of batteries**

Used batteries do not belong in household waste. As an end user, you have a role to play in the recycling of used batteries. Household batteries should be taken to your nearest recycling centre or collection point.

1. If a battery is swallowed accidentally, please seek medical assistance immediately!
2. In the case of battery leakage, please avoid contact with the battery through skin, eyes and mucus membranes. If contact occurs, please wash that body part with plenty of clean water and contact your doctor immediately.
3. Please do not short circuit, dismantle or throw the batteries into fire.
4. Protect batteries from excess heat; take the batteries out of the product if they have run out or if the device will not be used for a long period of time. This

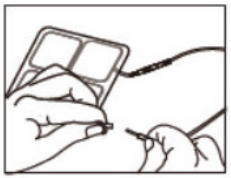
can prevent the device from being damaged due to the battery leakage.

5. Always replace the device with the same type of batteries.

5.2 SETTING UP YOUR 3-IN-1 COMBO

Take the two black leadwires and insert each of the jack plugs (at one end of each leadwire) into the sockets at the top of the 3-in-1 COMBO unit.

Now insert the pins (at the other end of the leadwires) into the sockets attached to the sticky electrodes. Each leadwire has two pins, ensure each pin is attached to an electrode. Do not remove the electrodes from the backing at this stage. Please refer to picture below.



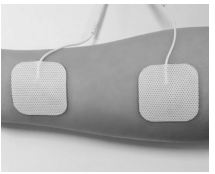
**Caution**

**Always use the electrode pads which comply with the requirements of the IEC/EN60601-1, ISO10993-1/-5/-10 and IEC/ EN60601-1-2, as well as CE and FDA 510(K) regulation.**

### 5.2.1 Place electrodes on skin

Place the electrodes on the body parts in need of treatment. Please ensure the skin is clean and dry before use and ensure the skin and the electrode connects well, see picture below.

You are now ready to commence your treatment.



**Caution**

**Do not insert the electrode wires into any AC power supply socket.**

5.3 ELECTRODES

### 5.3.1 Electrode information

The electrodes should be routinely replaced when they start to lose their adhesiveness. If you are unsure of your electrode adhesive properties, please order new replacement electrodes. For replacement electrodes please contact Body Clock Health Care:
108 George Lane, South Woodford, London, E18 1AD.
Telephone (+44) (0)2085329595. www.bodyclock.co.uk

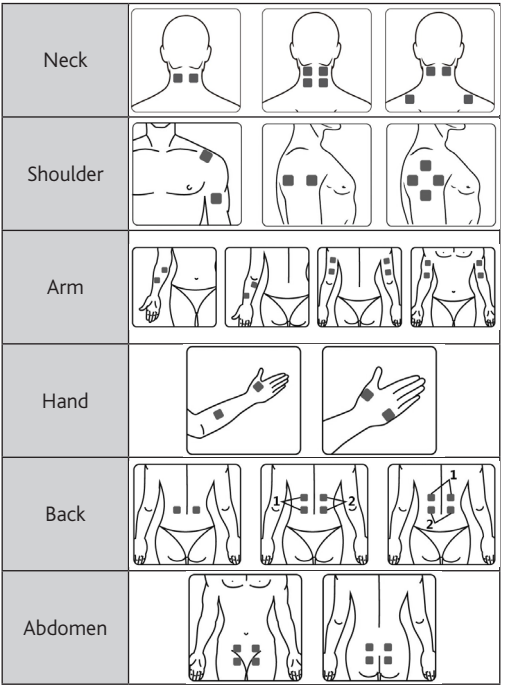
**Caution**

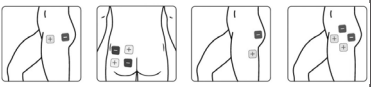
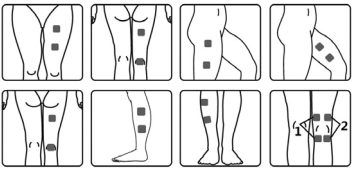
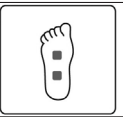
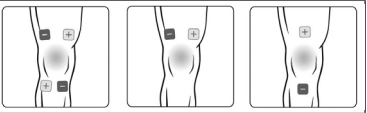
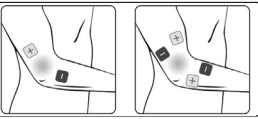
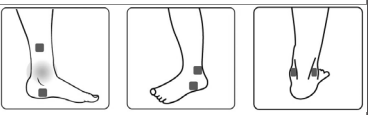
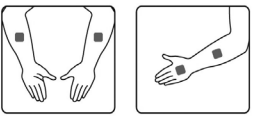
1. Before applying or removing electrodes ensure that your device is switched off.
2. Hold electrodes at the edges.
3. Do not remove electrodes by pulling at the wires attached to the the unit or the pads. This may cause damage to both. Hold the electrodes and gently peel them off your skin.
4. Do not turn on the device until the self-adhesive electrodes are positioned on the body.
5. We recommend that electrodes no smaller than 50x50mm are used at the treatment area.
6. Never touch or remove the self-adhesive electrodes from the skin while the device is still switched on.

# Position of electrode placement under TENS programs

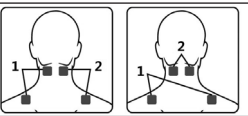
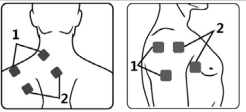
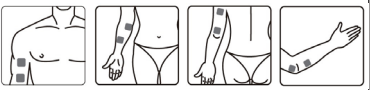
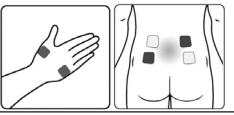
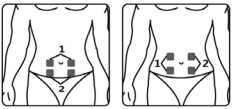
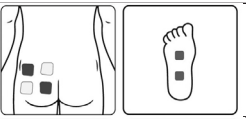
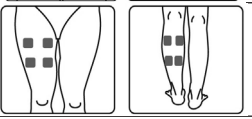
5.4.3 Electrode Placement Chart

Suggested electrode placement charts for treating various body areas can be seen below.



| | |
|---|---|
| Hip |  |
| Leg |  |
| Foot |  |
| Joint (knee) |  |
| Joint (elbow) |  |
| Joint (ankle) |  |
| Joint (wrist |  |

# Position of electrode placement under EMS programs

| | |
|---|---|
| Neck |  |
| Shoulder |  |
| Arm |  |
| Hand & back |  |
| Abdomen |  |
| Hip & foot |  |
| Leg |  |

# 6. Instructions for use

6.1 TURN ON

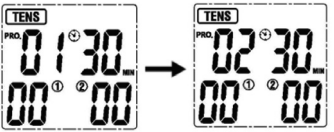
To turn on the unit, when using it for the first time, press the [ON/OFF/M] button. The LCD display will appear as follows:


6.2 SELECT TREATMENT MODE

Press the [ON/OFF/M] button to toggle between the treatment modes [TENS-EMS-MASS], and stop at the one you wish to use.


6.3 SELECT TREATMENT PROGRAM

You can now toggle between which program you would like to use in each mode by pressing the [P] button. Stop pressing the [P] button at your desired choice. **Please see page 42** for a full listing of programs available within each mode. The LCD display will appear as follows:



The TENS mode has 6 preset programs [P1-6] and 3 user programs [U1-3]. The EMS mode has 5 preset programs [P1-5] and 3 user programs [U1-3]. The MASS mode has 5 preset programs [P1-5] and no user programs.

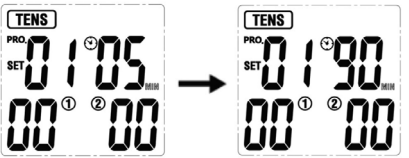
### 6.3.1 Stopping treatment and changing mode/ Program.

Press the ON/OFF/M button at any time to stop the program treatment. Now either: Press the ON/ OFF/M button again to (toggle and) choose a different treatment mode (TENS-EMS-MASS), OR Press the [P] button to (toggle and) choose a different program in that mode. N.B The device will always power up in the last used treatment mode.

6.4 CUSTOMISING YOUR TREATMENT

Each program has been set with a default duration of 30mins. To change the duration of your selected program, hold down the [P] button until the 'min' starts flashing on the LCD screen. Use the [+/-] button on either channel to select the length of your treatment. The timer function can be increased/decreased in increments of one minute at a time. **The minimum treatment time is 5 minutes, the maximum is 90 minutes.** Once you have your desired treatment time frame, press the [ON/ OFF/M] button to confirm the time and the 'min' will stop flashing. Once the timer has counted down to 0 the treatment will stop and sensation will discontinue.

The LCD displays as follows:



### 6.4.1 Setting the user programs

The User programs (U1-U3 found in the TENS and EMS modes only) enables you to change the pulse rate and pulse width settings, giving you complete flexibility over the parameters you wish to use. You can locate the User programs [U1-U3] in either the TENS or EMS modes by pressing the [P] button until you reach U1, U2 or U3. Now hold down the P button for approximately 3 seconds until you see the word SET appear on the left. **Please refer to page 42 for an overview of the parameters used for each user program**. The LCD displays as opposite:


You will now see the Hz symbol flashing on the right. You can adjust the pulse rate to your desired setting by using the [- / +] buttons (on either channel), press the [P] button to set. The LCD displays as opposite:


N.B. The pulse rate (Hz) is adjustable in increments of 1.

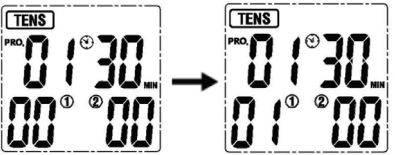
You will now see the µs symbol flashing; you can adjust the pulse width to your desired setting by using the [-/ +] buttons (on either channel), press the [P] button to set. The LCD screen will display as opposite:


N.B. The pulse width (µs) is adjustable in increments of 5.

You can set the length of the treatment by adjusting the minutes using the [- / +] buttons (on either channel). When you are happy with the amount of time set press the [ON/OFF/M] button to confirm. The LCD screen will display as follows:

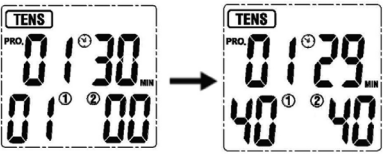

6.5 START TREATMENT

Press the [+] button of CH1 to increase the channel 1 intensity, press the [+] button of CH2 to increase the channel 2 intensity. The LCD displays as follows:

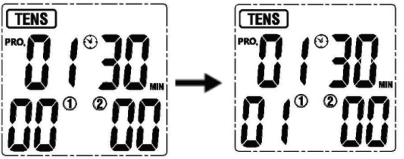



6.6 ADJUST THE OUTPUT INTENSITY

Press the CH1 and/or CH2 [+] button(s) to increase output intensity. Each channel will increase to a higher level after each press. The device has 40 levels of output intensity. Please adjust the intensity to the level that you feel comfortable. The level of output intensity will be shown on the LCD:



If you feel the intensity is too low, you can press [+] button to decrease the intensity. When the output intensity of both channels decrease to zero, the unit will return to the standby mode. The LCD displays as follows:



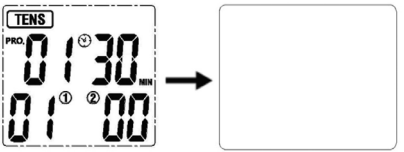

Zero intensity Low intensity

**Caution:**

If you feel or become uncomfortable, reduce the stimulation intensity to a more comfortable level or change the mode and consult with your medical practitioner if problems persist.

6.7 END THE TREATMENT AND TURN OFF THE DEVICE

Press the [ON/OFF/M] button to stop treatment during the treatment mode. Press the [ON/OFF/M] button again to turn off the stimulator, and the LCD will become blank.



## 6.8 LOAD DETECTION

The unit will automatically detect the load if the intensity is above level 4. If it hasn't detected the load or any electrode is not maintaining sufficient contact with the skin, the intensity will automatically return to level 0 and the symbol will flash returning the unit to standby mode. Switch off the unit and check that your electrodes are fully in contact with your skin and then begin your treatment again. See diagram below.


## 6.9 LOW BATTERY DETECTION

When the battery is low, the icon will flash to indicate this device needs to be stopped and the batteries should be changed when this occurs.

6.10 USAGE OF ELECTRODE PADS

a. If you want to reposition the electrodes during the application, turn off the device first.

b. The use of the electrodes may lead to skin irritations. If you experience such skin irritations, e.g. redness, blistering or itching, discontinue using them. Do not use the unit permanently on the same body part, as this may also lead to skin irritation.

c. Self-adhesive pads are for single patient use only.

d The electrode must connect entirely to the skin surface to prevent hot spots, which may lead to skin burns.

e. Do not use the electrode pads more than approx. 10 times, as connection between the electrodes and the skin deteriorates over time.

f. The adhesive force of the electrodes depends on the user's skin properties, storage conditions, and the number of applications. If your electrode pads no longer fully stick to the skin's surface, replace them with new ones. Stick the electrode pads back onto the protective film after use and store them in the storage bag to prevent them from drying out. This retains the adhesive force for a longer period.

**Caution:** 

1) Before applying the electrodes, it is recommended for users to wash their skin and then dry it.

2) Never remove the electrodes from the skin while the device is still on.

3) Only use the electrode pads provided by the manufacturer or authorised distributor. Usage of other companies' products could result in injuries to the user.

6.11 WHERE DO I ATTACH ELECTRODE PADS?

a. Each person reacts differently to electronic nerve stimulation. If your application is not successful, contact your physician to find out what placement techniques are best for you.

b. Do not use a smaller sized electrode than those originally provided by the manufacturer or authorised distributor. Otherwise the current density may be too high and cause injuries.

c. The size of the electrodes should not be altered.

d. Ensure that the region radiating the pain is enclosed by the electrodes. In case of painful muscle groups, attach the electrodes in such a way that the affected muscles are also surrounded by the electrodes.

**Usage advice for TENS:**

If you do not feel any discomfort during the treatment, we advise you to use the device until the session ends. We suggest 1~2 treatments per day while needed. If you have any doubts please seek advice from your supervisory medical professional on treatment plans.

After a period of treatment, if the pain relief is not achieved or the pain gets even worse, please consult your supervisory medical practitioner.

**Usage advice for EMS:**

Place the electrodes on the body part you wish to treat referring to the pad placement chart on page 20.

# 7. Cleaning and maintenance

Please comply fully with the following necessary daily maintenance requirements to ensure your unit's long-term performance and safety.

7.1 CLEANING AND CARE FOR THE DEVICE

7.1.1 Ensure the unit is switched off first, remove the batteries then proceed to gently remove the electrodes from the leadwires and place in the packaging.

7.1.2 Clean the device with a soft, slightly damp cloth. In case of heavier dirt build-up, you may also apply a mild detergent.

7.1.3 Store the unit in a cool, dry place. Do not hold the unit under running water, nor submerge it in water or other liquids.

7.1.4 The unit is sensitive to heat and should not be exposed to direct sunlight. Do not place it on hot surfaces.

7.1.5 Do not use any chemical cleaners or abrasive agents for cleaning.

7.1.6 Ensure that no water penetrates into the machine. Should this happen, use the device again only when it is completely dry.

7.1.7 Do not clean the device during treatment. Be sure that the device is turned off before cleaning.

7.2 MAINTENANCE

7.2.1 If your unit has any problems or faults please return to Body Clock Health Care Ltd at 108 George Lane, South Woodford, London, E18 1AD.

7.2.2 The user should not attempt to open the device, or attempt to make any modifications or repairs to the device or any of its accessories.

7.2.3 Opening of the equipment by unauthorised persons is not permitted and will invalidate the warranty.

The product does not require calibration. If your product does not reach the expected performance please contact the distributor.

# 8. Troubleshooting

Should any malfunction occur whilst using the device, please check the following table for solutions.

| Malfunction | Common Reasons | Countermeasure |
|---|---|---|
| No display after replacing the battery. | 1. There are foreign bodies in the battery compartment. | 1. Check and clean the compartment. |
| | 2. The battery has been used up or installed incorrectly. | 2. Replace with new batteries or install the batteries correctly. |
| | 3. There are foreign bodies on the battery connectors. | 3. Check and clean the battery connectors. |
| | 4. The battery is not the right type or something has gone wrong with the battery connection. | 4. Replace the batteries with the correct type. |
| No sensation of stimulation | 1. The electrode does not have sufficient connection to the skin. | 1. Check that the electrodes are making full contact with the skin |
| | 2. The electrode does not have sufficient connection to the stimulator. | 2. Check the connection, ensuring both leadwires and jack plug sockets are working to establish if either is faulty. |
| | 3. The battery is used up. | 3. Replace the battery. |
| | 4. The electrodes are dry. | 4. Add a few drops of water to the electrodes to lubricate. |
| | 5. The treatment time has finished | 5. Start a new treatment |

| Malfunction | Common Reasons | Countermeasure |
|---|---|---|
| Automatic halt in the treatment | 1. The electrode loses connection with the skin.<br>2. The battery is used up. | 1. Check and place the electrode properly on the skin.<br>2. Replace the battery. |
| Rash or tickle on the skin occurs in the treatment. | 1. The treatment time lasts too long.<br>2. The electrode has not stuck well to the skin.<br>3. The skin is sensitive to the electrode. | 1. Do the treatment once a day and shorten the treatment time.<br>2. Check and stick the electrode well or replace electrodes.<br>3. Check your allergy history. Please change the position of the electrode or shorten the treatment time. If your skin is sensitive you may try on electrodes with sensitive gel. If sensitivity persist stop the treatment and seek advice from your supervisory medical practitioner. |

# 9. Storage

9.1 STORING THE ELECTRODE PADS AND LEAD WIRES

1. Turn off the device and gently remove the lead wires from the unit.
2. Gently remove the electrodes from your body and disconnect the lead wires from the electrodes.
3. Place the electrodes onto the plastic film and then store into the sealed package. Then wrap the lead wires and store them in the packaging.

9.2 STORING THE UNIT

1. Place the unit, electrodes, lead wires and manual back into the gift box. Store the box in a cool, dry place, -10˚c ~ 55˚c ; 10% ~ 90% relative humidity.
2. Do not keep in places that can be easily reached by children.
3. When not in use for a long period, remove the batteries before putting the unit into storage.

# 10. Disposal of device

At the end of the product life-cycle, do not throw this product into the normal household waste, but bring it to a collection point for the recycling of electronic equipment.

Obsolete electrical and electronic equipment may have potentially harmful effects on the environment. Incorrect disposal can cause toxins to build up in the air, water and soil and jeopardize human health.

# 11. Electromagnetic compatibility (EMC) tables

**Guidance and manufacturer's declaration - electromagnetic emissions.**

The device is intended for use in the electromagnetic environment specified below. The customer or the user has to ensure that it is used in such environment.

| Emissions Test | Compliance | Electromagnetic environment - guidance |
|---|---|---|
| RF Emissions CISPR11. | Group 1. | The device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment. |
| RF Emissions CISPR11. | Class B. | The device is suitable for use in all establishments including those directly connected to the public low-voltage power supply network that supplies to buildings power used for domestic purposes. |
| Harmonic emissions IEC 61000-3-2 | Not applicable. | |
| Voltage fluctuations Flicker emissions IEC 61000-3-3. | Not applicable. | |

**Guidance and manufacturer's declaration - electromagnetic immunity**

The device is intended for use in the electromagnetic environment specified below. The customer or the user of the device should assure that it is ensure in such environment.

| Immunity test | IEC 60601 Test level | Compliance level | Electromagnetic environment-guidance |
|---|---|---|---|
| Electrostatic discharge (ESD) IEC 61000-4-2. | ±8kV direct & indirect contact; ±15kV air discharge. | ±8kV direct & indirect contact; ±15kV air discharge. | Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%. |
| Electrical fast transient/ burst IEC 61000-4-4. | ±2 kV for power supply lines. | Not applicable. | Not applicable (For INTERNALLY POWERED ME EQUIPMENT. |
| Surge IEC 61000-4-5. | ± 1 kV line(s) to line(s). | Not applicable. | Not applicable (For INTERNALLY POWERED ME EQUIPMENT. |

| Immunity test | IEC 60601 Test level | Compliance level | Electromagnetic environment-guidance |
|---|---|---|---|
| Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11. | <5% UT (>95% dip in UT)<br>for 0.5 cycle 40% UT (60% dip in UT)<br>for 5 cycles 70% UT (30% dip in UT)<br>for 25 cycles <5% UT (>95% dip in UT) for 5 sec. | Not applicable. | not applicable (For INTERNALLY POWERED ME EQUIPMENT. |
| Power frequency (50Hz/60Hz) magnetic field IEC 61000-4-8. | 10V/m. | 10V/m. | Power frequency magnetic fields should be at levels characteristic of a typical location in typical commercial or hospital environment |
| NOTE UT is the a.c. mains voltage prior to application of the test level. | | | |

| Immunity test | IEC 60601 Test level | Comp-liance level | Electromagnetic environment-guidance |
|---|---|---|---|
| Radiated RF IEC 61000-4-3. | 10V/m & table 9. | 10V/m & table 9. | Portable and mobile RF communications equipment should not be used close to any part of a blood pressure monitor Monitor, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance.<br>$d = 1.167\sqrt{P}$ 80 MHz to 800 MHz<br>$d = 2.333\sqrt{P}$ 800 MHz to 2.5 GHz<br>Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey[a], should be less than the compliance level in each frequency range[b] Interference may occur in the vicinity of equipment marked with the following symbol:<br> |

NOTE 1
At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2
These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a. Field strengths from fixed transmitters such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation.

   If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the device.

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [Vi] V/m.

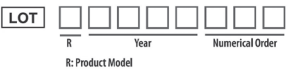
## Test specifications for Enclosure Port Immunity to RF wireless communications equipment (table 9)

| Test frequency (MHz) | Band a) (MHz) | Service a) | Modulation b) | Maximum power (W) | Distance (m) | Immunity Test Level (V/m) |
|---|---|---|---|---|---|---|
| 385 | 380-390 | TETRA 400 | Pulse Modulation b) 18Hzb) | 1.8 | 0.3 | 27 |
| 450 | 430-470 | GMRS 460, FRS 460 | FM c) ±5kHz deviation 1kHz sine | 2 | 0.3 | 28 |
| 710<br>745<br>780 | 704-787 | LTE Band 13, 17 | Pulse modulation b) 217Hz | 0.2 | 0.3 | 9 |
| 810<br>870<br>930 | 800-960 | GSM800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5 | Pulse modulation b) 18Hz | 2 | 0.3 | 28 |
| 1720<br>1845<br>1970 | 1700-1990 | GSM1800; CDMA 1900; GSM 1900; DECT; LTE Band 1,3, 4,25; UMT | Pulse modulation b) 217Hz | 2 | 0.3 | 28 |
| 2450 | 2400-2570 | Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7 | Pulse modulation b) 217Hz | 2 | 0.3 | 28 |
| 5240<br>5500<br>5785 | 5100-5800 | WLAN 802.11 a/n | Pulse modulation b) 217Hz | 0.2 | 0.3 | 9 |

NOTE If it is necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1m. The 1m test distance is permitted by IEC 61000-4-3.

a.) For some services, only the uplink frequencies are included.
b.) The carrier shall be modulated using a 50% duty cycle square wave signal.
c.) As an alternative to FM modulation, 50% pulse modulation at 18 Hz may be used because it does not represents actual modulation. It would be a worst case scenario.

# 12. Explanation of Symbols

| | |
|---|---|
|  | Please read carefully! |
|  | Electrical devices are recyclable material and should not be disposed of with household waste after use! Help us protect the environment and save resources and take this device to the appropriate collection points. Please contact the organisation which is responsible for waste disposal in your area if you have any questions. |
|  | Applied part of type BF. |
|  | Refer to instruction manual. |
| IP22 | The first number 2: Protects against solid foreign objects of 12.5mm Ø and greater. The second number: Protects against vertically falling water drops when enclosure up to 15°. Vertically falling drops shall have no harmful effects when the enclosure is at any angle up to 15°, on either side of the vertical. |
| LOT |   Found on the label at the back of the unit. |
|  | Manufacturer information: The manufacturer Shenzhen Roundwhale Technology Co., LTD. |
|  | Manufacture date.<br>Found on the back of the unit. |

# 13. Warranty


Guarantee
Your 3-In-1 COMBO unit is guaranteed for a period of 1 year against manufacturer's defects. The guarantee does not include leads, electrodes or batteries. Applies to purchases only.

# 3-in1 COMBO treatment programs

| Mode | Program | Treatment time (min) | Pulse rate (Hz) | Pulse width (us) | Max output (V) |
|---|---|---|---|---|---|
| TENS | P01 | Default 30 Adjustable: (5-90) | 100 | 150 | 44 |
| | P02 | | 60 | 200 | 51 |
| | P03 | | 15 | 260 | 61 |
| | P04 | | 2-60 | 260-160 | 61 |
| | P05 | | 60/50/45/ 10/50/35 | 200 | 50/56/54 56/56/54 |
| | P06 | | 40/6/50 | 200 | 56/47/54 |
| | U1 | | Default: 50 Adjustable: (2-100) | Default:180 Adjustable: (100-300) | 60 |
| | U2 | | Default: 60 Adjustable: (2-100) | Default 160-260 Adjustable: (100-300) | 55 |
| | U3 | | Default: 50 Adjustable: (2-100) | Default 260 Adjustable: (100-300) | 46 |
| EMS | P01 | Default: 30 Adjustable: (5-90) | 4 | 200 | 60 |
| | P02 | | 20 | | 57 |
| | P03 | | 50 | | 57 |
| | P04 | | 60 | | 51 |
| | P05 | | 50 | | 57 |
| | U1 | | Default: 5 Adjustable: (2-100) | Default: 300 Adjustable: (100-300) | 48 |
| | U2 | | Default: 60 Adjustable: (20-100) | Default: 200 Adjustable: (100-300) | 51 |
| | U3 | | Default: 70 Adjustable: (20-100) | Default: 200 Adjustable: (100-300) | 46 |
| MASSAGE | P01 | 30 | 8 | 300 | 61 |
| | P02 | | 100 | 220 | 39 |
| | P03 | | 28-45 | 120-250 | 53 |
| | P04 | | 25-80 | | 57 |
| | P05 | | 50-100 | 100-240 | 61 |

body clock

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