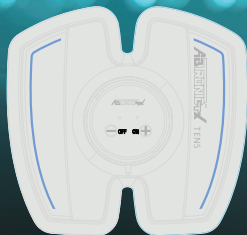


**ABTRONIX™ TX**

**USER MANUAL**



**Congratulations on your choice** of the **ABTRONIC™TX TENS pain Relief Device.**

Please read this manual before first use.

**Read before you use!**

ABTRONIC™TX should never be used to mask or relieve undiagnosed pain. Before treating any symptoms of pain, it is mandatory to diagnose the cause of pain by a medical professional.

## **What is ABTRONIC™TX?**

ABTRONIC™TX, an innovative One Piece Self-Adhesive electro pain relieve pad incorporating TENS technology to target specific pain. Elegantly designed using ultra-thin and flexible medical grade silicone to perfectly match the contour of your body.

This complete new approach to relieve pain offers a safe and effective non-drug treatment alternative for you.

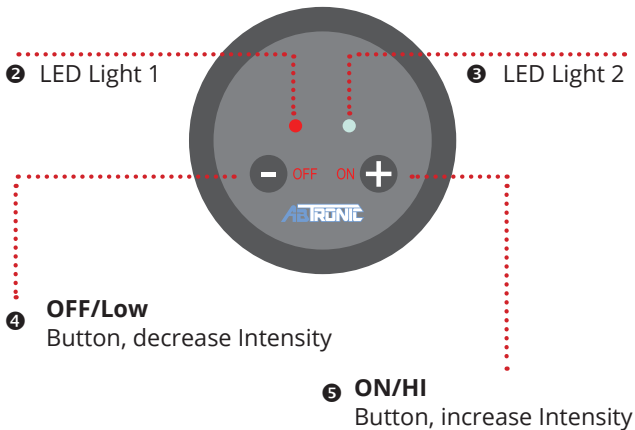
Your body's natural warning signs of cramps, acute pains, migraines, injuries resulting in pain, and chronic pain can be unsettling and need to be relieved.

The **AbTronicTX TENS pain Relief** device passes electrical currents over the skin. The gel pad is a conducting medium and is a consumable item, subject to wear and tear. Please replace the gel pad if it stops providing sufficient contact, if you start to get an unpleasant feeling when using the device, or if the device does not stick to the skin properly any more. If it is not replaced skin irritation may result.

Advanced circuitry conserves energy by providing 10 mins per treatment, up to 100 sessions per battery life time.

## **What is TENS?**

TENS, transcutaneous electrical nerve stimulation, which stimulates nerves through the skin. It is recognized as a clinically proven, effective, non-medication method of treating pain from certain causes. It manages pain by stopping the pain gate to prevent pain signal transmission to the brain, and helps to release endorphin to sooth pain by stimulating nerves. It is free from side-effects when used properly, and can be used as a simple means of self-treatment. The method is scientifically proven and a medical approved method. Your GP must check any symptoms to be treated with TENS and must give instructions how to perform TENS self-treatment.



## **CONTROLS**

A self-timer switches the unit off after 10 minutes.

- 1. ON/HI:** Turns the unit on and increases the output intensity. Press once to increase the output intensity. The higher the intensity - the larger the contraction. To adjust to maximum output power you need to push this button 10 times.
- 2. OFF/LOW:** Each pressing of this button decreases the intensity by one step down until the unit turns off.

The **ABTRONIC™TX** unit has the following 2 program modulation:

LED 1	LED 2	Description
GREEN	GREEN	AbTronicTX controller is now operating
		Both Led light will keep flashing
		The flashing speed is proportion to the output intensity
		For the Max. Power output, both LED will be always light up.
RED		Low battery indication
RED	RED	The pad contact with user body is no good
OFF	OFF	Unit switch off



CYCLE	MODE	PULSE WIDTH	PULS RATE	ON-TIME
1	Constant	200	70 Hz	120 s
2	Burst	200	70 Hz	120 s

## OPERATION

### BATTERY

1. Open the battery door by pushing it in the direction of the arrow:



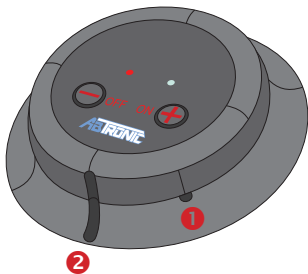
2. Insert one piece CR 2032 Lithium battery into the battery compartment. The positive "+" pole of the battery should be facing you.

## BASIC USE

1. Attach the **Abtronic™TX** control unit onto the silicon pad holder. Insert the controller by aligning the marking on the controller case with the holder:



Insert the control unit aligning it with the shorter marking on the holder at position (1) and turn it clockwise until it aligns with the longer marking on the holder at position (2):



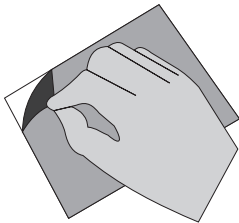
## APPLYING GEL PAD



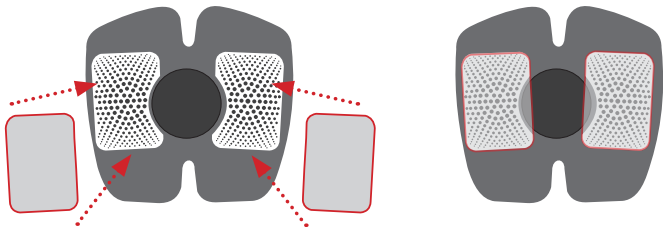
### Precautions

- Do not use damaged, worn or dirty gel pad as this might result in burns.
- Always, stick gel pad to all electrodes while using the product. Don't apply the product directly to skin, this may be painful or cause irritation or burns.

1. Take the gel pad out of the bag and peel off one side of the protective film from the gel pad.

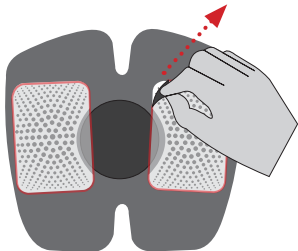


2. Stick the gel pad onto each of the 2 conductive areas on the rear side of the stimulation pad.



If there is an air bubbles under the gel pad use a finger and press the air to the side of the pad to escape.

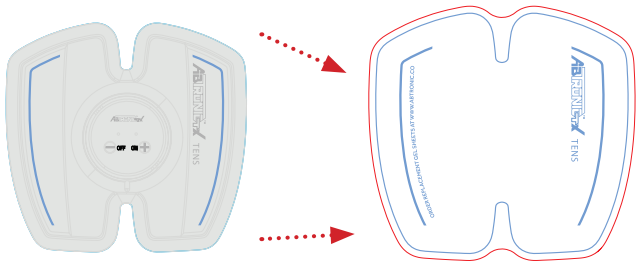
3. After affixing all gel pad properly, peel off the remaining film.



Do not peel off the gel pad affixed to the electrode, until you need to replace them with new ones!

#### 4. Gel pad Storage

After use, do NOT remove the gel pad, but always place protective board back to electrode after use.





## Removing Gel Pad

1. Only remove the gel pad if you need to replace them with new ones.
2. Turn off the product before removing the gel pad. Otherwise this may cause pain or irritation.
3. Peel off the complete gel pad slowly in one piece.
  - Remove any remaining gel on the electrodes.

**ABTRONIC™TX PLACEMENT:**

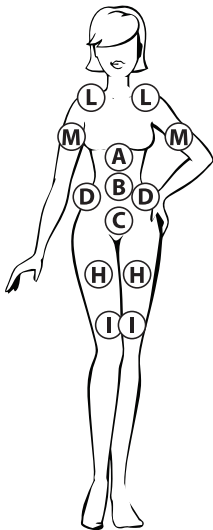
ABTRONIC™TX was design to be used to effectively target specific pain.

- Back pain
- Joint pain (e.g. knee joint, hip joint, shoulder)
- Neuralgia
- Headache
- Menstrual Pain
- Pain after injuries to musculoskeletal system
- Pain with circulatory problems
- Chronic pain through various causes

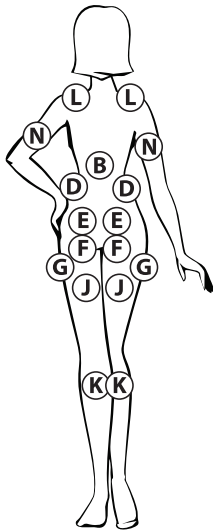
Please see the diagram with recommended placement. However, the **ABTRONIC™TX** is a personalized tool and can be adapted to suit the individual. If the below placement are not effective, please the unit over the area closest.

AFTER you have placed the unit onto your skin, switch the control unit on.

FRONT



BACK

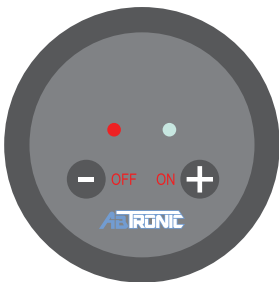


## Control Unit:

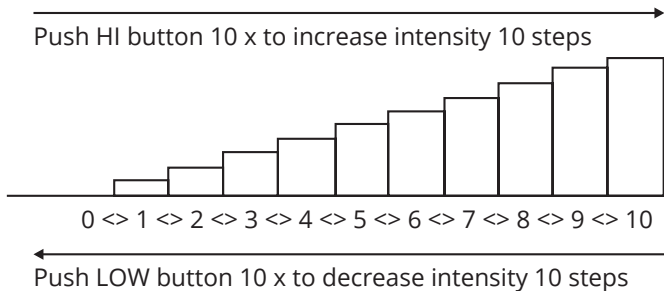
1. Press the ON/HI button to power up the ABTRONIC™TX control unit.
2. Select the intensity by pressing the "+"/"-" button repeatedly. The LED light up and the flashing speed is proportion to the output intensity.

If you do not feel any stimulation reposition the product 1-2 cm at a time up or down, until you find the trigger points for the muscle stimulation. Please turn the unit off before repositioning!

😊 **Hint:** DO NOT USE gel or creams that contain oils with the product.



3. Push the ON/HI button several times to carefully increase the intensity. Adjust the intensity according to your comfort level. You should feel a light tingling.



- The intensity has 10 steps. With every push of the button ON/HI you increase the intensity by one step, with every push of the button OFF/LOW you decrease the intensity by one step.  
To switch the unit off, press the OFF/LOW button several times, until the LED lights go off.  
The unit has an auto-timer. For your convenience it will shut off after 10 minutes of operation.

However please use the system for 4 to 6 consecutive cycles/day for best results.

## **Auto Functions**

When the conductive area (silver colored area) does not touch the skin, the intensity can only be set up to "1".

If **ABTRONIC™TX** is removed during use, the intensity is automatically reset to "1". If it is not placed back into contact with the skin, the unit will turn off after 20 seconds.

The auto timer will shut off after 10 minute operation.

## What to do if you do not feel the stimulation

Should no stimulation or contraction be felt, move the **ABTRONIC™TX** slowly around the area on your target area. Please turn the unit off before moving it to a new position. The **ABTRONIC™TX** is a great way treating pain from certain causes. It may take a few moments of practice for locating it correctly and provides the best results for you.

## Important Notes

If there is no gel pad on the **ABTRONIC™TX**, or if it is not placed tightly against the skin, an uncomfortable tingling sensation can occur. This can also happen if the body has built up excessive oils on the skin. Before each use please ensure that the contact points are thoroughly clean and



the gel pad is not worn or dirty. A discoloration of the conductive area is normal. Do not wash or immerse the product in water or use fabric cleanser. If there is redness or irritation on applied area after removal of the **ABTRONIC™TX** from your skin, this could be caused by the gel pad been worn out already.

For safety, and to avoid unnecessary discomfort, please ensure that the intensity settings are set to zero before placing and removing the machine.

😊 **Hint: VERY IMPORTANT:** You **MUST** apply a gel pad to **ABTRONIC™TX** that is not worn or dirty. The **ABTRONIC™TX** must make contact with your skin. It will not work through clothing.

## TAKING CARE OF YOUR UNIT

The **ABTRONIC™TX** is made of quality materials. The only maintenance required with the **ABTRONIC™TX** is to clean the conductive area gently, while you are replacing the gel pad, with a wet cloth and soapy water, further the battery needs to be replaced. Do NOT immerse it in water or other liquids. Do not rub hard on the conductive areas. **Do not wash it in the washing machine or apply fabric conditioner. NEVER BEND the conductive pad!** A discoloration of the conductive area and a “crumbled look” after many uses however is normal. Wear and tear is not covered by the guarantee. It should be noted however that this is the most advanced generation design and that lasts much longer than comparable products. The **ABTRONIC™TX** is extremely energy efficient. The

Batteries, last for approx.100 sessions of ten minutes. If the output becomes weak or the unit switches off automatically in less than 10 minutes, it is time to change the batteries (even if the LED is still lit up). The electronic control unit is built very reliable and uses SMT technology. It is maintenance free and will give you many, many years of trouble free usage.

## **CARE AND CLEANING**

### **IMPORTANT - PLEASE READ**

- Do not wash the unit in the washing machine or chemical cleaners as this can damage the unit
- Do not dry clean
- Do not use bleach
- Clean the unit with a slightly wet sponge with detergent and wipe with a cloth.

If the gel pad are worn out, or dirty, an uncomfortable tingling sensation can occur. This can also happen if the body has built up excessive oil on the skin.

**DO NOT bend the conductive areas.**

Worn or dirty conductive gel pad can reduce the performance of the unit or cause the belt to feel erratic. **The conductive gel pad are a consumable item** and do wear out eventually. Wear and tear is not covered by the guarantee.

## **MAINTENANCE & DAMAGE**

- If the unit is not functioning properly or cause discomfort, stop using it immediately.
- Pause ABTRONIC™TX before remove/move stimulate region.
- Use only for the specific pain problem diagnosed by professionals.
- Consult your local authorities for proper battery form battery chamber if you are not going to use it for a long period

## WARNINGS

- Never use this unit near the heart, around the mouth, or on diseased skin.
- Do not use this unit in places with high humidity such as the bathroom.
- May need to use under the supervision of a physical therapist.
- For external use only.
- Long-term stimulation at the same site may cause skin discomfort. Consult a dermatologist if skin discomfort persists.

- Do not use ABTRONIC™TX during the first 12 weeks of pregnancy.
- Consult a doctor before you use this device if you receive other medical treatments.
- Do not disassemble or remodel this unit.
- Do not use this unit while sleeping, driving or bathing.
- Prevent any metal object, such as belt buckle or necklace coming into contact with ABTRONIC™TX.
- Supervision and medical consultancy recommended if you are under age 16.

## TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SOLUTION
<b>LEDs do not light up at all</b>	<ul style="list-style-type: none"><li>■ Batteries are not installed</li><li>■ Batteries are installed incorrectly.</li><li>■ Batteries are empty</li></ul>	<ul style="list-style-type: none"><li>■ Install batteries</li><li>■ Check polarity “+” sign</li><li>■ Replace batteries</li></ul>



**LEDs light up,  
but nothing  
happens**

- No skin contact
- Controller not connected to the pad correctly
- Controller hang up
- Battery is low
- Use gel pad on conductive pad and place it directly onto skin.
- Check that controller is connected firmly with ABTRONIC™TX pad.
- Increase intensity by pushing the up button
- Perform a RESET, remove Batteries for 1 minute for full RESET
- Replace Battery

**LEDs light up,  
but nothing  
occurs**

- Intensity set to low level
- Worn or dirty gel pad.
- AbTronic™TX is positioned Incorrectly
- gel pad are worn or have oil deposits.
- Battery is low
- Increase intensity by pushing the up button
- Make sure the gel pad are still adhesive
- Otherwise use new gel pad.
- Move the AbTronic™TX around to locate your trigger points. (switch off when moving)
- Replace gel pad.
- Replace Battery

**LEDs light up,  
but all buttons  
do not work**

- Microprocessor hang up
- Perform a RESET, remove batteries for 1 minute for full RESET
- Battery is low
- Change Battery

## **IMPORTANT: POWER RESET**

If the unit does not switch on, or if you can't change to different programs, the microprocessor may have "hanged". Please perform a simple **RESET** by removing batteries and replace them after one minute.

## PRODUCT SPECIFICATION

Power	CR2032 Lithium 3V
Pulse Rate	70Hz
Pulse Width	200 $\mu$ s
Output Voltage	Max. 65 Vpp, based on 500 $\Omega$ load $\pm$ -10%
Treatment Time	10 minutes; auto-off
Pulse Strength	0 ~ 15 stages adjustable
Operation Environment	-10 ~ 40°C, 30 ~ 85% Relative Humidity
Storage Environment	-10 ~ 50°C, 10 ~ 95% Relative Humidity
Transportation Environment	-10 ~ 50°C, 35 ~ 85% Relative Humidity
Barometric Pressure	70kPa~106kPa
Size	-110 x 115 x 19mm

## **Electromagnetic Emissions-For all EQUIPMENT and SYSTEMS**

Guidance and manufacture's declaration-electromagnetic emission

The "ABTRONIC™TX" is intended for use in the electromagnetic environment specified below; The customer or the user of the "ABTRONIC™TX" should assure that it is used in such and environment.

Emission test	Compliance	Electromagnetic environment-guidance
RF emissions CISPR 11	Group 1	The “ABTRONIC™TX” 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 CISPR 11	Class B	The “ABTRONIC™TX” is suitable for use in all establishments, other than domestic and those directly connected to the public low- voltage power supply network that supplies building used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	



## **Electromagnetic Immunity - For all EQUIPMENT and SYSTEMS**

Guidance and manufacture's declaration - electromagnetic immunity

The "ABTRONIC™TX" is intended for use in the electromagnetic environment specified below. The customer or the user of "ABTRONIC™TX" should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment -guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	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	±2KV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.

Surge IEC 61000-4-5	$\pm 1$ kV line to line $\pm 2$ kV line to ground	$\pm 1$ kV line to line $\pm 2$ kV line to ground	Mains power quality should be that of a typical commercial or hospital environment.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% UT (>95% dip in UT) for 0.5 cycle	<5% UT (>95% dip in UT) for 0.5 cycle	Mains power quality should be that of a typical commercial or hospital environment. If the user of the "ABTRONIC™TX" requires continued operation during power mains interruptions, it is recommended that the "ABTRONIC™TX" be powered from an uninterruptible power supply.
	40% UT (60% dip in UT) for 5 cycles	40% UT (60% dip in UT) for 5 cycles	
	70% UT (30% dip in UT) for 25 cycles	70% UT (30% dip in UT) for 25 cycles	
	<5% UT (>95% dip in UT) for 5 sec	<5% UT (>95% dip in UT) for 5 sec	

NOTE UT is the a.c. mains voltage prior to application of the test level.

## **Electromagnetic Immunity - For EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING**

Guidance and manufacture's declaration -  
electromagnetic immunity

The ABTRONIC™TX" is intended for use in the electromagnetic environment specified below. The customer or the user of the ABTRONIC™TX" should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment -guidance
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Portable and mobile RF communications equipment should be used no closer to any part of the "ABTRONIC™TX", including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

Recommended separation distance

$$d = 1.2 \sqrt{P}$$

80 MHz to 800 MHz

$$d = 2.3 \sqrt{P}$$

800 MHz to 2.5 GHz

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:



Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms
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Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m
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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 "ABTRONIC™TX" is used exceeds the applicable RF compliance level above, the "ABTRONIC™TX" should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the "ABTRONIC™TX"

b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

## **Recommended Separation Distances**

Recommended separation distances between portable and mobile RF communications equipment

The “ABTRONIC™TX” is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the “ABTRONIC™TX” can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the “ABTRONIC™TX” as recommended below, according to the maximum output power of the communications equipment.



Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = 1.2 \sqrt{P}$	$d = 1.2 \sqrt{P}$	$d = 2.3 \sqrt{P}$
0.01	0.35	0.12	0.23
0.1	1.1	0.37	0.73
1	3.5	1.2	2.3
10	11	3.7	7.3
100	35	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance  $d$  in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where  $P$  is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for 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.



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[www.abtronic.co](http://www.abtronic.co)

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