Introduction

Dear Customer

Thank you for choosing the AvivaTens XP™ Pain Management System. Neurotech® developed the AvivaTens XP to help relieve pain by stimulating sensory nerves to suppress pain signals. The AvivaTens XP works to provide simple, fast and effective pain relief without drugs. Our goal is to design products that help accelerate recovery and return patients to a more active lifestyle.

If you have further questions regarding AvivaTens XP, please contact your prescribing physician or distributor that provided you with AvivaTens XP or neurotech at the address/phone number below.

Yours sincerely,
The neurotech Team.

If you have questions or require further information please contact:

neurotech®
A Division of Bio-Medical Research Ltd.
50 Harrison Street, Suite 114
Hoboken, NJ 07030
Tel: 800-901-5667
Web: www.neurotech.us
Validity

The information and technical data contained in this document relates to the AvivaTens XP™ pain relief unit provided with this manual. Each AvivaTens XP unit is assigned a serial number which is located on the back of the unit.

The information and technical data disclosed in this document are proprietary to Bio-Medical Research Ltd. and may be used and disseminated only for the purposes and to the extent specifically authorised in writing by the company.

Disclaimers

All units manufactured and sold by Bio-Medical Research Ltd. are rigorously checked and tested prior to shipment. However, the company is not responsible for the products’ use. Bio-Medical Research Ltd. accepts responsibility only for the safety, reliability and performance of the equipment when it is operated in accordance with the instructions herein and within the given specifications. Therefore, the user must bear full responsibility for any actions arising out of the use or misuse of this equipment. Any modifications, repairs or servicing must be undertaken by authorized Bio-Medical Research Ltd. personnel.

This manual is intended for the guidance of the clinician, who should also decide the placement of the electrodes.

Restrictions

The sale and/ or operation of this equipment is subject to law in the various countries. Compliance with this legislation rests with the importer, dealer, or user of the equipment as appropriate.

Prescription Warning

Caution: In the United States of America federal law restricts the device to sale or use by, or on the order of a physician or other practitioner licensed by the laws of the state in which he/ she practices.
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Safety Information

Intended Use:
AvivaTens XP delivers stimulation based on the principles of transcutaneous electrical nerve stimulation (TENS) as described in the following. Short electrical pulses are sent via self-adhesive electrodes to the surface of the skin.

Powered muscle stimulators should only be used under medical supervision for adjunctive therapy for the indications listed below.

Transcutaneous Electrical Nerve Stimulation (TENS)
TENS is a pain therapy based on the application of electrical stimuli to the skin via stimulation of the nerve fibers. There are two methods: The “pain gate” theory, which blocks the pain signals to the brain and/or through the increased release of endorphins, which inhibits the emergence of pain.

Indications
• The symptomatic relief and management of chronic intractable pain. It is also an adjunctive treatment in the management of post-surgical and post-traumatic pain. The device has no curative value and should only be used in conjunction with medical supervision.

Contraindications
• Patients with electronic implants (e.g. cardiac pacemaker or defibrillator - as your neurotech product may interfere with the proper functioning of the implanted stimulator) or if you suffer from any other heart problem.

Warnings
• The long-term effects of chronic electrical stimulation are unknown.
• Stimulation should not be applied over the carotid sinus nerves, particularly in patients with a known sensitivity to the carotid sinus reflex.
• Stimulation should not be applied over the neck or mouth. Severe spasm of the laryngeal and pharyngeal muscles may occur and the contractions may be strong enough to close the airway or cause difficulty in breathing.
• Stimulation should not be applied transthoracically in that the introduction of electrical current into the heart may cause cardiac arrhythmias.
• Stimulation should not be applied transcerebrally.
• Stimulation should not be applied over swollen, infected, or inflamed areas or skin eruptions, e.g., phlebitis, thrombophlebitis, varicose veins, etc.
• Stimulation should not be applied over, or in proximity to, cancerous lesions.

Precautions
• If in doubt, always seek medical advice.
• Safety of powered muscle stimulators for use during pregnancy has not been established.
• Caution should be used for patients with suspected or diagnosed heart problems.
• Caution should be used for patients with suspected or diagnosed epilepsy.
• Medical advice must be obtained before use on persons who are insulin-dependent diabetics or for persons who are under-medical supervision for any cognitive dysfunction.
• Medical opinion must be obtained before persons with any serious illness or injury apply muscle stimulation.
• Caution should be used in the presence of the following:
  a) When there is a tendency to haemorrhage following acute trauma or fracture;
  b) Following recent surgical procedures when muscle contraction may disrupt the healing process;
  c) Over the menstruating or pregnant uterus; and
  d) Over areas of the skin which lack normal sensation.
• Avoid placing the electrodes directly over metal implants if there is not at least 1 cm of muscle fiber in between. However placement on the nearest muscle is possible. If in doubt, seek medical advice.
• Precautions should also be taken if muscle stimulation occurs during heavy menstruation or in the same month as the insertion of an IUP (inter-uterine pessary, e.g. coil). The same applies to the period (6 weeks) after giving birth. We recommend that stimulation is only applied around the abdominal or lower abdominal region following medical approval.
• Some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium. The irritation can usually be reduced by using an alternate conductive medium, or alternate electrode placement.
• In all cases, ensure that stimulation does not exceed the patient’s tolerance level.
• When repositioning electrodes during treatment, always turn the intensity to minimum or pause the unit.
• Powered muscle stimulators should be used only with the leads and electrodes recommended for use by the manufacturer.
• When the cables are attached to the electrodes, ensure that the plugs are fully inserted into the electrode sockets. Ensure that no metal is visible.
• Powered muscle stimulators should be kept out of the reach of children.
• Simultaneous connection of a patient to high frequency surgical equipment may result in burns at the site of the stimulator electrodes, and possible damage to the stimulator.
• Operation in close proximity to shortwave or microwave therapy equipment may produce instability in the stimulator output.
• Electronic monitoring equipment (such as ECG monitors and ECG alarms) may not operate properly when the stimulator is in use.
• It may not be appropriate to use AvivaTens XP on a person at the same time as other equipment. You should check suitability before use.
• The AvivaTens XP unit should be used only for its intended purpose and in the manner described in this manual. Electrode placement and stimulation settings should be based on the guidance of the prescribing practitioner.
• A small number of isolated skin reactions have been reported, including allergies and acne.
• Stimulation should not be applied until the cause of the pain is identified and a precise diagnosis rendered.
• To avoid infection electrodes may only be used by a single individual.
• TENS is not intended to treat psychosomatic illness.
• TENS primarily treats symptoms by suppressing pain, which in turn serves as a protective mechanism.
• This device can deliver current densities in excess of 2mA/cm² when used at a high intensity with small electrodes. See “Technical Data” for more details.
• If any irritations, skin reactions, over-sensitivity or other side effects occur, please contact Bio-Medical Research Ltd. In such cases stop use immediately. Irritations can usually be reduced by changing the position of the electrodes. Note, however, that a slight reddening of the skin is quite normal under the electrodes during and for a short time after treatment.
• Do not use the AvivaTens XP unit with the electrodes positioned on injection sites (of medications/drugs), such as hormone treatment sites.
• An effective treatment should not cause undue discomfort. If the stimulation level is uncomfortable or becomes uncomfortable, reduce the stimulation amplitude to a comfort level and contact your physician if problems persist.
• [FOR PORTABLE DEVICES ONLY]: Portable powered muscle stimulators should not be used while driving, operating machinery, or during any activity in which involuntary muscle contractions may put the user at undue risk of injury.
• AvivaTens XP must not be used with any other unit that delivers electrical current to the body (e.g. interferential or another muscle stimulator).

Adverse Reactions
• Skin irritation and burns beneath the electrodes have been reported with the use of powered muscle stimulators.
General description of the AvivaTens XP

AvivaTens XP is a battery operated, portable, two-channel TENS unit intended for the treatment of chronic and acute pain. Based on the principles of TENS, AvivaTens XP sends short, electrical impulses through the surface of the skin via adhesive electrodes. 5 treatment programs are available for selection. See ‘Program Information’ on page 23 for a description.

AvivaTens XP has been specifically designed for home use.

The meaning of each icon is explained during the course of this manual.

Your AvivaTens XP package includes:
1. AvivaTens XP unit
2. Instruction Manual
3. A 9 volt battery
4. Connecting Leads
5. Electrodes
6. Device box

WARRANTY

Should your unit develop a fault within two years of purchase, neurotech® will undertake to replace or repair the unit and parts found to be defective with no charge for labor or materials, provided the unit:

• has been used for its intended purpose and in the manner described in this instruction manual.
• has not been connected to an unsuitable power source.
• has not been subjected to misuse or neglect.
• has not been modified or repaired by anyone other than an approved neurotech® agent.

This warranty complements existing national guarantee obligations and does not affect your statutory rights as a consumer.
AvivaTens XP is easy to use. All buttons are push buttons. The functions are defined by icons printed on each button (see below).

AvivaTens XP has a built-in audio indicator that emits a high-pitched tone when a valid button is pressed and a low tone when an invalid button is pressed.

**Buttons and Button Functions (Fig. 1)**

AvivaTens XP has the following buttons and functions:

1. **On / Off (Pause) Button (○)**
   This button switches the unit on and off and is also used to pause the treatment session. You must press and hold the button (for 2 seconds) to switch the unit off at the end of a treatment.

2. **Intensity Controls - Channels 1 and 2 (▲/▼)**
   Each intensity control governs one channel on the same side of the unit. Pressing the upper button (▲) during treatment increases the intensity level by a factor of one for that channel. Similarly, pressing the lower button (▼) decreases the intensity level by a factor of one. The numerical intensity indicator on the display changes in single increments to indicate this.

3. **Program Select Button (P)**
   The Program Select button enables the user to select the required treatment program. To change the program hold down the program selection button P for at least 3 seconds.

4. **Lock Button (●——)**
   The Lock button allows the user to lock the intensity controls to prevent accidental changes in the intensity level. It is also used to lock the Trigger button.
To set the Total Treatment Time.
To reset the total treatment time, press the lock button and the program selection button. The user must first press the Lock button and then the Program Select button for approximately 3 seconds. A tone will sound and the display will reset to zero. This function is available only at the start of a treatment session.

5. Trigger/Burst Button ()

Program 1:
When the Trigger button is pressed the signal frequency increases from 4Hz to 99Hz. To disable High Frequency Trigger mode press the Trigger button a second time.

Program 2 & 3:
When the Burst button is pressed once the Burst mode is enabled. To disable the Burst mode press the button a second time. If Burst mode is selected during Program 2, the unit delivers a signal with a frequency of 99Hz at a pulse width of 120µs for 3 seconds. This then returns to the normal program frequency and pulse width for 1.5 seconds. If Burst mode is selected during Program 3, the unit delivers a signal with a frequency of 4Hz at a pulse width of 120µs for 3 seconds, before returning to the normal program frequency and pulse width for 3 seconds.

Program 4 & 5:
When the Trigger button is pressed once the Trigger mode is enabled. When the button is pressed a second time the unit enters a contraction cycle which lasts as long as the button remains pressed. When the button is released the unit enters the relaxation cycle. When Trigger mode is disabled (by pressing the intensity button) the stimulation builds over a 2-second period to the previously set amplitude level.
Battery Information
The unit is powered by 1 x 9-volt DC battery. The battery compartment is located at the rear of the unit. We recommend an alkaline battery. AvivaTens XP has an indicator that shows the battery status. When the battery is nearly empty, the battery icon on the display will flash. To insert, replace or check the battery, follow the instructions on page 13.

Connecting Leads
Two sockets are located at the base of the unit for the insertion of the leads (Fig. 2). The leads are connected to the electrodes via moulded pins. The electrodes and leads are removable and can be replaced if necessary. Each lead is a separate channel, one of which is light blue and the other dark blue. Two plastic moulded pins are found at the end of each lead. They are identified with ‘+’ for the positive anode and ‘-’ for the negative cathode.
**AvivaTens XP display (Fig. 3)**

AvivaTens XP has a unique display that gives the user a precise overview of the battery status, the completed treatment time, contraction/relaxation phases and program selection.

1.  
   The Lock button is activated and prevents unwanted changes to the intensity level.

2.  
   Load Sense Feature: this activated when a poor connection between a lead and its electrode or between an electrode and the skin is detected.

3.  
   During treatment the intensity bars will rise and fall corresponding to the contraction/relaxation cycle on each channel.

4.  
   Displays the length of time left/elapsed in the current session in hours, minutes and seconds. For a set treatment time program, the timer will count down in minutes and seconds. For an open treatment time it will count up from zero in minutes and hours.

5.  
   Battery status indicator, indicates battery power remaining.

6.  
   The clock icon appears when the total treatment time is displayed and when the clock is counting upwards.

7.  
   Indicates which treatment program you are running (1 to 5).

8.  
   Trigger mode enabled. (Programs 1, 4 and 5)  
   Burst mode enabled. (Programs 2 and 3)

9.  
   The pause indicator appears when the treatment has been paused.
STEP-BY-STEP TREATMENT GUIDE

1. Using a mild soap and water solution, clean the skin thoroughly where you will be placing the electrodes. The electrodes do not adhere well if any dirt, oils, creams or other cosmetics are still on the skin.

2. Ensure that the device is switched off.

3. Insert, exchange or check battery as described on page 13. The battery should be replaced when the 3 bars have disappeared and the empty battery icon (🔋) flashes on the display.

4. The leads supplied with the AvivaTens XP are inserted into the sockets on the underside of the device. Push the plug end of the lead into the socket. The leads are designed so that once inserted, they are held firmly in position (Fig. 4). After connecting the leads to the unit, attach each lead to an electrode (Fig. 5).

5. AvivaTens XP is supplied with a set of electrodes. The electrodes should be handled as stated in the manual.

   **Please note the following points:**
   - Placement of the electrodes must be determined by a therapist.
   - The safety information provided in this manual must be followed.
   - The lead pins must be fully inserted into the electrode connector with no metal pin visible.
   - The complete surface of these electrodes should be in contact with the skin (Fig. 6).
   - Once the electrodes are attached, you may separate the leads to allow for better electrode placement.
   - AvivaTens XP is supplied with a belt clip. You may attach the unit at the waist by attaching it to a belt. Alternatively, the unit can be hand-held.
6. When the AvivaTens XP is switched on, you hear a high-pitched tone. The screen displays the total treatment time in hours and minutes for a period of 3 seconds (Display 1). After 3 seconds the screen in Display 2 will appear on the screen.

7. To change the program, hold down the program selection button for at least 3 seconds. The user is then presented with each available program (1-5) in turn. Note: You cannot change a program during treatment.

8. Programs 1-5 are not limited in terms of time (Display 2).

9. If you wish to reset the total treatment time, press the Program Select and Lock buttons simultaneously for a period of 3 seconds. The total treatment time will reset to zero (Display 3). The maximum total treatment time is 99 hours and 59 minutes. It will reset back to 00:00 when the maximum treatment time is reached.

10. Slowly begin to increase the intensity on the channel you wish to use by pressing the corresponding intensity control. As the intensity is being increased for a particular channel, the stimulus will be felt from the corresponding electrodes and a channel bar will rise and fall with the contraction/relaxation cycles of the channel being used. The level will be indicated (0 to 99) on the display (Display 4). The treatment timer will begin once the intensity is first increased.

11. If necessary repeat the process for the other channel. The intensity level of each channel is shown on the display.
12. Continue to increase the intensity of the channel until the desired level has been achieved. Where more than one channel is being used, you may increase the intensity completely from one channel before increasing the intensity from the other. Display 5 shows the screen during a contraction cycle during an open treatment time program. The timer displays hours and minutes, and is counting up.

13. Once the desired intensity level is reached, the user can press the Lock button to prevent accidental changes in intensity. To do so, press the Lock button once. The lock icon (🔒) will appear on the display (Display 6). To disable the Lock function, simply press the lock button once again and the lock icon disappears from the display.

14. If you want to interrupt the treatment session (e.g. to reposition the electrodes), briefly press the on/off button. The unit issues a beep and the pause icon appears on the display in order to signal that the program has been paused (Display 7). To deactivate the pause function, press the on/off button again. Then the treatment session is restarted from where it was paused and the pause icon disappears from the display.

15. The Burst mode can be used during Programs 2 and 3. Pushing the button enables Burst mode. To deactivate the function, press the button again (Display 8).

The Trigger mode can be used during Programs 1, 4, and 5. When the Trigger button is pressed while in program 1, the signal frequency increases from 4Hz to 99Hz. Press the Trigger button a second time to disable Trigger mode. When the Trigger button is pressed once during program 4 or 5, Trigger mode is enabled. When the button is pressed a second time the unit enters a contraction cycle which lasts as long as the button remains pressed. When the button is released
the unit enters the relaxation cycle. When Trigger mode is disabled (by pressing the intensity button) the stimulation builds over a 2-second period to the previously set amplitude level.

**Caution:** In trigger mode, where stimulation is held constant for several continuous seconds, muscle fatigue could occur. This mode of operation may provide relief only from muscle spasm.

16. AvivaTens XP has a load sense function that monitors the connection between the lead and its electrode and between the electrode and the skin. When poor skin contact is detected (Display 9):
   • The amplitude bar of the channel being used will flash.
   • The warning icon (⚠️) flashes on the display.
   • An audible beep will emit from the unit.
   • The treatment session timer pauses.
   • The intensity value falls to zero and the up-arrow intensity button is deactivated. When proper contact is restored, stimulation builds over a 2-second period to the previously set intensity level.
SYSTEM MAINTENANCE

The unit should be cleaned regularly using a soft cloth, lightly dampened with soapy water.

Do not allow the interior of the unit or any of the connectors to become wet during cleaning. Do not use detergents, alcohol, spray aerosols or strong solvents on your unit.

The battery icon ( ) will appear at all times during operation in the top centre of the display. As the battery of the AvivaTens XP discharges, the three bars on the battery icon slowly disappear. Once all three bars have disappeared, the outline of the battery icon starts to flash. This means that the batteries must be replaced.

The battery compartment is located on the rear of the AvivaTens XP unit. In order to open the battery compartment, turn the AvivaTens XP over. Press your thumb against the symbol shown ( ) on the battery compartment to unlock it and push it forwards. A directional arrow on the battery cover (Fig. 7) indicates the direction in which the cover opens. This unlocks the battery compartment.

Now open the cover completely.

To remove a battery, press firmly against the lower end of the battery and lift it out carefully.

The battery image in the compartment indicates the correct direction of the poles and insertion of the battery. (Fig. 8). You need a 9-volt battery. This information is also included in the battery compartment.

To close the battery compartment, push the battery cover downwards and click it back into place.

⚠️ Note: Keep the battery cover closed when the unit is on.
It is advisable to use a leak-proof battery to help prevent corrosion. We suggest using alkaline batteries. Never leave a battery in the unit if it is not intended to be used for a long period of time. If you do, the battery may leak causing damage to the unit. You should be aware that some batteries sold as ‘leak-proof’ can still release corrosive substances, which may damage the unit. Under no circumstances should anything other than the correct type of battery be used.

**Accessories**

Only electrodes specified by Bio-Medical Research Ltd. for use with AvivaTens XP may be used. Using other electrodes and leads may degrade performance levels.

Do not dispose of used electrodes and batteries in household rubbish or in an open flame; dispose of them in accordance with regulations in your country.

Electrodes wear out over time: If they are dirty or no longer adhere properly, they need to be replaced. Replace the leads if the sheathing is damaged and exposes the copper wire.

**Repair, Service & Modification**

Access to the interior is not required for maintenance purposes.

Repair, service and modifications may not be carried out by anyone other than qualified service personnel authorised by Bio-Medical Research Ltd.

Do not use the unit if it is defective. Please return it to neurotech®. Bio-Medical Research Ltd. will not accept any responsibility where the guidelines and instructions are not followed.
## TROUBLESHOOTING

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The display does not come on and there is no signal from the unit</td>
<td>Battery discharged</td>
<td>Replace battery</td>
</tr>
<tr>
<td></td>
<td>Battery was incorrectly positioned</td>
<td>Remove battery, replace correctly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The unit turns on, but does not carry out commands</td>
<td>Lead not fully inserted</td>
<td>Remove plug, reinsert</td>
</tr>
<tr>
<td></td>
<td>Broken lead</td>
<td>Replace electrode/ lead assembly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Battery symbol flashing; Ineffective stimulation</td>
<td>The battery is low</td>
<td>Replace the battery</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commands performed irregularly, only at high intensity, or not at all</td>
<td>Faulty lead</td>
<td>Replace lead</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing intensity causes unpleasant sensation</td>
<td>Check your skin for lotions, pigment marks, dry spots or other factors that could increase resistance</td>
<td>Slowly move electrode to an area where the stimulus feels strongest (always pause the unit first)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mohisten electrodes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wash any oils from the skin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alarm symbol on, unit beeping</td>
<td>Faulty lead assembly</td>
<td>Check connections, replace if broken</td>
</tr>
<tr>
<td></td>
<td>Electrode faulty</td>
<td>Replace electrode</td>
</tr>
<tr>
<td></td>
<td>Poor skin/electrode contact</td>
<td>Check electrode contact contact with skin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Technical Information**

**General Specifications:**
- **Product Type:** 458
- **No. of Channels:** 2
- **Waveform:** Symmetric Bi-Phasic

**Multiplexing:** Pulse delivery to each channel is off-set so that only one channel is energised at any instant. This ensures there is no interaction between the electrodes of each channel.

Electrode area less than 6.5 cm² can cause current densities in excess of 2 m/cm² at maximum intensity. If in doubt, contact neurotech® or your clinician.

**Environmental Specifications:**
- **Operation:**
  - Temperature: 32° to 131° F
  - Humidity: 20 to 65 % RH
- **Storage:**
  - Temperature: 32° to 131° F
  - Humidity: 10 to 90 % RH

XP units are products of Bio-Medical Research Ltd., Parkmore Business Park West, Galway, Ireland.

A number of symbols are provided on your unit. Those not already explained are described below:

**Power Requirements:** 9-Volt, DC Battery (Type 6F22). Inside the battery compartment ‘+’ indicates positive polarity and ‘-’ indicates negative polarity. DC (Direct Current) is indicated by the symbol: ===

**Physical Specifications:**
- **Unit Dimensions:** 105 x 68 x 28 mm
- **Weight:**
  - Unit: 3.35 oz
  - Unit with battery: 5 oz

**Safety Features:**
- **Safe start:** The intensity is set automatically to zero when the unit is turned on.
### Nominal output voltage / power

<table>
<thead>
<tr>
<th>Parameter</th>
<th>500Ω</th>
<th>1kΩ</th>
<th>1.5kΩ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output RMS voltage (RMSV)</td>
<td>6.6 V</td>
<td>11.2 V</td>
<td>12.4 V</td>
</tr>
<tr>
<td>Output RMS current (RMSA)</td>
<td>13 mA</td>
<td>11 mA</td>
<td>8.2 mA</td>
</tr>
<tr>
<td>Output frequency</td>
<td>4 – 99 Hz</td>
<td>4 – 99 Hz</td>
<td>4 – 99 Hz</td>
</tr>
<tr>
<td>DC Component</td>
<td>0 C</td>
<td>0 C</td>
<td>0 C</td>
</tr>
<tr>
<td>Pulse Width</td>
<td>120 – 150 µs</td>
<td>120 – 150 µs</td>
<td>120 – 150 µs</td>
</tr>
<tr>
<td>Current Intensity Range (per pulse)</td>
<td>0 – 75 mA</td>
<td>0 – 75 mA</td>
<td>0 – 75 mA</td>
</tr>
</tbody>
</table>

**Output RMS Current (RMSA):** Stands for the effective current output, which is the root mean square current measured at a specified resistance.

**Output RMS Voltage (RMSV):** Stands for the effective voltage output, which is the root mean square voltage measured at a specified resistance.

**Power (P):** Maximum power output measured in Watts (W) into a 500(ohm symbol/) load.

**Frequency (F):** Number of pulses output by the unit per second, measured in Hertz (Hz).

⚠️ This icon means “Warning, read the accompanying documentation”.

⚠️ This symbol means “Type BF equipment”

**SN stands for “serial number”**.

On the rear of each XP model is the unit’s individual serial number. The letter preceding the serial number indicates the year of manufacture, where “K” denotes 2005, “L” denotes 2006, etc.

This icon on your XP model shows that the device meets the 93/42/EEC Directive for medical devices. 0366 is the number of the notified body (VDE).
**Disposal of device**

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

Some product materials can be re-used if you bring them to a recycling point. By re-using some parts or raw materials from used products you make an important contribution to the protection of the environment. Please contact your local authorities if you need more information about collection points in your area.

Waste Electrical and Electronic Equipment can have potentially harmful effects on the environment. Incorrect disposal can cause harmful toxins to build up in the air, water and soil and can be harmful to human health.

**ACCESSORIES**

**Electrodes:**
Valutrode Lite/ Valutrode by Axelgaard Manufacturing Company Inc.
Sizes: 45mm x 45mm, 50mm x 50mm, 70mm x 70mm.

Pals Flex Stimulation by Axelgaard Manufacturing Company Inc.
Sizes: 50mm x 50mm, 70mm x 70mm.

Synapse (Medicom TENS electrodes) by Ambu A/S.
Sizes: 50mm x 50mm.

**Leads:**
AvivaStim XP/ AvivaTens XP Lead (Part No.: 1600-9301).
Size: Length = 1m
UNIT SETTINGS AND ELECTRODE EQUIPMENT

Your personal therapy program is program no.  

When switched on this can always be seen on the unit’s display!

Use the Burst function (X) (possible with programs 2, 3)  
Yes ☐  No ☐

Use the Trigger function (X) (possible with programs 1, 4, 5)  
Yes ☐  No ☐

Note: If the unit’s display shows a different program from the one prescribed by the clinician when you switch it on, please do the following:

1. Switch the device off and on then again.

2. Hold down “P” button (for at least 3 seconds each time you want to change the program) until the program prescribed by the clinician appears again. (The programs advance from 1 - 5 and not in reverse, 5 - 1)

3. Start the therapy
Note for the clinician:
Please enter the desired electrode placement in the adjacent drawing! Connect the adjacent channels with a straight line.
ELECTRODE PLACEMENT GUIDE

The following images show several possible electrode placements. However, you should only place electrodes as directed by your physician.
## PROGRAM INFORMATION

<table>
<thead>
<tr>
<th>Program No.</th>
<th>Frequency (Hz)</th>
<th>Pulse duration (µsec)</th>
<th>Treatment Time (min)</th>
<th>Burst or Trigger</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>150</td>
<td>open</td>
<td>High Frequency Trigger</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>150</td>
<td>open</td>
<td>Burst - Frequency of 99Hz, pulse width 120 µsec. for 3 seconds; Will return to program settings for 1.5 seconds.</td>
</tr>
<tr>
<td>3</td>
<td>99</td>
<td>150</td>
<td>open</td>
<td>Burst - Frequency of 4Hz, pulse width 120 µsec. for 3 seconds; Will return to program settings for 3 seconds.</td>
</tr>
<tr>
<td>4</td>
<td>Channel 1: 4 Channel 2: 99</td>
<td>150</td>
<td>open</td>
<td>Trigger</td>
</tr>
<tr>
<td>5</td>
<td>4 - 99</td>
<td>150</td>
<td>open</td>
<td>Trigger</td>
</tr>
</tbody>
</table>

**Program 1 (High Frequency Trigger):**
Program 1 delivers a stimulus of 4Hz. When the Trigger button is pressed a high frequency 99Hz stimulus is delivered. To disable High Frequency Trigger mode press the Trigger button a second time.

**Program 2, 3 (Burst Mode):**
Burst mode is available on Programs 2 and 3. When the Burst button is pressed Burst mode is enabled. To disable Burst mode press the button a second time. If Burst mode is selected during Program 2, it results in a frequency of 99Hz at a pulse width of 120µs for 3 seconds. This then returns to the normal program frequency and pulse width for 1.5 seconds. If Burst mode is selected during Program 3, it results in a frequency of 4 Hz at a pulse width of 120µs for 3 seconds, before returning to the normal program frequency and pulse width for 3 seconds.
**Program 4 (Trigger) Dual Frequency:**
When program 4 is selected channel 1 and channel 2 deliver stimuli at different frequencies. Channel 1 delivers a stimulus of 4 Hz while channel 2 delivers a stimulus of 99Hz.

**Program 5 (Trigger) Massage:**
Program 5 is a variable program. This delivers a stimulus of 4 to 99Hz.

Trigger mode is available on Program 4 and 5. When the Trigger button is pressed Trigger mode is enabled. When the button is pressed a second time the unit enters a contraction cycle for as long as the button is pressed. When the button is released the unit enters the relaxation cycle. When Trigger mode is disabled, by pressing the intensity button, the stimulation builds over a 2-second period to the previously set amplitude level.