YSY EST
EVOLUTION

USER MANUAL
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WARNING

Before using your medical device, read the manual carefully and in its entirety.

Preamble:

This medical device has been designed to collect muscle signals through various probes, sensors or electrodes and can generate currents of stimulation.
Date of first placing on the market: 2000 (Decree of March 15, 2010).

Contraindications:

Electrotherapy is contraindicated in the following cases:

- Epilepsy
- Cardiac deficiency (pacemaker and cardiac diseases)
- Pregnancy
- Persons with active deep vein thrombosis or thrombophlebitis
- Persons with actively bleeding tissue or to persons with untreated hemorrhagic disorders
- Persons with infected tissues, tuberculosis, or wounds with underlying osteomyelitis
- Persons with recently irradiated tissues
- Persons with an artificial limb (hip replacement)
- Persons with vesico ureteral reflux
- Persons with post-voiding residual over 100 ml
- Where the patient is insensitive to any feeling on the skin;
- On damaged skin numb or region or with recent scares (natural or after a surgical operation)
- Where the patient is unable to understand the procedure or unable to distinguish between what is normal and abnormal. And unable to express any inconvenience.
- The application of electrodes near the thorax may increase the risk of cardiac fibrillation
- Diagnostic of the pain is not clearly known by the MD/therapist
- Cancerous lesions
- Persons with genital prolapse with severe complete externalization of the vagina (for urology and perineal practice only)
- Vesico ureteral Reflux , obstruction of the urethra, irradiated or fixed urethra for urology and perineal practice only)
- Electrodes must not place on the carotid region (anterterior neck), transcereberally (trough the head), transthoracically (may cause cardiac arrhythmias).

The Biofeedback doesn’t do anything in the body, but it is contraindicated in the following cases:

- Person with severe psychosis, depression or obsessional neurosis,
- Debilitated persons
- Psychopathic personalities

However, because resulting functional improvements can require strenuous physical effort, individuals interested in Biofeedback may need to be aerobically fit.
Biofeedback is dangerous for diabetics and others with endocrine disorders, as it can change the need for insulin and other medications. Please check with the doctor to see whether this is an appropriate treatment for you.

See Biofeedback and Electrotherapy section just after.

Security measures:

All operations related to patient (for example : connecting probes, connecting electrodes, and their use with the patient) must be carried out in hygienic routine and mandatory requirements.

The therapist must check the area to be treated and must not impose any kind of therapeutic treatment which might frighten the patient. He must also take into account any fear which the patient may express.
All the accessories supplied with YSY MEDICAL device (e.g. electrodes) are given as samples.
The use of monophasic stimulation in perineum rehabilitation is forbidden.
If PC computer is furnished by the final customer, he must find a PC computer that conforms with its electrical safety standard currently valid (for example: IEC/EN 60950-1).

Never connect other accessories than those delivered by the manufacturer. For example, in case of defected/damaged wires, contact the manufacturer for the replacement. Never replace the damaged wires by yourself. Any malfunction must lead to the stop of the device and the manufacturer must be immediately informed.

The technical data of this user manual can be subjected to any modifications without any advance notice.

The stimulator can provide rectangular positive pulses, negative pulses, or a zero average with duration of 30 to 5000µs and a frequency between 1 to 4000 Hz. The stimulator provides a maximum intensity of 50 mA.

Testing is done with a load of 500 Ohms and a load impedance range between 300 and 3000 Ohms (without change in amplitude or frequency), in conformity with the standard IEC/EN 60601-1 and IEC 60601-2-10.

Any partial or complete copy of this manual is strictly forbidden, except a writing agreement from YS Y MEDICAL. Any reproduction, modification, partial or full dismantling of internal or external software supplied with the device are strictly forbidden by YS Y MEDICAL.

During the session the patient must be made comfortable and must not be in contact with anything metallic (tables, other rehabilitation device, etc.) and should be situated at a minimum distance of 1.50 m from the computer, screen and printer.

For devices which have telemetry, the eye must be at least at 20 cm from the areas of emission and reception signals. Those areas are located on the medical device and on the mobile unit of telemetry. The eye must never have a look at the infrared beam or in the direction of the beam. Irreversible eye risks could happen in case of non compliance with this safety instruction.

During a rehabilitation session, presence of therapist (qualified staff) is compulsory.

The device must be used by a person medically authorized to do it and this person must have received a full training on the use before by an authorized distributor YS Y MEDICAL. In case of doubt, please contact YS Y MEDICAL.

Don’t use the device in damp place (sauna, hydrotherapy…)

This medical device is not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide.

Never make the first stimulation session on standing patient.

In exceptional cases, very emotive patients could develop a vagal reaction. This psychological reaction is linked to the fears of stimulation and loss of control of muscle contraction (contraction without the willing to do it).

This vagal reaction results weakness feeling with syncopal tendency (lipohymia), a slowdown of heart rate, a decrease of blood pressure. In that case, all the therapist has to do is to stop the stimulation and to lay the patient down with his legs up, during 5 to 10 minutes in order that weakness feeling disappears.

Never allow the movement that the muscular contraction results in a stimulation session. It is absolutely necessary to stimulate in isometric.

Don’t use the device on a patient who is connected simultaneously to high frequency surgical equipment; because there is a risk of provoking irritations or skin burns.

Make sure there is more than one meter between the device and short waves devices, or micro-waves devices, because there is a risk of causing instabilities in the output currents of stimulator.

Don’t use the device in a place where other devices are used to emit intentionally electromagnetic radiations without a protection. Mobile communication devices can affect the working of electrical medical equipments.

In case of using electrodes of stimulation which are exceeding 2 mA/cm², it is requested to have a special attention from the user.

Do not place the device under or on another device which can produce a temperature superior to the ambient temperature. Do not put a laptop computer on the device. The device must be settled on a table or other supports, being attentive to a good air flow below and over the device. The pads that elevate the case should remain in good condition.

All of accessories and cables supplied have been tested as same as the device and therefore are in compliance with different standards referring to medical devices.

Use exclusively accessories and cables supplied by YS Y MEDICAL. Safety of the patient and electric security cannot be guaranteed by using others cables.

Don’t disconnect stimulation cables from the stimulator during a session when the device is still powered. Stop beforehand the stimulator.
An additional mobile base multiple outlet or an extension wire must not be connected to the system.

Probes, electrodes, cables and enclosure of the medical device are the applied parts of the medical device.

The power cord is the disconnection device of the medical device. The medical device must be positioned so that it is easy to operate the disconnection device.

The user must not touch the patient and the following parts simultaneously:
- The PC computer connected to the medical device,
- Any other electronic equipment,
- The USB cable connected to the medical device,
- The USB connector of the medical device.

It's forbidden to apply electrical stimulation from one side to the other of the head or through the head, directly on eyes, on mouth, on the front of the neck (especially the carotid sinus), or from electrodes placed on the chest (thorax) and upper back or through the heart.

**Put the device on the scrapheap:**

Conform to the directive 2002/96/CE in order to process your electrical or electronic wastes.

It is necessary to take into account following environmental aspects when you want to put your device and accessories on the scrapheap.
- YSY device, cables, electrodes belong to little chemical wastes (or electrical and electronic wastes). These components contain lead, tin, copper, iron, and various other metals, plastics…
- Packing materials could be recycled.
- Contact Ysy-Médical in order to get information about the several recycling options.
- Inform the supplier to put the device on the scrapheap.

Otherwise, the manufacturer will do what is necessary at his charges, according to the modalities of eco-tax.

**Life span:**

A device has a 10-year life span. Beyond this limit (10 years), the manufacturer is not bound anymore to deliver spare parts, components, or accessories of the device.

In case of cessation of manufacture, the 10-year delay is brought back to 5 years.

**Maintenance of YSY MEDICAL devices**

Apart from warranty periods, it is recommended to be sure of the good working of YSY devices, thanks to a checking and an annual control.

In case of non compliance with this safety instruction, the manufacturer cannot be held responsible in any way and whatever is the problem on the medical device.

It is recommended to replace Biofeedback/stimulation cables every 2 years minimum. Cables in good condition are essential to the well working of the medical device and to respect its essential performances.

No maintenance/after sales services can be performed by the final user, except in an hospital where some maintenance/after sales services can be performed (see "Service Manual") by qualified and authorized person.

No electronic schema is provided with the medical device.

After sales services is provided only by YSY MEDICAL.

No part can be repaired by the final user.

If the device is modified, a control and appropriate checking/testing should be performed to ensure that the medical device is always usable safely.
Liability:

The manufacturer declines to be liable towards the therapist, the patient or the device for damages of:

- Wrong diagnostic
- Bad manipulation and bad use of the device or its accessories
- Bad interpreting or unknowing of instructions for use.
- Negligence, forgetting of procedure towards the patient
- Lack of maintenance of the device
- Maintenance or repairing done by people or authorities unauthorized by the manufacturer.

The device can be delivered or not with accessories (electrodes or probes for example)
These consumables are delivered initially with new device as sample.
The user must respect the user guide and/or the labelling on packaging for each consumable delivered with device
Each type of electrodes corresponds to a special kind of treatment. Follow exactly the recommendations which are
mentioned on the packaging.
Check with attention if the consumable is for a unique use or personal use (reusable by only one and same person)
All of the accessories must be delivered in a closed packaging
In case of doubt, before use, please contact the manufacturer of medical devices concerned

THE MANUFACTURER CAN’T BE LIABLE IN CASE OF INFECTION TRANSMISSIONS BY CONSUMABLES
DELIVERED AS SAMPLES WITH THE DEVICE.

Training to use:

Training to use the medical device is required. It is provided by the seller during the installation of the medical device,
generally in the medical place of the user.
Training is provided at least once, according to the needs of the user.
This document is used as training support.

MISCELLANEOUS

Windows configuration:

It is imperative to respect the following configurations to ensure the good running of the medical device:
Screen resolution: 1024 x 768 for 4/3 screen, 1280 x 720 for 16/9 screen.
Do not install an economizing device, a screen saver, nor any background programs. Adjust the options of supply on high Performances.
In case of using a laptop computer, do not use the battery mode during the time of the séance (connect the sector charger).

Cleaning of the medical device:

Switch off the device and remove the plug from the main electricity supply before handling it.

Recommended for cleaning of the medical device are as follows: mild soap, water, ethylene and acetaldehyde.
The recommended solutions for cleaning of cables are as follows: liquid BURATON, MIKROZID, ETHANOL 70%, SPORACIDIN, CIDEX, STERANIOS.
The cleaning must be done with a soft, dry cloth and a thinner non-caustic detergent recommended above.
Do not pour liquid onto the device, accessory or device to clean or immerse it in a liquid.
Otherwise, contact the manufacturer and discontinue use of the device.
Be sure to remove all traces of cleaning solution remaining after cleaning.
In case of necessary disinfection of the medical devices, use a cleaning product with atomizer specific for medical devices.

Follow the instructions of use which appears on the cleaning product used.
In any case of doubt, before use it, please contact the manufacturer to get more information.
Example : SURFA’Safe (ANIOS) – Disinfectant composition: didecyldimethylammonium chloride 1.4 mg/g and hydrochloride polyhexamethylene biguanide 0.96 mg/g.
Never sterilize the device, nor an accessory or a peripheral.
**Accessories and consumables:**

Use good quality electrodes in order to obtain a good acquisition and good stimulation.

Use electrodes exceeding 2mA/cm² must cause a particular attention on the part of the operator.

It is advisable to disinfect the electrodes before use (refer to the procedure specified by the manufacturer of the electrodes), or even to use a pair of electrodes per patient for a total hygiene.

Similarly, a probe will be used per patient.

The banana red and black cables are used to connect the skin electrodes (known as active) or probe.

The yellow banana plug is used to connect the reference electrode (see chapter reference electrode page 18).

When using the cable acquisition in temperature, place a finger cot on the temperature sensor (single use).

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**Changing the fuse:**

The fuse is located on the rear face of the medical device, near the power switch.

Switch off the device and remove the plug from the main electricity supply before handling it.

Use a flat-head screwdriver to access the fuse holder.

Fuse references are: 800 mA T.

Close the fuse holder before switching on.

Welded fuses:

<table>
<thead>
<tr>
<th>Nominal current</th>
<th>Nominal tension</th>
<th>Breaking capacity</th>
<th>Permissible maximum voltage difference</th>
<th>Dissipated power</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 mA</td>
<td>250 Volts</td>
<td>35 A/ 230 V AC - 50-60Hz - Cos φ = 1.0</td>
<td>500 mV</td>
<td>70 mW</td>
</tr>
<tr>
<td>315 mA</td>
<td>250 Volts</td>
<td>35 A/ 230 V AC - 50-60Hz - Cos φ = 1.0</td>
<td>140 mV</td>
<td>160 mW</td>
</tr>
</tbody>
</table>

**Conditions of warranty and after-sale service:**

The device is guaranteed for 1 year + 1 year, parts and labour if returned to YSY MEDICAL (referring to conditions on the warranty period in the part of guarantee validation) from the shipping date in our warehouse, for any vice of manufacturing.

The details and the terms of the warranty are the following:

- Intervention / Repair provided in the YSY MEDICAL office, parts and labour : 2 years
- Lending of material if reparation necessary : first year warranty:
- Software updating : first year warranty
- Cable: 1 month
- Accessories: 1 year (for example: pressure case)

For an extension of the warranty conditions, maintenance agreements are at your disposal at the end of the first year warranty.

Are excluded: the shipment, the accessories, the wires, the shocks, the electric damages, and in general all the external elements and or failures coming from a bad using of the medical device.

If repairs involved in YSY MEDICAL workshops, repatriation of the equipment is the responsibility of the customer. No schema is provided with the medical device.

No maintenance/after sales services can be performed by the final user, except in an hospital where some maintenance/after sales services can be performed (see "Service Manual") by qualified and authorized person.

The after sale service must be provided by YSY MEDICAL.

The medical device must not be opened.

If the device is opened in a place other than the YSY MEDICAL workshop, the warranty is automatically cancelled.

Red labels, black writing on screws guaranty the inviolability.

No part can be repaired by the user.
Validation of Warranty:

The device is delivered with a warranty card, of which supplier copy must be integrally fully completed and return to us, in an envelope provided with the device. A defect of this registration document, within the 15 days after the delivery, will lead to a nullity of the second year of warranty and also the impossibility to access to our technical assistance. On the other hand, all card which is not correctly and fully completed won’t be taken into consideration. YSY MEDICAL software supplied on CD with your device is limited to 50 openings. Beyond you couldn’t use it.
From reception of your warranty card, fully completed, we will validate your warranty by the registration and henceforth you could access to our after sales assistance. Within 2 working days, you will receive on your email address given on the card, your activation key, which will allow you to use totally your software.

Windows printing:

The colour printing of the several software results have been successfully tested with some kind of printer. We are unable to guarantee a good quality of printing for all existing printer. In case of printing problems, use the export function, and print the image file with external software.

Description of graphical symbols indicated for using, storage and transport:

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Fragile. Handle with care." /></td>
<td>Fragile. Handle with care.</td>
</tr>
<tr>
<td><img src="image" alt="Protect from moisture." /></td>
<td>Protect from moisture.</td>
</tr>
<tr>
<td><img src="image" alt="Refer to the operating instructions." /></td>
<td>Refer to the operating instructions.</td>
</tr>
<tr>
<td><img src="image" alt="Warning." /></td>
<td>Warning.</td>
</tr>
<tr>
<td><img src="image" alt="Temperature limits. +10 °C to +40 °C / 50°F to 104°F" /></td>
<td>Temperature limits. +10 °C to +40 °C / 50°F to 104°F</td>
</tr>
</tbody>
</table>
Restrictions for the use of the medical device:

Humidity limits: from 30 to 90% humidity.
Temperature limits: +10 to +40 °C / 50°F to 104°F.
Atmospheric pressure limits: from 700 to 1060 PA

Restrictions for storage of the medical device:

Humidity limits: from 30 to 90% humidity.
Temperature limits: +10 to +40 °C / 50°F to 104°F.
Atmospheric pressure limits: from 700 to 1060 PA

Restrictions for the transport of the medical device:

Humidity limits: from 30 to 90% humidity.
Temperature limits: -50 to +40 °C / -58°F to 104°F.
Atmospheric pressure limits: from 200 to 1060 PA

Unpacking the device:
After having unpacked of device, place it in a room with an ambient temperature (around 20°C and 30°C) and then wait 1 hour at least. If there is condensation when unpacking the device, don’t switch on the device. Wait for at minimum 12 hours before switching it on to remove condensation.

Referred software:
This manual referred to the YSY EST EVOLUTION 2 and YSY EST EVOLUTION 4 software.
Version: 3.7.7 EN.
If some elements appears on this manual and not in your software, that means they are optional. All of the options are available for purchase to your YSY MEDICAL distributor.

Telemetry:
Never look at the infra red beam.
Battery used: Alkaline LR6 9V - classification BF. Never use different battery from the one recommended above. In the event of non use of the device, withdraw the battery of its case.

Uninterruptible Power Supply (UPS):
The use of an UPS with the device is fully recommended. To settle an UPS, follow with attention the manual of installation delivered with the UPS.
### Medical device class and symbols:

<table>
<thead>
<tr>
<th>Manufacturer Symbol with full address and year of conception</th>
</tr>
</thead>
<tbody>
<tr>
<td>SN</td>
</tr>
<tr>
<td>Waste processing</td>
</tr>
<tr>
<td>Warning Security symbol. Read with attention the user manual</td>
</tr>
<tr>
<td>Class II device</td>
</tr>
<tr>
<td>Functioning instructions. Read the user manual</td>
</tr>
<tr>
<td>BF type device.</td>
</tr>
<tr>
<td>Protection index IP 40</td>
</tr>
<tr>
<td>Medical Device (DM) certified CE by the notify body SGS (number 0120).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Output</th>
<th>BIPH./MONO</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>SN</td>
<td>240 VAC 50 Hz 60 VA / Fuse 800 mA</td>
<td>BiPH. / MONO</td>
<td>1 Hz - 4 kHz</td>
</tr>
<tr>
<td>SN</td>
<td>9 VDC</td>
<td>BiPH. / MONO</td>
<td>1 Hz - 4 kHz</td>
</tr>
<tr>
<td>Imax mA / Umax V</td>
<td>50 / 25 (500 Ω &amp; RMS)</td>
<td>BiPH. / MONO</td>
<td>1 Hz - 4 kHz</td>
</tr>
<tr>
<td>Frequency kHz</td>
<td>1 Hz - 4 kHz</td>
<td>BiPH. / MONO</td>
<td>1 Hz - 4 kHz</td>
</tr>
</tbody>
</table>
### Guidance and manufacturer’s declaration - electromagnetic emissions

The equipment YSY EST EVOLUTION 4 is intended for use in the electromagnetic environment specified below. The user must ensure of the use in such special environment.

<table>
<thead>
<tr>
<th>Emission Test</th>
<th>Compliance</th>
<th>Electromagnetic environment - Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Emissions</td>
<td>Group 1</td>
<td>The equipment of reference YSY EST EVOLUTION 4 uses only the energy of frequency emissions for its</td>
</tr>
<tr>
<td>CISPR 11</td>
<td></td>
<td>internal functions. In that way, emissions RF are very low and do not provoke any interference with</td>
</tr>
<tr>
<td></td>
<td></td>
<td>electronic equipments which are close to.</td>
</tr>
<tr>
<td>RF Emissions</td>
<td>Class A</td>
<td>The equipment of reference YSY EST EVOLUTION 4</td>
</tr>
<tr>
<td>CISPR 11</td>
<td></td>
<td>can be used in domestic offices including those are</td>
</tr>
<tr>
<td>Harmonic Emissions</td>
<td>Class A</td>
<td>directly connected to the public low voltage power supply network that supplies buildings used for</td>
</tr>
<tr>
<td>IEC 61000-3-2</td>
<td></td>
<td>domestic purposes.</td>
</tr>
<tr>
<td>Voltage fluctuations / Flicker emissions</td>
<td>Complies</td>
<td></td>
</tr>
<tr>
<td>IEC 61000-3-3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Guidance and manufacturer’s declaration – electromagnetic immunity

The equipment YSY EST EVOLUTION 4 is intended for use in the electromagnetic environment specified below. The user must ensure of the use in such special environment.

<table>
<thead>
<tr>
<th>Immunity Test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic Environment - guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge</td>
<td>± 6 kV contact ± 8 kV air</td>
<td>± 6 kV contact ± 8 kV air</td>
<td>Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.</td>
</tr>
<tr>
<td>IEC 61000-4-2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical fast transient/burst</td>
<td>± 2 kV for power supply lines ± 1 kV for input/output lines</td>
<td>± 2 kV for power supply lines ± 1 kV input/output lines</td>
<td>Mains power quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>IEC 61000-4-4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surge</td>
<td>± 1 kV line to line ± 2 kV line to ground</td>
<td>± 1 kV line to line ± 2 kV line to ground</td>
<td>Mains power quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>IEC 61000-4-5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage dips, short interruptions and</td>
<td>&lt;5% U&lt;sub&gt;T&lt;/sub&gt; – during 10 ms 40% U&lt;sub&gt;T&lt;/sub&gt; – during 100 ms 70% U&lt;sub&gt;T&lt;/sub&gt; – during 500 ms &lt;5% U&lt;sub&gt;T&lt;/sub&gt; – during 5 s</td>
<td>&lt;5% U&lt;sub&gt;T&lt;/sub&gt; – during 10 ms 40% U&lt;sub&gt;T&lt;/sub&gt; – during 100 ms 70% U&lt;sub&gt;T&lt;/sub&gt; – during 500 ms &lt;5% U&lt;sub&gt;T&lt;/sub&gt; – during 5 s</td>
<td>Mains power quality should be that of a typical commercial or hospital environment. If the user of YSY EST EVOLUTION 4 requires continued operation during power mains interruptions, it is recommended that YSY EST EVOLUTION 4 be powered from an uninterruptible power supply or a battery.</td>
</tr>
<tr>
<td>voltage variations on power supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>input lines</td>
<td>IEC 61000-4-11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power frequency</td>
<td>3 A/m</td>
<td>3 A/m</td>
<td>Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>(50Hz/60Hz) magnetic field</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IEC61000-4-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: U<sub>T</sub> is the a.c. mains voltage prior to application of the test level.
## Guidance and manufacturer’s declaration – electromagnetic immunity

The equipment YSY EST EVOLUTION 4 is intended for use in the electromagnetic environment specified below. The user must ensure of the use in such special environment.

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic Environment - Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted RF</td>
<td>IEC 61000-4-6</td>
<td>3 V&lt;sub&gt;rms&lt;/sub&gt;</td>
<td>150 kHz to 80 MHz</td>
</tr>
<tr>
<td>Radiated RF</td>
<td>IEC 61000-4-3</td>
<td>3 V/m</td>
<td>80 MHz to 2,5 GHz</td>
</tr>
</tbody>
</table>

### Conducted RF

IEC 61000-4-6

#### IEC 60601 test level

- 3 V<sub>rms</sub>
- 150 kHz to 80 MHz

#### Compliance level

- V
- V/m

#### Electromagnetic Environment - Guidance

Portable and mobile RF communications equipment should be used no closer to any part of F3 Fetal Monitor including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.

**Recommended separation distance**

\[
d = [1.1717] \sqrt{P}
\]

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 meters (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:

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 YSY EST EVOLUTION 4 is used exceeds the applicable RF compliance level above, YSY EST EVOLUTION 4 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating F3 Fetal Monitor.

\(b\) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.
Recommended separation distances between portable and mobile RF communications equipment and the equipment reference YSY EST EVOLUTION 4

Equipment reference YSY EST EVOLUTION 4 is intended to be used in an electromagnetic environment in which radiated RF disturbances are controlled. The user of the equipment reference YSY EST EVOLUTION 4 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF (transmitters) communications equipment and the equipment referenced YSY EST EVOLUTION 4 as recommended below, according to the maximum output power of the communications equipment.

<table>
<thead>
<tr>
<th>Maximum output power rating of the transmitter W</th>
<th>Separation distance depending on the frequency of the transmitter m</th>
</tr>
</thead>
<tbody>
<tr>
<td>150 kHz to 80 MHz</td>
<td>80 MHz to 800 MHz</td>
</tr>
<tr>
<td></td>
<td>$d = 1,17 \sqrt{P}$</td>
</tr>
<tr>
<td></td>
<td>$d = 1,17 \sqrt{P}$</td>
</tr>
<tr>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td>0.12</td>
</tr>
<tr>
<td>0.1</td>
<td>0.37</td>
</tr>
<tr>
<td></td>
<td>0.37</td>
</tr>
<tr>
<td>1</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>1.17</td>
</tr>
<tr>
<td>10</td>
<td>3.70</td>
</tr>
<tr>
<td></td>
<td>3.70</td>
</tr>
<tr>
<td>100</td>
<td>11.7</td>
</tr>
<tr>
<td></td>
<td>11.7</td>
</tr>
</tbody>
</table>

For the transmitters whose maximum output power is not listed above, the recommended separation distance d in meters (m) can be determined using the equation applicable to the frequency of the transmitter, where P is the maximum output power of the transmitter in watts (W) assigned by the transmitter manufacturer.

Note 1 At 80 MHz and 800 MHz, the separation distance given in the higher frequency band applies.

Note 2 These recommendations may not apply in all situations. The propagation of electromagnetic waves is modified by absorption and reflection from structures, objects and people.

START / STOP

Switch on the rehabilitation device by using the button located at the back side of the medical device. Position 1: On ; position 0 : Off. When the device is ON, a green light appears automatically on the front side of the medical device (the left to M/A inscription).

Microsoft Windows start automatically by the starting on the computer. Once started, and once the software installed, double click with the mouse left button on the « YSY » icon, used as a short cut.

To switch off the device, choose "File" then "Quit" in the main menu. Once back to the Microsoft Windows office, press on "Start", then "Stop", then choose "Turn off the computer". Once this message appears press the Stop button (setting not under tension) located on the front side of the medical device (except for the computer with an automatically stop – ATX Box). You can switch off the medical device.

USING THE MOUSE

The mouse cursor, visible on the screen, moves with the movements of the mouse on the desk. All those actions are available with on pressure on the mouse left button (except opposite indications).
GENERAL DESCRIPTION

The rehabilitation device YSY EST EVOLUTION is delivered with the following equipments:

**YSY EST EVOLUTION 2:**
- 2 Acquisition cables CAB-EMG333 (input grey plug, output 3 male banana plugs 2 mm, red, black and yellow)
- 1 Acquisition cable CAB-EMG115 (input 2 female banana plugs 2 mm red and black, output DIN 5 female)
- 1 Unit Air Pressure Air/Muscle 1 channel

**YSY STIM 4:**
- 4 Cables CAB-EMG333 (input grey plug, output 3 male banana plugs 2 mm, red, black and yellow)
- 1 Cable CAB-EMG115 (input 2 female banana plugs 2 mm red and black, output DIN 5 female)

**YSY EST EVOLUTION 4:**
- 4 Acquisition cables CAB-EMG333 (input grey plug, output 3 male banana plugs 2 mm, red, black and yellow)
- 1 Acquisition cable CAB-EMG115 (input 2 female banana plugs 2 mm red and black, output DIN 5 female)
- 1 Unit Air Pressure Air/Muscle 2 channels

Common to all devices:
- 1 Pack of electrodes (2mm female banana plug) - Sample
- 1 bipolar sector cable
- 1 USB-Serial Converter HL-340 OR 1 M/F Serial cable.
- 1 software installation CD-rom (keep this support safe from the light and moisture).

Optional:
- 1 temperature cable with temperature sensor.

For the medical devices delivered with a PC computer, the Microsoft Windows licence is automatically furnished

COMPUTER CONNECTION

The YSY ESTEVOLUTION software is compatible with the following operating systems:
- Microsoft® Windows® XP (Service Pack 1 or 1a, Service Pack 2, Service Pack 3),
- Microsoft® Windows® Vista,
- Microsoft® Windows® Seven.
- Microsoft® Windows® 8 or 8.1
- Microsoft® Windows® 10

Please contact the YSY MEDICAL technical service for a use with another operating system.
The bipolar sector plug that permits the plug in of the device has to be connected on the sector.
Position 1: On.
Position 0: Off.
When the device is ON, a green light appears automatically on the front side of the device (left to M/A inscription).

**Do not disturb the air evacuation from the rear side.**
**Do not place objects on top of the medical device.**
**Do not remove the pads beneath the medical device, allowing it to raise.**

The DB 9 Female connector allows the connection to the PC computer by USB-Serial Converter OR the serial cable.
This front face (see following schema) concerns all devices with the following characteristics:

- 2 EMG channels
- 2 Stimulation channels (for YSY EST EVOLUTION 2)
- 1 manometric channel (for YSY EST EVOLUTION 2)
- 4 Stimulation channels (for YSY EST EVOLUTION 4 or STIM 4)
- 2 manometric channels (for YSY EST EVOLUTION 4)

Led 1: yellow colour. Switched on when the stimulation channel 1 is activated.

Led 2: yellow colour. Switched on when the stimulation channel 2 is activated.

Led 3: yellow colour. Switched on when the stimulation channel 3 is activated.

Led 4: yellow colour. Switched on when the stimulation channel 4 is activated.

Led 5: green colour. Switched on when the device is ready to use.

_Do not disturb the air evacuation from the above and lower part of the device._

*Telemetry is optional.*
BIOFEEDBACK INFORMATIONS

- **Reference electrodes**

The reference electrode is the same for EMG 1 and EMG 2. It should be connected mandatory for proper operation of the device in biofeedback. The reference electrode is useless when using a probe with an incorporated reference (3 rings probes for example). The reference electrode is connected on the yellow banana plug from the cable EMG1 and EMG2. When a probe with DIN plug is used with the cable EMG1, the reference electrode must be connected on the yellow banana plug of EMG2. For biofeedback, it is imperative to use biofeedback electrodes.

- **Pressure unit**

Using the 3 ways tap

- **Zero - Calibration**

Using protocol to perform the calibration:
- Connect the probe on cable EMG1 (red and black plugs) and the electrodes on cable EMG2 if necessary (red and black plugs).
- Connect a reference (on a bony point of the patient) on a yellow plug electrode (cable channel 1 or cable channel 2).
- Ask the patient not to make any contraction. The curve must go down and be stabilized.
- Make the zero if necessary (remove the base tonus).
- Verify the measured value is between -1 and 1.
- When the patient contracts, the curve goes up instantaneously.
- Press the "Auto" button to adjust the sensitivity of both channels with the value of maximum contraction of the patient.

See the "Quick start" section for more information.
**Perisize probe**

The Perisize probe allows many connections with 1 channel of EMG or 1 channel of stimulation. There are 2 wires: 1 short and 1 long, for each side of the probe.

- Simple connection EMG / Stimulation:

  ![Diagram of Perisize probe connections]

  On the 2 short wires

  OR

  On the 2 long wires.

- Total connection EMG / Stimulation:

  ![Diagram of Perisize probe connections]

  Utilization of Y dedoubler:

  It allows to use the 4 rings of the Perisize probe with only 1 channel.

  ![Diagram of Perisize probe connections]

  Red: connection to the 2 short wires.

  Green: connection to the 2 long wires.

  To learn how to use the probe, contact the manufacturer of the medical device.
To reach the wanted program, click with the mouse left button on the main menu above the upper window, then click on the program to be executed.

Some icons used as shortcuts are located around the YSY MEDICAL logo (see the above screen picture). The left part concern the administration, the right part, the treatments.

Icons description:

- Anatomical boards
- Biofeedback Testing
- Sessions history (patient concerned)
- Biofeedback Scrolling
- Assessments (patient concerned)
- Biofeedback Long Scrolling
- Patients files access
- Biofeedback Contractions
- Practitioner access
- Biofeedback Ludic Scrolling
- Access to this user manual
- Biofeedback Qualitative Testing
- Favourites access
- Stimulation
- Combined sessions

The others software opportunities are reachable through the main menu on the top of the window screen.

The programs or icon in grey colour are not available, except the administration icons, on the left part (Patients files, Assessments and Sessions history) which are automatically activated when a practitioner and then a patient are selected.

To quit the program, select "Quit" in the menu "File", or click the red cross above on the right side of the window.
**QUICK START**

**Step 1: Selection of practitioner to access to his patients files:**

To start a session without selecting a patient file, go to step 3 (page 22).

Click on the button of practitioner access.

Click on the button "Create" to open the window creation of the practitioner.

Enter the practitioner information.

Then click on the button "Register".

Select the practitioner in the list, then click on the button "Select".

The practitioner is now selected and you have access to his patients’ files.
Step 2 : Selection of patient to be able to register the sessions :

Click on the button of patients files access.

Click on the button "Create" to open the window creation of the patient

Enter the patient informations.

Then click on the button "Register".

Select the patient in the list, then click on the button "Select".

The patient is now selected and you have access to the assessments and historical registered sessions of this patient.
Step 3: Start a Biofeedback Scrolling session:

Click on the button of Biofeedback Scrolling.

Choose the number of channels and the type of channels, then click on "Validate".

The Biofeedback Scrolling window appears (see next screen).

Step 1: Connect the patient (probe + electrodes for example).
Place the reference electrode on an osseous point of the patient and connect it on the yellow banana plug of the cable.
The red and black banana plugs of the cable are used to connect the "active" electrodes and/or the probe.
Ask the patient a total relaxation.
The curve goes down and be stabilized and show the basic tonicity of the patient on each channel.

Step 2: Click on the zero button of each channel.
Verify the numerical value is approximately between -1 and 1.
If it is not the case, remove the 2 zeros while clicking again on the 2 buttons, ask the patient a total relaxation and make the 2 zeroes again.

Step 3: Click on the button "Auto" to calibrate each channel.
Ask the patient to make one or many maximal contractions during the passage.
When the curve arrives on the right of the screen, the 2 ways are calibrated.

Step 4: Set the session parameters (session time, work time, work model...) or choose a protocol which parameter all automatically.

Step 5: Click on the green arrow to start the session.

Step 6: At the end of the session, it is possible to register the session in the patient file: Button 4, then click on the icon with the red diskette.

Steps: 2  3  5  4
Step 4: Start a stimulation session:

Click on the button of Stimulation.

Select the stimulation program in the list, then click on the button "Select" in the bottom of the screen.

The Stimulation window appears (see next screen).

If the program has a rest time, click on the button of stimulation level adjustment (yellow flash).

The window of adjustment appears (see next screen).

If the program has not rest time, you can directly start the session in clicking on the green arrow.

Step 1: Set the potentiometers of the channels stimulation at zero.

Step 2: Click on the button "Stimulation".

Step 3: Set the level intensity desired according to felt of the patient.

Step 4: Click "Finish" when you have the desired intensity level. The window of adjustment closes automatically.

Step 5: Click on the green arrow to start the session, and on the red square to stop the session (in the previous screen).

Disconnect the patient.
PRACTITIONERS

Select "File" then "Practitioner" in the main menu, or click on the shortcut icon in the introduction page.

The software handles several practitioners. Each practitioner has its own patients file. The buttons are activated when a practitioner is selected.

1: To create a practitioner  
2: To consult a practitioner  
3: To delete a practitioner  
4: To select a practitioner  
5: To deselect a practitioner  
6: Close the window

Deleting a practitioner delete all the patients' files added to this practitioner.

CREATION / PRACTITIONER ADVICE

1: Open the window to affect one (or some) patients to one (or some) practitioners.  
2: The password is optional. If it’s activated, a confirmation of this password is necessary to avoid writing mistake. You can check "Show the password" to show the text with numbers and letters.  
3: Quit with information registration.  
4: Quit without information registration.
Each practitioner is in charge of its own patient list. It is possible to dispatch all or part of the patients from one practitioner to another.

1: Practitioner assignment
2: List selection by patient or practitioner
3: Patient list for the practitioner selected (see 8)
4: Select all the patients for the selected practitioner
5: Patients list of the selected practitioner affected to other practitioners
6: Determines what should be displayed in the list 3 (the active patients or the filed patients).
7: List of the existing practitioner (selected practitioner non included)
8: Name of selected practitioner in use

On the above screen picture: YSY MEDICAL is the selected practitioner. 2 patient files (TEST PATIENT 1 and TEST PATIENT 2) are affected to a practitioner TEST PRATICIEN 2. The assignment result is visible in the window n° 5.

To delete those 2 patients’ files to the practitioner TEST PRATICIEN 2, just uncheck in the window n° 7 and click on the button assignment. The window n° 5 is empty and the practitioner YSY MEDICAL does not share anymore patient files with any other practitioner.
Select "File" then "Patients Files" in the main menu, or click on the shortcut icon in the introduction page.

Note: You must first of all select a practitioner for reaching the patients files.

The buttons are activated when a patient is selected.

1: Selection tab: active or filed patients lists
2: Display or not the patients file in the window n° 13
3: If option n°2 is uncheck, the window n° 13 is empty. To search a patient, write his name or the first letters of is name then press the button ENTER of the keyboard or click on the button VALIDATE. The window n° 13 is filled up automatically. Example, write DUP in the writing space n° 3. The window n° 13 get filed with all the patients with a name beginning with the 3 letters DUP
4: Create a patients file
5: Consult a patient file
6: Delete a patient file
7: File a patient file
8: Access to the registered sessions list for each selected patient in the display patients list
9: Access to the registered results list for each selected patient in the display patients list
10: Select the patient to realized treatments and to register them in the patient file
11: Unselect the patient
12: Leave the window
13: List of the patients from the selected practitioner
Write the information in the designed parts then registered by pressing the button REGISTER.

To write the birth date, click on the black arrow going down on the right side of the date, then use the assistant or click directly on the day or the month or the year and write a digital value with the keyboard

Warning: you have to write 4 numbers for the year.

The patient age will be automatically calculated by the writing of the birth date.
There are 3 ways to display the registered assessments:

1 – Click on the short cut icon in the introduction page. This icon is activated only if one patient is selected and will display the registered assessments of this one.
2 – In the patients’ files window, click on the button "Assessments list". The button display the registered assessments of the patient selected in the list.
3 – In the window patient consultation, click on the button "Assessments list". This button displays the registered assessments for the consulted patient.

The buttons are activated when an assessment is selected.
Informations concerning certain points:

4: This button offers 2 options: Printing normal or export in an image file (JPG) that you can send by mail for example. If you choose to export the assessment, the next window will open itself to ask where you want to stock the image file.

A low quality picture will give a small size file, instead of a high quality picture which will give a bigger size file.

Note: This function is available in some other pages like: historical sessions in the patients file, sessions scrolling, etc. It is the same window as shown here above, and therefore it won’t be explained again.
There are 3 ways of displaying the historical registered sessions:

1 – Click on shortcut icon in the general description page. This icon is activated only if a patient is selected and also display the registered sessions of this one.

2 – In the patient’s files window, click on the button "Sessions list". The button display the registered files from the patient selected in the list.

3 – In the patient consultation window, click on the button « Sessions list ». This button display the registered sessions from the consulted patient.

The buttons are activated once a session is selected and once the details are available.

The sessions are filed from the registered date. The 1st one on top of the page is the earliest one.

The 3 details sessions buttons are explained hereby and depend on the selected session type.

There are 5 sessions’ types:
1 – The biofeedback scrolling sessions,
2 – The biofeedback testing sessions,
3 – The stimulation sessions,
4 – The combined sessions.
5 – The manual sessions

* : Optional feature on YSY EST EVOLUTION 2.
Button 1 of page 30: Details from a Biofeedback Scrolling registered session:

1: Average of the work on a full session. Blue curve: channel 1; Green curve: channel 2
2: Marker (white pelletize) which give the instant value of the curve
3: General average of all the registered sessions
4: Number of registered sessions.
5: Print or export the sessions in the picture file (see above exportation)
6: Reading of the sessions notes
7: Number of registered sessions
8: Average curve from each phase of work
9: If marked, show the curves with the same sensibility (scale)
10: Display selector or not for the curves in the n°1, 3 et 8
11 Indicate the level of smoothing of the curves (you can modify this parameter but it will not be registered)
12: Numerical parameters of the showed session
13: Navigation icon for the session reading: 1st session, preceding session, next session, last session
14: General numerical average from all the cumulated sessions

1, 3 and 8 : One click with the mouse right button on the 3 screens, displays a menu that allow you to choose the channel to display and also the different passages if it concerns a biofeedback long scrolling.

How to display / add / delete a marker *:
Remove the mouse on the window curve n°1; a small window appears with the curve values.
A left click on the curve adds a marker.
A left click on a marker (white pelletize) delete this marker.

* : Optional feature on YSY EST EVOLUTION 2.
Button 2 of page 30: Details of several Biofeedback Scrolling registered sessions:

1: Visualization window from the sessions selected in the window n° 2
2: Session selection window to display in the window n° 1
3: Print or export the session in a picture file (see above exportation)
4: Reading of the notes from the last selected session
5: Display method of the curves in the window n° 1
6: Display selector from the channel n° 1/or 2in the window n°1
7: Indicate the level of smoothing of the curves (you can modify this parameter but it will not be registered)
8: Numerical parameters from the last selected session

How to select several sessions in the window n° 2:
Click with the mouse in the window n° 2 for selecting the first session. The other sessions can be selected by a click in the window n°2 on the wanted session.

How to deselect a session in the window n° 2:
Click with the mouse in the window n°2 on a session already selected.

On the above picture, there are 3 curves displayed. The first selected curve is in a dark blue color. The following curves do clear themselves up progressively.

How do I know which session belongs to the curve:
Move the mouse pointer in window n°1, the curve under the pointer will turn to red and a tooltip appears with the name of the session.
Button 3 of page 30: Details in mosaic from the Biofeedback Scrolling registered sessions *:

1: Square containing the curves of one session
2: Last square containing one session curves
3: Empty square with no session inside
4: Display selector from the channel 1 and /or 2 in all the squares
5: Numerical parameters from the selected session in the window n°10
6: Indicate the level of smoothing of the curves (you can modify this parameter but it will not be registered)
7: If marked, display the curves from each channel with the same sensibility to compare with several squares
8: If marked, display the curves from each square with the same sensibility to compare with one square
9: Reading from the notes of the selected session in the window n° 10
10: Print or export the session in a picture file (see above exportation)
11: Window for the selection of the sessions
12: Display method for the curves in all the squares

How to add the session curves in a square:
Click with the mouse in the window n° 11 for selecting the session and remain the mouse button pressed.
Then place the mouse cursor up to the first empty square (n° 3), the cursor changes into a cross, and release the mouse button.

How to remove the session curves from a square:
When you place the mouse cursor into the last square containing the session curves (n° 3), this one changes into a cross.
Just click with the mouse in the square to empty it.

*: Optional feature on YSY EST EVOLUTION 2.
This window offers the same functions as the one for a Biofeedback Scrolling/Contraction session (page 32).

To have all the details of a testing session, click with the left mouse button in the area of the top curve (the mouse cursor changes into a cross). It opens a new window:
Button 2 of page 30: Details of several Biofeedback Testing registered sessions:

This window offers the same functions as the one for a Biofeedback Scrolling session (page 32).

Button 3 of page 30: Details in mosaic from the Biofeedback Testing registered sessions *:

This window offers the same functions as the one for a Biofeedback Scrolling session (page 34).

*: Optional feature on YSY EST EVOLUTION 2.
Button 1 of page 30 : Detail of a combined registered session :

1: Average of the 8th session (channel 1 and channel 2). In this example, there are 12 sessions (6 biofeedback and 6 stimulations)
2: Indicate a stimulation session (level of the stimulation in mA)
3: General average of all the registered sessions (during a combined session)
4: Number of registered sessions (during a combined session)
5: Selection to show the graphic or the curves of the combined session
6: Number of registered combined sessions
7: Average curve from each session (or step)
8: If marked, show the curves with the same sensibility (scale)
9: Display selector or not for the curves in windows n°1, 3 and 7
10: Numerical parameters of the showed combined session
11: Navigation icon for the session reading: 1st session, preceding session, next session, last session
Information concerning certain points:

5: This button makes it possible to show 2 different graphs:
   1 – The one with the bars: averages of the biofeedback and stimulation session (see higher)
   2 – The one with the curves: average curve of the session (or the steps of compound) (see below)
**Button 2 of page 30: Details of several combined registered sessions:**

This window offers the same functions as the one for a Biofeedback Scrolling session (page 32).

**Button 3 of page 30 : Details in mosaic from the combined registered sessions :**

This window offers the same functions as the one for a Biofeedback Scrolling session (page 34).

*: Optional feature on YSY EST EVOLUTION 2.
Button 4 of page 30: Create a custom session

1: Select between “manual session” or “other” type of session.
2: If “other” type is selected, a text box is shown to summarize the session. This text will appear in the Program/Protocol column of the Registered Sessions List.
3: Date of session.
4: Duration of the session.
5: Text box for comments on this session.
6: Register the session notes.
7: Quit without registering.

Notes on sessions can be viewed later, by selecting a session in the list, and clicking button 1(page 31).
Select "File" then "Dictionary" in the main menu.

The button "Remove" activates itself when a letter is selected.

The dictionary allows associating a word with a letter.
This association is used in Biofeedback Testing.

During a session, press on the touch keyboard corresponding to the dictionary letter.
The word corresponding to this letter will appear on the curve at the end of the session, at the place corresponding to the moment you have press on the keyboard touch.

Example if you press on the touch "P" (P = Push) during the testing session:

*: Optional feature.
Select "File" then "Mail" in the main menu.

The buttons activate themselves when a mail is selected.

1: Creation of a new mail
2: Modification of the selected mail
3: Removing the selected mail
4: Displaying the selected mail
5: Close the window

More explanation on certain points:

4: This button prints the mail with the practitioner information and the selected patient.
   You can then print it (see further down)
MAIL CREATION / MODIFICATION

1: Title of the mail that appears in the mail list (see above)
2: Text toolbar.
3: Writing areas letters
4: Information area that will be replaced by the corresponding information at the printing time
5: Selection of mail (pre-writing letter)
6: Modification of the information area [text], it is an optional area for writing that can be modify anytime.
7: Registration modification.
8: Leaving without registration.
More details on certain points:

2 : Text toolbar:

- a to c : Change the text style (Fat, Italic, Underlined)
- d to f : Cut (remove), copy (duplicate) and stick (deposit) the selected text
- g : Cancel the last text modification.
- h and i : Modify the characters and the color of the selected text.
- j : Insert a tabulation (several spaces) at the place of the text cursor.
- k : Add points (points) at the place of the cursor in the text.
- l to o : Modify the selected text position on the line (left, middle, right, justified)
- p : Display the insertion area menu (see n°4)

4: A mark out is a color text between brackets (ex : [Name]) that will be automatically replaced by the right words in the displaying time (or edition) of the mail.

Ex: "[Name]" will be replaced by "Dupond".
The insertion of the mark out menu can be display anywhere or on the text by a click with the mouse right button. You cannot change the mark out color.

Displaying example of a mail for printing:

---

Dear Doctor,

You entrusted to us in treatment Miss Pierre DUPONT and we thank you for your confidence.

Remaining at your disposal for all further information we remain sincerely yours.

YSY MEDICAL
Select "File" then "Motor points" in the main menu.
You can also reach this window in the Biofeedback pages and in the pages from the Selection of the Stimulation Program (see lower).
ANATOMICAL BOARDS

Select "File" then "Anatomical boards" in the main menu.
You can reach this window with the short cut icon in the introduction page or in the Biofeedback and the stimulation selection program pages (see lower).

1: Display area from the anatomical image. A click on the left mouse button increases the image and vice and poured.
2: Label indicating the point description.
3: Point indicating that a description is available. Remove the mouse cursor to make it appear.
4: Anatomical boards list. Click on one to select this one.
5: If marked, the window n°7 will list all the image description. Click in the list to display the description on the window.
6: If marked you can write a note in the window n°7.
7: Add a personalized anatomical board.
   Inserting a picture, not included in basic software, is user's complete responsibility.
   The company YSY MEDICAL could not be responsible for inserted pictures and possible copyright in relation with these pictures.
8: Remove the personalized anatomical board selected in the list
9: List of the image descriptions (name of the anatomical parts).
If you wish to make the backup on a USB key:

1. Connect it to the computer.
2. Wait until USB key is recognized by Windows® (the message “Peripheral ready to use” appears in the right bottom of the screen).

Select "File" and "Backup" in the main menu.

Note:
The USB key recognition can be different according to the Windows version used.
The backup cannot be done on floppy disk (multi-volume not supported).

Once the backup finished, the following message appears:

The created file is named "ysy" with the date following.
Example: "ysy-18-12-2005.zip".

It is strongly recommended to make a backup frequently and also before doing a software update.
RESTORATION

Select "File" then "Restoration" in the main menu.

Select the file, (example: "ysy-18-12-2005.zip") and click on "Open". Once the backup finished the following message appears:

Click OK to restart the program.

Warning: the restoration will overwrite the actual data base.
EXPORTATION

Select "File" then "Exportation" in the main menu.

1: Selection of the data to export (practitioner, patients, programs...)
2: List of the data available for export.
   You can uncheck those you don’t want to export.
3: Click to start the export of the data selected in window N°2
4: Close the window

More details on certain points:

3: When you click on button 3, the following window appears:

Select the place where you want to create your exportation file and then click on the button "Save".
Once the exportation finished, the following message appears:
IMPORTATION

Select "File" then "Importation" in the main menu.

Select the exported file and click on "Open".
Once the importation finished the following message appears:
Choose "Biofeedback" then "1 Channel" or "2 Channels" then "Testing" in the main menu, or click in the short cut icon in the introduction page.

You can choose a different number of channels if your rehabilitation device allows it by choosing in the menu "Biofeedback" then "3 Channels / 4 Channels" from the main menu.

The short cut icon in the introduction page allows you to choose the type and the number of channels directly.

Main menu selection:

Short cut icon selection:

Select the type of channels to be used.

Select the type and the number of channels to be used.

The next window display with the starting of the 2 channels testing:
1: Channel 1 numerical value
2: Example of a placed cursor. If the mouse cursor is placed on a red cursor, the one increase a little and information note gives the cursors details: time, acquisition value and name associated to the cursor
3: Channel 1 curve area
4: Zero level from the channels 1 and 2. Above this level, positives values (contraction), under: negatives values (negative biofeedback, relaxation)
5: Channel 2 curve area
6: Optional area. Allow to move the grown up curve (grow up) when looking at the session
7: Channel 2 numerical value
8: Session time
9: Channel 1 delta area
10: Button to show the deltas of cursors or the average of cursors (the symbol change from "∆" to "Avg" showing fatigability percentage instead of delta time)
11: Channel 2 delta area
12: Manual adjustment for the sensibility of the acquisition channels
13: Zero activation / deactivation. The zero is active if the indicator is colored
14: Automatically calibration of the sensibilities. Calibration is done after the automatic action (details after)
15: Select the smooth level of curves
16: Beginning of the session or pause session if already started
17: Re start the curves scrolling after stopping a session or stop session if already started
18: Sound activation / deactivation
19: Optional button: zoom in (enlarging), zoom out (reducing) and full screen curve. Buttons available only at the end of the session
20: Open the session parameters bar (protocol, session time, models …)
21: Remove from the biofeedback program (you can also leave the program through the red cross above)

Session parameters bar
22: Selection of a treatment protocol.
23: Duration of the session in minutes.
24: Buttons C1 and C2: display the list of the channel 1 and 2 cursors.
25: Full screen channel 1 and 2
26: Creation of a model on the channels 1 and 2
27: Close the session parameters bar and returns in the principal page
28: Impression or exportation of a session results in the image file
29: Session registering in the selected patient file (only at the end of a session)
30: Session note writing (only at the end of a session)

The other buttons are explained in the section « Biofeedback Scrolling » (page 53).

More details on certain points :

2: Cursor placement.
Click directly on the curve (once the session’s over) with the mouse left button to install a cursor. The following window appears on the screen:

The following information appears in the window :
- Placed cursor number (the first one is the n° 1)
- Acquisition value (µV, cmH2O ou °C)
- Time in seconds
- Writing area for the cursor concerned.

The button «Validate» validates the cursor position.
The button "Cancel", cancel the cursor position.

To re examine the concerned cursor information, just put the mouse cursor on the curve red cursor and after a few seconds the information appear.

9 and 11: Measures between two placed cursors. To make the difference between 2 cursors, click on a delta (n° 1 for example). The delta n°1 area becomes red. Then, click directly on the 2 wanted red cursors on the curve.
The differences in absolute value appear in the 9 and 11 areas in the delta n°1 (difference in time and in acquisition). When average is selected for an area ("Avg") it shows the average of all acquisition values between the cursors and the percentage of difference between the values of cursor 2 and cursor 1.
Choose "Biofeedback" then "1 Channel" or "2 Channels" then "Scrolling" in the main menu, or click in the short cut icon in the introduction page.

You can choose more channels if your device allows it in the menu "Biofeedback" then "3 Channels / 4 Channels" in the main menu.
1: Name and first name of the selected patient.
2: Graphic displaying the average of each working phase.
3: Graphic information concerning the contraction level in real time.
4: Numerical value: real time acquisition value, minimum and maximum during a session.
5: Channel 1 curve area. White part: rest – coloured part (blue) : work
6: HIGH level of the channel 2. To increase or decrease the level click on the green triangle move the mouse and keep the button pressed. Once placed released the left button To remove the dotted line, place it on the top of the channel.
7: Channel 2 curve area
8: Channel 2 curve.
9: LOW level of the channel 2. Same as n°6. To remove the dotted line, place it on the bottom of the channel.
10: Zero level. Above, positive value (contraction), under negative value (negative biofeedback, relaxation)
11: Manual adjustment for the sensibility of the acquisition channels.
12: Zero activation / deactivation. The zero is active if the indicator is coloured.
13: Automatic calibration of the sensibilities. Calibration is done after the automatic action (details after)
14: Select the smooth level of curves
15: Session remaining time.
16: Beginning of the session or pause session if already started
17: Re start the curves scrolling after stopping a session or stop session if already started
18: Sound activation / deactivation
19: Stimulation activation / deactivation
20: Open the session parameters bar (protocol, session time, models …)
21: Remove from the biofeedback program (you can also leave the program through the red cross above)

Session parameters bar

22: Selection of a treatment protocol.
23: Duration of the session in minutes.
24: Rest time in seconds
25: Working time in seconds
26: Full screen channel 1 and 2
27: Creation of a model on the channel 1 and 2
28: Close the session parameters bar and returns in the principal page
29: Impression or exportation of a session results in the image file.
30: Session registering in the selected patient file (only at the end of a session)
31: Direct access to the anatomical boards (only before the session)
32: Patient position icon (seated –upright – lay down)
33: Session note writing (only at the end of a session)

More details on certain points:

16: During the pause of a session, you can see the instantaneous value of the curve by moving the mouse cursor on the curve.

13: Press on the AUTO button. The patient does a serial of maximum contraction during a sequence. During this sequence, the software analyzes the contractions and adapt on each channel the sensibility according to the maximum recorded.

12: See « Biofeedback information » (page 18).

26: Press in the icon full screen blue to have the channel 1 in full screen. To have the 2 channels in the same screen, press on the mouse right button in the blue curve area, then select channel 2 with the left button. Do the same to remove the channel from the full screen.
27: The following window appears when pressing the icon 27

Selection of a model in the list.

To reach or create a model, press on « Personalized models… ».

To realize a several model sequence, press on « Model sequence… ».

Those 2 points will be explained below.

Press on "Align with the zero" to mark or unmark this function.
This function allows to align or not, the model on the zero.

22: The selection of a protocol gives automatically those information : rest time, work time, session time, work model and full screen (channel 1 or 2).

19: The following window appears when pressing the icon n° 19

The 1st part (« Auto / manual trigger ») start a stimulation session as selected:

1: With « below high level », stimulation starts if contraction level is insufficient. Position HIGH level dotted line of selected channel. If biofeedback level is not reached during working phase, stimulation will start at the end of biofeedback phase.
Threshold is the percentage of the curve exceeding HIGH level, beyond which stimulation will not start. For example with a 10% threshold, stimulation will start if less of 10% of the curve exceed high level.
Once stimulation is over, biofeedback will start again in rest phase.

2: With « above high level », stimulation starts if contraction level exceeds high dotted line. Position HIGH level dotted line of selected channel.
If biofeedback high level is reached during working phase, stimulation will start immediately.
Threshold is the percentage of the curve exceeding HIGH level continuously, needed to start stimulation.
For example with a 10% threshold, the curve should exceed high level during 10% of working phase.
Once stimulation is over, biofeedback will start again from where it was stopped.

3: Click on « Start » to launch stimulation manually.

4: It is now possible to activate automatic triggering, even when the biofeedback session is already started. However, it is necessary to have set the high level of biofeedback (see point 6 of previous page). The activation automatically starts the adjustment of stimulation level.

The 2nd part (« Session ») allows reaching directly the stimulation session without leaving the biofeedback.
During the session, click on the icon n° 19, and then click on « Start ». The biofeedback is in pause and the program pass directly in stimulation. The stimulation starts directly without any parameters. Once the stimulation is over, the program returns automatically to the biofeedback session, where it stopped. The biofeedback session can start again.

The 3rd part (« Adjustments ») : Before activating the « Auto / manual trigger » (Part 1) or start a stimulation session (Part 2), make sure the stimulation has been parameterize (« Choose a program » in « Adjustment» of the part 3) and
that the exit level of the stimulation has been adjusted (« Adjust intensity » in « Adjustment » from the part 3) **BEFORE** launching a session.

**Program selection (Part 3):**

Selecting a program automatically starts the adjustment of stimulation level.

**Stimulation level adjustment (Part 3):**

Example of the adjustment window for the channel 1:

1: Step 1
2: Step 2
3: Step 3
4: Stimulation level for the channel 1

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1: Step 1
2: Step 2
3: Step 3
4: Stimulation level for the channel 1
5: Time available for adjusting the stimulation level
6: Launch the stimulation
7: Finish the adjustment and close window.
As long as step 1 is not done, it is impossible to pass at step 2.
As long as step 2 is not done, it is impossible to pass at step 3.

How to adjust the stimulator:
- Put the level of the channel 1 at 0
- Press the button stimulation n° 6
- Increase the stimulation level up to the maximum the patient can support.
- Press on the button Finish n° 7 to achieve the adjustment and close the window.

During and after the session:

During the session it is possible to:
- Quit and do the zero again on the channels 1 et 2 : button 12
- Modify the smoothing of the curves in real time: button 14
- Modify the drawing of the curves (line, full histogram, sticks) by making a right click on the curves: 5 and 7
- Modify the drawing of the forms (line or full) by do a right click on the curves: 5 and 7
- Replace the work target (lines and dots) from the channels 1 and 2 : 6 and 9
- Change in full screen channel 1 or 2 : 26
- Modify the work models from the channels 1 and 2 : 27
- Launch the stimulation manually: 19
- Modify the placement of the zero from channels 1 and 2 : 10
- Manually modify the sensibilities : button 11
- Pause the session : button 16
- Stop the session : button 17

At the end of the session it is possible:
- Modify the smoothing of the curves : button 14
- See the curves again : button 17
- Add a note in the session: button 33
- Print the session results : button 29
- Register the session results in the patient file : button 30
- See the working curves average from the channels 1 and 2 : curves areas 5 and 7
- See all the curves passages 1 and 2 : curves areas 5 and 7
Those one are only registered in long scrolling.
See window on the next page.
Show passage after the session:

1. Graphic of the passages.
   Move the mouse on to show the number of the passage.
   Click on the red curve to show or hide the passage (same function as N°4).
2. Show the mosaic of the passages for channel 1
3. Show the mosaic of the passages for channel 2
4. Button to show or hide the corresponding passage
5. Button to show or hide all the passages
6. Button to show or hide the mosaic of the passages
PERSONALIZED WORK MODELS

Choose "Biofeedback" then "Personalized work models" in the main menu. You can also reach it during a Biofeedback session by selecting "Personalized models" in the models menu (as seen above).

The buttons are on, when a model is selected.

1: Personalized form list.
2: Creation of a new model.
3: Modifying the selected model.
4: Removing the selected model.
5: If marked, display the biofeedback protocols models (you can only select them)
6: Model selection (available only during the Scrolling)
7: Close the window.
8: Display the model selected in the list.

For the long scrolling, it is the same window with a yellow part for the rest area. (see under).
WORK MODEL CREATION / MODIFICATION

Scrolling program:

1: Erase the selected point (see n°5)
2: Erase the all model.
3: Modify the passage time for the form (as an indication and to facilitate the placement of the points)
4: Register the model.
5: Leave without registering.
6: The point of the actual model is in red (the others are in black). To move the selected point, press with the left mouse button on the concerned point and move the mouse to the place wanted and stop pressing the mouse.
7: Name of the model that will display in the created models list.
8: Selection of the model type: points or objects.

Long Scrolling Program:

The total time of the biofeedback screen is the one given under the model. It allow to place easily the point on the drawn area to create a model in connection with the work and rest time.
The white area corresponds to the rest area.
Choose "Biofeedback" then "Model sequences" or "Long Scrolling Model Sequences" in the main menu. You can also reach it during a Biofeedback session by selecting "Work models" in the model menu (as seen above).

The buttons are on as soon as a model sequence is selected.

1: Creation of a new model sequence.
2: Modify the selected model sequence (only the name)
3: Removing the selected model sequence.
4: List of the models sequences
5: List of the models sequences selected (in the right order)
6: Display the selected model.
7: Add a model to the sequence.
8: Modify the selected model.
9: Remove the selected model.
10: Selecting the models selections (available only during the Scrolling)
11: Close the window.

For the long scrolling, it is the same window with a yellow area added under for the rest phase (See above).
More details on certain points:

7 and 8: When you modify or add a model chosen in the menu, the following window appears (the same as in Scrolling).

Indicate more than 1 passage avoid to add several times the same model in a sequence.
BIOFEEDBACK PROTOCOLS

Choose "Biofeedback" then "Scrolling protocols" in the main menu.
You can reach it during a Biofeedback session by a click on the protocols button (As seen above).

1: Protocols list with categories (Uro gynecology, Anorectal, Personalized)
2: Information on the selected protocol
3: Creation of a new protocol
4: Modify the selected protocol (only for personalized protocols)
5: Removing the selected protocol (only for personalized protocols)
6: Selecting the protocol selected (available only during a session)
7: Deselecting the current protocol (available only during a session)
8: Close the window
1: Writing space for the name of the protocol
2: If marked, you can enter a duration, a rest time and a work time for the session
3: Indicate a session duration, rest time and work time (if the corresponding option is checked)
4: Select the model for the channel 2
5: Select full screen for the channel 2
6: If marked, the channel 2 will be displayed in the channel 1 screen (in the above window, channel 1 full screen is selected)
7: Writing space for the protocol description
8: Protocol registering
9: Close the window without registering
BIOFEEDBACK LONG SCROLLING

Choose "Biofeedback" then "2 Channels" then "Long Scrolling" in the main menu, or click on the short cut icon in the introduction page. You can choose more channels to be used if your medical device allows it by choosing the "Biofeedback" menu then "3/4 Channels" in the main menu.

The Biofeedback Long Scrolling allows to have several rest and work phases in one passage.

1: Activation / deactivation of the stimulation
2: Time passage in seconds (one passage = one screen)

The other buttons functions are explained in the « Biofeedback Scrolling » section» (page 53).

More details on certain points :

1 : In Long Scrolling, the automatic starting stimulation is different from the Scrolling. Meanwhile it is the same menu that appears with the kind of starting selection.

If the choice is "under the high level": The stimulation starts if the contraction level of the biofeedback is insufficient. Therefore place the high dotted level, of the channel 1 on the place wanted.
If during the Biofeedback work phase the level is not reached, the stimulation start at the end of each rest phase. Once the stimulation finished, the biofeedback begins.

If the choice is "above the high level": It is the same as the Scrolling.
BIOFEEDBACK CONTRACTION

Choose "Biofeedback" then "2 Channels" then "Contraction" in the main menu, or click on the short cut icon in the introduction page.

The Biofeedback Contractions is only available with 2 channels.

1: Graphic displaying the average of each working phases of the channel 2
2: Results of the channel 2
3: Light for the working phases. Green: Work phase. Red: Rest phase
4: General average value for the channel 2
5: HIGH level for the channel 2. To increase or decrease this level, click on the green triangle at the left end of the working area then move the mouse. Once on the position, release the mouse button. To make the dotted line, remove it on the top of the screen
6: Result of the channel 2 (only during the work phase or when no session)
7: Zero level. Above this level, positive values (contraction). Under this level, negative values (negative biofeedback, relaxation)

The other buttons functions are explained in the « Biofeedback Scrolling » section» (page 53).
BIOFEEDBACK LUDIC SCROLLING*

Choose "Biofeedback" then "1 or 2 Channels" then "Ludic Scrolling" in the main menu, or click on the shortcut icon in the introduction page.

The Biofeedback Ludic Scrolling is only available with 1 or 2 channels.

1: Session result: Number of objects picked up (ex: Fruit) with the target (ex: Train)
2: Selection of the picture following the curve (ex: Train)
3: Selection of the objects topic (ex: Fruits, insects…) placed on the selected model.
4: The objects selected are display only if a model is selected.

The result is calculated only for the channel 1.

The other buttons functions are explained in the « Biofeedback Scrolling » section (page 53).

*: Optional feature on YSY EST EVOLUTION 2.
BIOFEEDBACK LUDIC SCROLLING
SLOW FIBERS*

Choose « Biofeedback » then 1 or 2 channels, then ludic slow fibers from Main menu, or click on shortcut icon in introduction page.

The Biofeedback Ludic Scrolling is only available with 1 or 2 channels.

1: Success rate. Click on the trunk to adjust minimal sensibility.
2: Duration of the session.
3: Rest time.
4: Working time (increase, contraction, decrease).
5: Increase time.
6: Decrease time
7: Disturbance level. Adjust the number of graphical animations that will disturb the patient randomly.
8: Minimal contraction time above success rate (1), needed to win bananas.
9: Score of the session: number of bananas in the basket.

Score is calculated for channel one only.

The other buttons functions are explained in the « Biofeedback Scrolling » section (page 53).

* : Optional feature on YSY EST EVOLUTION 2.
**BIOFEEDBACK LUDIC SCROLLING**
**FAST FIBERS**

Choose « Biofeedback » then 1 channel, then ludic fast fibers from Main menu, or click on shortcut icon in introduction page.

1 : Duration of the session  
2 : Rest time  
3 : Working time (increase, contraction, decrease).  
4 : Selection of the model  
5 : Adjusts the position of the animated character from the left of the screen.

In this scrolling mode, the decor and the working model scroll from right to left. Objects are placed on key points of the working model. The goal, like in other ludic scrolling, is to catch as many objects as possible and have the highest score. This score is recorded, so you can measure improvements.
BIOFEEDBACK QUALITATIVE TESTING *

Choose "Biofeedback" then "2 channels" then "Qualitative Testing" in the main menu, or click on the shortcut icon in the introduction page.

The Biofeedback Qualitative Testing is only available on EMG with 1 or 2 channels.

1: Graphic of the channel 1 EMG Qualitative.
2: Graphic of the channel 1 EMG Integrated.
3: Selection of the channel to be shown on the screen.
4: Selection of the kind of graphic to be display (Integrated or Qualitative). This function is only available if the 2 channels are displayed in the screen (with the button n°3)

The other buttons functions are explained in the « Biofeedback Scrolling » section (page 53).

*: Optional feature
STARTING A STIMULATION

Choose "Stimulation" then "Start a session" in the main menu, or click on the shortcut icon in the introduction page.

If the patient selected as some stimulation session already registered in his file, a window appears with the list of his sessions:

If you choose "Select", the selected program started automatically.
If you choose "Quit" or if there is no session registered, the selection program screen to be used appears (see next page).
STIMULATION PROGRAM SELECTION

1: Program sorting tab
2: Basic category
3: Under category from the basic category
4: Selected program (icon = classic probe, icon = 2 channels probe, for example: Périsize probe, icon = 2 channels probe symbolizing a program using interferential current, for example: Périsize probe)
5: Tabs of combined program creation and personalized program
6: Selected program description
7: The program uses 1, 2 or 4 stimulation channels. Click in the number of channels wanted.
8: Details of the selected program parameters. Details of the phase if the program uses several phases (see also n°9)
9: Duration and number of phases used in the program
10: Electrodes positions from the selected program
11: Access to the motor points and anatomic boards for the electrodes placement (independent from the selected program)
12: Access to the registered sessions (active only if a patient is selected)
13: Selection of the program for the session
14: Quit the window

The electrodes positions and explanations given for each program are given as an indication. Those elements can be modified by the user if necessary.

More details on certain points:

7: If the selected program is on the 1 channel, it is possible to duplicate it on 2 or 4 channels.
9: If the program as got several phases, by selecting a phase, the 8 area is automatically modify.
1: To combine several programs, select the tab « Combined program »
2: Select a program in the list.
3: Select the number of channels to be used (2 or 4)
4: Move ("Drag and drop") the program selected in the chosen channel.
5: Validate to use the program. Available only if all the channels (n°4) are selected and the combination validate.

**How to do a "Drag and drop":**
- Click on the program chosen in the list
- Remain the mouse left click pressed
- Place the program on the chosen channel number (n°4)
- Release the mouse (the channel parameters display next to the channel number)

In case a 2 channels program is selected, if the program is selected on the channel n°1, this program will use the channels 1 and 2. You may combine 2 programs with 2 channels on 4 channels.
STIMULATION SCREEN

Example using one channel stimulation program.

1: Session remaining time
2: Go to the next step (Button available only in the multi steps programs)
3: Beginning of the session or pause session if already started
4: Stop the session
5: Level adjustment for the stimulation before starting a session
6: Electro-stimulation intensity in mA
7: Stimulation level in % for the maximum of the stimulator
8: Used current type
9: Rest time
10: Modifications of stimulation parameters indicated in the n°9
11: Printing
12: Add a note (available only at the end of the session)
13: Closing window
14: Registering the session in the patient file (only available at the end of the session)
15: Activation / deactivation of the sound during the session
16: Increase or decrease phases indications
17: Working phase
18: Selected parameters stimulation program
19: Stimulation diagram (up phase – holding phase – down phase)
20: Number of the step
21: Step remaining time

The level of stimulation should never be increased during the rest phase, but only in work phase. The level of stimulation must be set by the therapist and not by the patient and must be adjusted so the stimulation is comfortable for the patient.

Stimulation is felt by the patient only during the work phase.
The level of stimulation should only be adjusted by the practitioner (not by the patient) and must be adjusted so that the stimulation is always comfortable for the patient and in relation to the selected treatment protocol.

The stimulation is felt by the patient only during working phase. Therefore, the stimulation level must never be increased during a resting phase (but only in working phase).

If the stimulation level was not set before starting the session, a message will appear at the launch of the session. The user will be asked to reset the level of stimulation of the affected channel to zero in order to start the session.

If the stimulation level is set before starting the session, another control is done at the launch of the session to ensure that the level is the same as before.

If the level of stimulation of a channel is increased while that channel is not in working phase, you will be prompted to set down the level as it was during the previous working phase.

If the level of stimulation of a channel is increased while the session is in pause, when resuming the session you will be prompted to set down the level as it was before the pause.

If the session is in pause for more than 3 minutes, the user will be asked to reset the level of stimulation of all channels to zero in order to start the session.

**Step 1:** connect the patient (probe or electrodes) to the cable.
**Step 2:** connect the cable to the medical device.

**Step 3:** start the session (button 3 of page 74)
**Step 4:** adjust stimulation level

OR

**Step 3:** adjust stimulation level (button 5 page 74)
**Step 4:** start the session (button 3 of page 74)

**Step 5:** wait for the end of the session

OR

**Step 5:** stop the session before the end (button 4 page 74)

**Step 6:** disconnect the patient
Choose "Stimulation" then "Create a personalized program" in the main menu.
You can also reach it in the tab "Personalized program" of the selection program screen and click "New program".

1: Program name that appears in the program list.
2: Number of channel wanted in the program in creation.
3: Number of steps wanted in the program in creation.
   If only one step, duration of the step = duration of the session.
4: Session duration
5: Selection of the step to be configured
6: Duration of the step in selection.
7: Adjustment of the frequencies and pulse of the current.
8: Accuracy adjustment of the frequencies and pulse of the current (1 to 1).
9: Name of the channel (or other information, for example: the current type of this channel)
10: Program description
11: Registering the program
12: Quit the window without registering.
13: Selection of the stimulation mode.
14: Activate / deactivate the interferential mode (frequency adjustment from 2000 to 4000 Hz on each channel)
15: Manual adjustment of the stimulation parameters of the channel 1
16: Assistant for the selected existing program.
17: Manual adjustment of the stimulation parameters of the channel 2
18: Manual adjustment of the stimulation parameters of the channel 3
19: Manual adjustment of the stimulation parameters of the channel 4

If the session duration is larger than the sum of the step, the session will continue beginning again with phase 1.
COMBINED SESSIONS

Choose "Combined" then "Combined session" in the main menu or click on the shortcut icon in the introduction page.

This program allows combining Biofeedback and Stimulation sessions.

1: Creation of a new combined session
2: Modification of the selected combined session (only for personalized session)
3: Removing the selected combined session (only for personalized session)
4: List of the existing sessions list
5: Start the selected combined session
6: Close the window
7: This icon indicates the channel number of stimulation of combined session (icon = 1 channel, icon = 2 channels)

The buttons are activated when a session is selected.

1: Creation of a new combined session
2: Modification of the selected combined session (only for personalized session)
3: Removing the selected combined session (only for personalized session)
4: List of the existing sessions list
5: Start the selected combined session
6: Close the window
7: This icon indicates the channel number of stimulation of combined session (icon = 1 channel, icon = 2 channels)
SESSION CREATION / MODIFICATION

The buttons are activated when a session step is selected.

1: Text area for the combined session
2: Text area for the description of the combined session
3: List of the combined session steps (Biofeedback or Stimulation), you can select several
4: Move the selected step upwards
5: Move the selected step downwards
6: If marked, Biofeedback and Stimulation steps will follow one another without pause
7: Modify the total combined session time (automatically updated if you add a step)
8: Add a new Biofeedback or Stimulation step
9: Modify the selected step
10: Remove the selected step
11: Duplicate the selected step
12: Register the modifications of the combined session
13: Close the window without registration

More details on certain points:

8: When you click on the button "Add", the following window appears:

Select the kind of step you want to add and click on "Validate".

Note: If one step already exists, the new one takes the same parameters and is directly added to the list.

11: The button "Duplicate" is a shortcut from the button "Add" when a step is already selected:
   The below windows doesn’t appear and a same step is added directly to the list.
BIOFEEDBACK STEP

1: Selection of the channels 1 and 2
2: Selection of a biofeedback protocol.
3: Selection of the duration time unit (in minutes or in number of cycles)
4: Indicate session duration, rest time and work time.
5: Selection of channels 1 and 2 models.
6: Selection of full screen for the channel 1
7: If marked, channel 1 will be display in the full screen of the channel 2.
8: Registered the modification.
9: Close the window without registration.

More details on certain points:

3: If you select "minutes", the session duration will be in minutes
If you select "cycles", the session duration will be calculated regarding the rest times and the working times and will be in seconds. The button n°4 changes the function and inform on the number of cycles.

Example for session with cycles:

<table>
<thead>
<tr>
<th>Duration</th>
<th>2 cycles have been selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycles</td>
<td>2</td>
</tr>
<tr>
<td>Rest(s)</td>
<td>2</td>
</tr>
<tr>
<td>Work(s)</td>
<td>4</td>
</tr>
</tbody>
</table>

Rest time of 2 s
Work time of 8 s
The session will be: 2 x (2+8) = 20 seconds

One cycle = One passage = One rest time + One work time.

6 and 7 In the above window, no full screen is selected. If a full screen is selected (button n°6) the n°7 are activated.
STIMULATION STEP

1: Selection of the unit time session (in minutes or number of cycles)
2: Duration of the step in selection.
   If only one, Step time = Session time.

The other buttons are explained in « Creation of the stimulation program » (page 76).

More details on certain points:

1: If you select "minutes", the duration of the session will be indicated in minutes.
   If you select "cycles", the phase selection time is calculated with the rest and working time and will be calculated in seconds. The button n°2 indicates and modify the number of cycles.

Example for a session with cycles:

4 cycles have been selected.
A rest time of 0 s
A work time of 10 s
The session will be: 4 x (0+10) = 40 seconds

One cycle = One rest phase + One work phase 1.
Click on the shortcut icon "Favorites" in the introduction page.

This window enables you to have all your favorite programs in only one list. At the beginning this list is empty.
To add a program in the favorites simply go in the list of the stimulation programs, biofeedback or combined session, right click on a program and choose in the menu “Add to the favorites” (as explained below).

The buttons are activated when a favorite is selected.

1: Favorite program of combined meeting
2: Favorite program of stimulation
3: Favorite program of biofeedback evaluation
4: Favorite program of biofeedback scrolling
5: Suppression of the selected favorite
6: Starting of the favorite program selected in the list
7: Closing of the window
How to add a program of combined session in the favorites:
Right click on the program and then click on "Add to the favorites".

How to add a program of stimulation in the favorites:
Right click on the program and then click on "Adding to the favorites".
How to add a program of biofeedback in the favorites:

Right click on the program, and then click on "Add to the favorites".
### SOFTWARE PARAMETERS

Select "Software parameters" in the menu "Parameters" from the main menu.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Tab of parameters category selection (general or biofeedback)</td>
</tr>
<tr>
<td>2</td>
<td>If marked, the patients are always display in the list</td>
</tr>
<tr>
<td>3</td>
<td>If marked, the passages are displayed at the end of Biofeedback session</td>
</tr>
<tr>
<td>4</td>
<td>If marked, the Biofeedback Long Scrolling passages are registered with the session in the patient file</td>
</tr>
<tr>
<td><strong>Warning:</strong></td>
<td>This option increase quickly the data base file</td>
</tr>
<tr>
<td>5</td>
<td>If marked, the sensibility will be adjusted automatically at the end of the testing according to the maximum reached</td>
</tr>
<tr>
<td>6</td>
<td>If marked, the sensibility will be adjusted automatically at the end of the session according to the maximum reached</td>
</tr>
<tr>
<td>7</td>
<td>If marked, a warning message appears if you leave the session before registering it</td>
</tr>
<tr>
<td>8</td>
<td>If marked, the stimulation session list registered in the patients file display (otherwise the program selection screen display directly)</td>
</tr>
<tr>
<td>9</td>
<td>If marked, a backup will be done for each closing of the software</td>
</tr>
<tr>
<td>10</td>
<td>* If marked, YSY EST EVOLUTION software will use the patients registered in the KINE+4000 software.</td>
</tr>
<tr>
<td>11</td>
<td>If marked, favorites list will show only the favorites of selected practitioner, and common favorites.</td>
</tr>
<tr>
<td>12</td>
<td>If marked, let you change selected patient before recording the session.</td>
</tr>
<tr>
<td>13, 14, 15, 16</td>
<td>If marked, the sound is activated during the session. You can change the sound by a click on &quot;Browse&quot; and choose another sound file (.wav)</td>
</tr>
<tr>
<td>17</td>
<td>Data base compression (allow to reduce the size of the data base and the backup)</td>
</tr>
<tr>
<td>18</td>
<td>Reset of the software parameters</td>
</tr>
<tr>
<td>19</td>
<td>Quit and register the parameters</td>
</tr>
<tr>
<td>20</td>
<td>Quit without parameters registration</td>
</tr>
</tbody>
</table>

* : Optional feature
1: Thickness of the working forms display in Biofeedback
2: Colour of the working models in Biofeedback
3: Biofeedback curves thickness
4: If marked, the curves will be drawn with a constant thickness
5: Duration of automatic sensibility (scrolling of a screen) in biofeedback.
6: Select the channel number you want to display the colours
7: Colour of the selected channel on the n°24. Each channel has its own colour (EMG, Pressure, Temperature)
8: Cursors colours placed during the testing session
9: Cursors colours placed after the testing session (to do the delta)
10: Selection of the Biofeedback pressure unit
11: Selection of the Biofeedback temperature unit
12: Graphic acceleration. These settings should be changed on the advice of technical support only.
13: Number of channels selected by default in the number of channel selection window (when you click on the short cut icon in the introduction page)
14: If marked, the software uses the video card capacities to draw the curves faster.
   Deactivate this function if you have graphic bugs on the curves.
15: Work phase colour
16: Rest phase colour
17: Reticle colour (horizontal squaring on the curve)

More details on certain points:

17: reticle colour.
1: Before beginning a stimulation session it is possible to change the stimulation level. The time indicated here is the adjustment time of the stimulation level.
2: During a biofeedback session, it is possible to start stimulation manually. The time indicated here is at the time of work of this stimulation.
3: You can select the default stimulation program, for manual triggering, during a biofeedback session.
DEFAULT BIOFEEDBACK PARAMETERS

Select "Default biofeedback parameters" in the menu "Parameters" from the main menu.

The selected values of this screen are displayed when no patient is selected or for non registered session in the selected patient file.

1: Channel type 1 and 2
2: Protocol selection
3: Time adjustment (session, rest, work)
4: Selection tab of the program to be configured.
5: Channel 1 and 2 sensibilities
6: Work models selection channel 1 and 2
7: Full screen activation.
8: Displaying selection of the curves in full screen: 1 or 2 channels at the same time
9: If checked the defaults parameters are always used. Otherwise the parameters from previous session are used.
10: If checked, the curve stays on screen during rest time.
11: Register the parameters
12: Close the window without registering
**AVAILABLE CABLES AND ACCESSORIES**

Ref: **CAB-EMG333**  Designation: Cable Biofeedback/Stimulation EMG333 (grey connector)

Connector 5 male points and 3 male isolated banana plugs (black/red/yellow)

Ref: **CAB-EMG115**  Designation: Connection cable Biofeedback/Stimulation EMG115

DIN 5 180° Female points and 2 female banana plugs (black/red)

Ref: **CAB_DDR**  Designation: Cable adapter for Perisize / Reducer