Treadmill mod. 870 A, 870 S , 870 C

MGC DIAGNOSTICS®

INTERNATIONAL

PADOVA BRANCH

USER'S MANUAL

This Manual should be carefully read in all of its parts, before starting to operate the treadmill

This manual has been carefully written and checked. Nevertheless no responsibility is assumed for possible inaccuracies.

The Medisoft RAM Italia S.r.l. company is committed to a policy of constant improvement in compliance to Norm ISO EN 9001:2001 requirements, and as a function of feedback from customers and the market in compliance to norm ISO EN 13485:2004. As a consequence, the company reserves the right to make changes to this document and to the products described herein without notice.

TABLE OF CONTENTS

Treadmill Mod. 870 A, 870 S and 870 C

WARNING

) ACCIDENTALLY REBOOT SECURITY SISTEM

If the tension of the treadmill is taken off by one of this methods:

- Pushing the red emergency button
- Switch off the mains
- Pulling off the safety lanyard

Wait at least 30 seconds

Before give tension to the treadmill by this operations:

- Rotate to pull up the red emergency button
- Switch on the mains
- Put on the rubber cup of the safety lanyard

1 Introduction to the Equipment

Congratulations on your purchase of a new Treadmill 800 Series. This state-of-the-art equipment represents the best current technology in Fitness, Sports Applications, and Cardiorespiratory Diagnostic Exercise Systems.

1.1 ABOUT THIS MANUAL

This manual covers all aspects of the installation, operation and maintenance of the 870 A, 870 S and 870 C Treadmills. It provides the necessary instructions to guarantee correct and safe operations.
This manual should be kept with the treadmill at all times.
If you have a question regarding the operation or maintenance of the treadmill, consult the manual first. If your question remains unanswered, please call the Manufacturer, directly.

1.2 INTENDED USE

These treadmills have been specifically designed to be used in connection to a variety of medical applications such as motor function, rehabilitation programs, breathing and stress tests, and cardiorespiratory diagnostic exercise systems. Used as indicated, the treadmills can be considered as supplementary components for diagnostic purposes, and must be handled and maintained under supervision by adequately qualified personnel. Typical environments for these treadmills are outpatient cardiologic clinics, hospital wards and outpatient departments for motor function rehabilitation.

The extraordinary versatility of these treadmills allows them to be used by a wide range of people that wish to enjoy daily use of a treadmill for general fitness purposes, progressive muscle exercises, and weight control.

The treadmill allows you to exercise in a safe environment, with adequate space, and with simple fingertip control of all important parameters, including speed.

Use of a treadmill eliminates many of the risks associated with outdoor exercise. Most importantly, there is no risk of muscular trauma caused by the asperity of the ground, because of the shock-absorbing deck. It also avoids problems and inconveniences associated with climatic conditions and air pollution.

These instruments were specifically designed to be compatible with other Manufacturer's Cardiorespiratory Diagnostic Exercise Systems, and for use in Motor Rehabilitation Centres. In such configuration the treadmill becomes a passive device of a diagnostic system and can be used by adequately qualified personnel only.

1.3 PRECAUTIONS

During medical procedures such as cardiac stress tests, pulmonary function tests, or motor rehabilitation therapies, the use of models 870 A, 870 S and 870 Cmust be supervised and carried out by adequately qualified medical personnel.

- Stress test exercises must be performed under medical supervision and with the assistance of qualified nursing staff. Furthermore the working area must be equipped with all first aid instruments to be able to face potential emergencies.
- During rehabilitation therapies, patients must be followed and kept under supervision by adequately qualified personnel

During sport activities, the use of treadmill models 870 A, 870 S and 870 C is strictly forbidden to the following category of people:

- Children under 14 years of age.
- People suffering from a heart condition.
- People suffering from kidney problems.
- Women with gynaecological problems.
- Pregnant women, later than six months.
- People with evident condition of overweight
- Diabetics.
- People without adequate medical certification of their qualification for sports activities.

1.4 MANUFACTURER LIABILITY RESTRICTIONS.

The treadmills mod. no. 870 A, 870 S and 870 Care in compliance to all norms applicable. The Manufacturer will not accept liability for any personal injury or damage to belongings, if equipment is not used as intended, and according to regulations in this User's Manual.
Norms compliance can be violated by:

- use not in compliance with intended use as established by Manufacturer
- Failure to observe operating instructions
- Tampering or alterations improperly made by end user or by non-authorized personnel
- Use of non-original spare parts, or parts not authorised by the Manufacturer.
- Electrical system (where equipment will be used) in non-compliance with safety norms and relative statutes
- Failure to observe routine maintenance norms.
- Using the equipment outdoors, or in inadequately protected or unhealthful conditions or environments.
- Medical or therapeutically use of the equipment by personnel who is not adequately qualified.

Non-compliance with any of the above warnings and cautions exempts the Manufacturer from any responsibility for any accident or damage derived from non-compliance.

1.5 SAFETY REGULATIONS

WARNING !
Incorrect use of this equipment may cause injury. Please ensure that the safety regulations listed below are strictly observed:

1. Read this User Manual and the plates attached to the underside of the treadmill hood carefully. Before operating the treadmill ensure you are completely familiar with the control panel and its key functions.

2. Before connecting any equipment or device to a network, insure that this is compatible with input voltage for device operations (230 Vac, 50 – 60 Hz). A lower input voltage, below values indicated on plate, would result in uneven performance of treadmill, particularly at lower speeds.

3. Medical procedures such as cardiac stress tests, pulmonary function tests, or motor rehabilitation processes are only to be carried out by adequately qualified medical personnel.

4. Before beginning any exercise program check with your doctor to determine your present physical condition and ability to undertake aerobic exercise. This is especially essential for people suffering from abnormal blood pressure, smokers, people addicted to stimulants, or taking other medication, people suffering from cardiovascular disease, or those at risk of hereditary cardiovascular disease.

5. During exercise, it is important to wear adequate shoes and clothing. Avoid shoes with leather soles, heels, anti-slip strips, and spikes. The most appropriate shoes are gym shoes with a soft rubber sole.

6. Do not step onto the running belt without shoes.

7. Do not put drinks or other liquids on or near the treadmill.

8. Do not leave clothing or towels on or near the treadmill. Such items may seriously interfere with the moving parts of the equipment.

9. Do not scratch the plastic control panel of the treadmill with sharp objects such as pens or screwdrivers.

10. Before moving the treadmill, make sure that the power switch is OFF, and it is unplugged from the mains power outlet.

11. If, for any reasons it becomes necessary to move the equipment, you must insure that the equipment power switch is turned off and that the equipment is unplugged and rendered inoperable, before moving the equipment. If the

equipment is moved to a different environment double-check that this is compatible with input voltage for device operations (230 Vac, 50 – 60 Hz) before connecting it to the network.

12. Ensure the treadmill is positioned well away from sources of water such as drinking fountains. Do not pour any kind of liquid on the equipment.

WARNING !
If any kind of liquid should filter through the equipment, perform the following:
- **stop using it immediately**
- **disconnect the device from the mains power**
- **let skilled technicians check the device before using it again**

13. Ensure the treadmill is positioned well away from heat sources such as radiators.

14. Do not use the treadmill outside, or in areas exposed to external conditions such as direct sunlight or rain.

15. Do not use the treadmill near an inflammable gas source.

16. Do not pull the power cord or the equipment itself in an attempt to remove the plug from the outlet.

17. Do not try to move equipment by pulling the power cord.

18. Do not allow children, mentally or physically disabled people to use the treadmill, unless under the direct supervision of adequately qualified personnel.

19. Always step onto the running belt facing forward (toward the Control Panel). Assume a normal walking posture and hold the lateral handrails.

20. Do not put your hands, feet or any other object under the treadmill while the equipment is in motion.

21. Ensure the treadmill has been thoroughly checked prior to use. Do not operate the equipment if the power cable or plug is damaged. If you suspect the power cable or plug is malfunctioning, set the power switch to OFF, remove the plug from the mains outlet and call the authorised dealer.

22. Ensure the area surrounding the treadmill is clean, dry, and dust-free at all times.

23. Do not remove the treadmill hood. This should only be carried out by authorised service personnel.

WARNING !
Medisoft RAM Italia S.r.l. takes no responsibility for any accidents or any damages caused to people or things due to a connection of the treadmill to an electric outlet in non-compliance with current laws and safety norms.

1.6 ELECTROMAGNETIC COMPATIBILITY

This device was designed and built to meet all the requirements and standards of Norm EN 60601-1-2 and was found in compliance with all such norms and standards.
EN 60601-1-2: *Medical electrical equipment - Part 1: General requirements for safety – Collateral standard: Electromagnetic compatibility – Requirements and tests.*
Nevertheless, in particular conditions, some interferences may arise. In order to insure that the equipment operates correctly and performs as expected, the Manufacturer invites the end user to focus attention on all special features of the equipment discussed so far, and all that will follow, including all warnings and recommendations that are often indicated by visually understandable “warning” and “caution” tags.
It is the client/customer/end user’s responsibility to handle the equipment in such a way as to be in full compliance with all indications provided by the Manufacturer, in order to insure that the equipment will perform as expected and guarantee safety as it operates in compliance with intended use.
The client/customer/end user must keep in mind that the utilisation of wireless portable devices (such as cellular phones, cordless phones, walkie-talkies) can interfere with operating functions of the equipment itself. To avoid electromagnetic interferences it is important to keep a safe minimum distance between the portable and RF communication devices and the treadmills model no. 870 A, 870 S and 870 C, as recommended in the following Table 1 - Immunity to RF.

Recommended separation distances between portable and mobile RF communications equipment and the 870 A / 870 S /870 C treadmills

The treadmill model no. 860 A / 870 A is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the end user of the equipment can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment and the treadmill model no. 870 A / 870 S / 870 C as recommended below, according to the maximum output power of the radio communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter m		
	150 KHz to 80 MHz $d = 0.35 \cdot \sqrt{P}$	80 MHz to 800 MHz $d = 0.35 \cdot \sqrt{P}$	800 MHz to 2.5 GHz $d = 0.7 \cdot \sqrt{P}$
0.01	0.035	0.035	0.07
0.1	0.11	0.11	0.22
1	.35	.35	0.7
10	1.1	1.1	2.2
100	3.5	3.5	7

For transmitters rated at a maximum output power 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 rating of the transmitter in watts (W) according to the transmitter Manufacturer.
NOTES:
• At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
• These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

Table 1 - *RF immunity – Distance calculation for non-life-support equipment*

Other equipment or devices can be a source of interference, or can be susceptible to interference from a nearby noise source, such as TV broadcasts, speakers, microwave ovens and other radio communication devices.

WARNING !
To avoid interferences between equipment and devices, we recommend that the equipment be used at an adequate distance from such devices.

CAUTION

If it becomes necessary to use the equipment near other devices one must closely observe its performance to check if the setup in which it is used, allows it to perform at normal operational level.

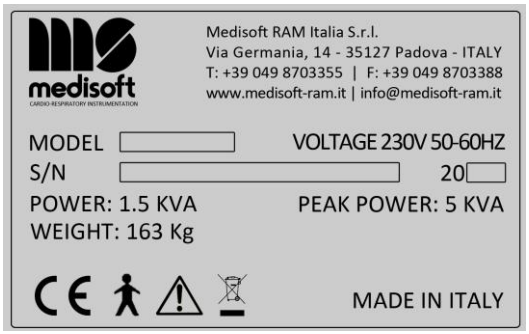
CAUTION

- When connections are made to the RS 232 port, one should be very careful as to avoid touching the pins of the connectors themselves.
- Before making any connections, we suggest using all ESD elementary cautionary procedures: discharge the accumulated static electricity by touching a conducting metal part connected to the ground protection of the electrical system. As an alternative, touch a metallic part of a very wide surface.
- When making any connections double-check that both devices or equipment to connect are turned off.

- Always and only use the cables provided by Manufacturer. The use of any cables, different from the original, can result in a raise in emissions or a decrease in immunity.
- The cables sold by the Manufacturer as spare parts are exempt from the above cautionary statement.

1.7 IDENTIFICATION PLATES

The identification plate is located on the underside of the treadmill hood.



Legend
The structure of the serial number is as follows:

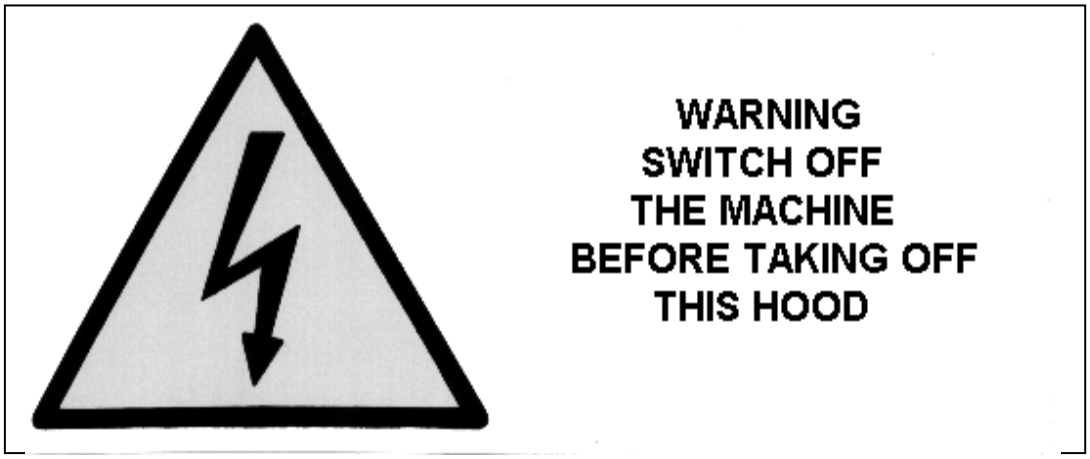
		pr	**pr**	**pr**	**S**	**a**	**a**	**a**	**a**

where:

pr pr pr:	progressive production number referring to the year
S	indicates the model of the treadmill
a a a a:	indicates the year when the item was manufactured

1.8 SAFETY PLATE

The safety plate is located below the power switch. It reminds users to set the power switch to OFF and remove the plug from the mains outlet before removing the treadmill hood.



medisoft®
CARDIO-RESPIRATORY INSTRUMENTATION

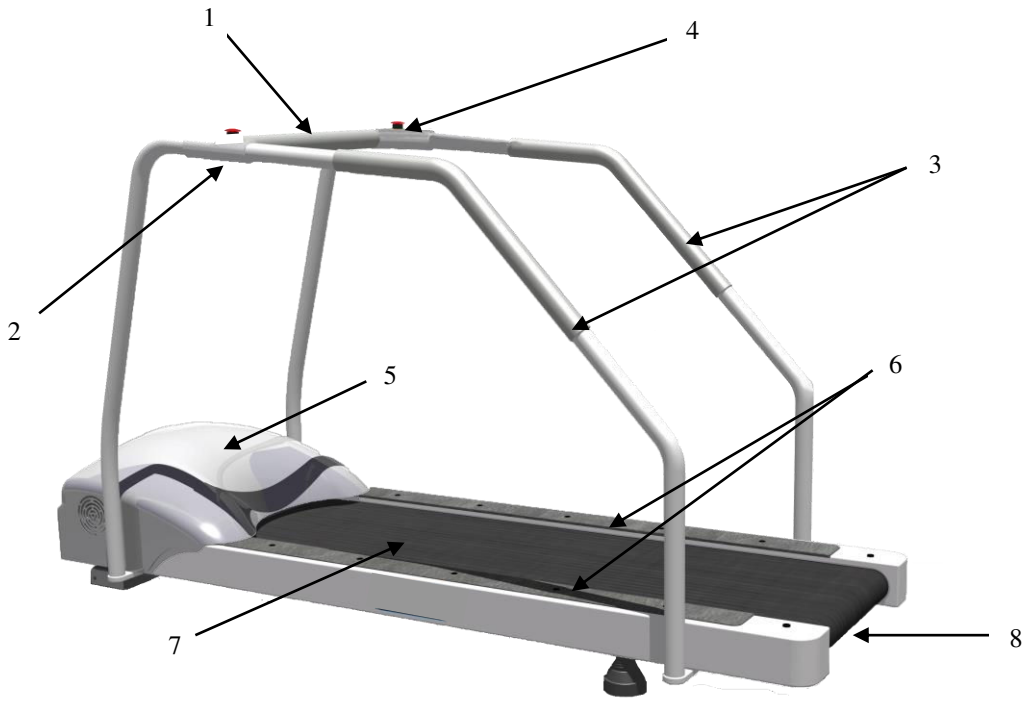
Medisoft RAM Italia Srl
Via Germania, 14 - 35127
Padova Italy

Max. patient weight support
Ref.: 870A - 870S - 870C
Kg. 200 (441Lbs.)

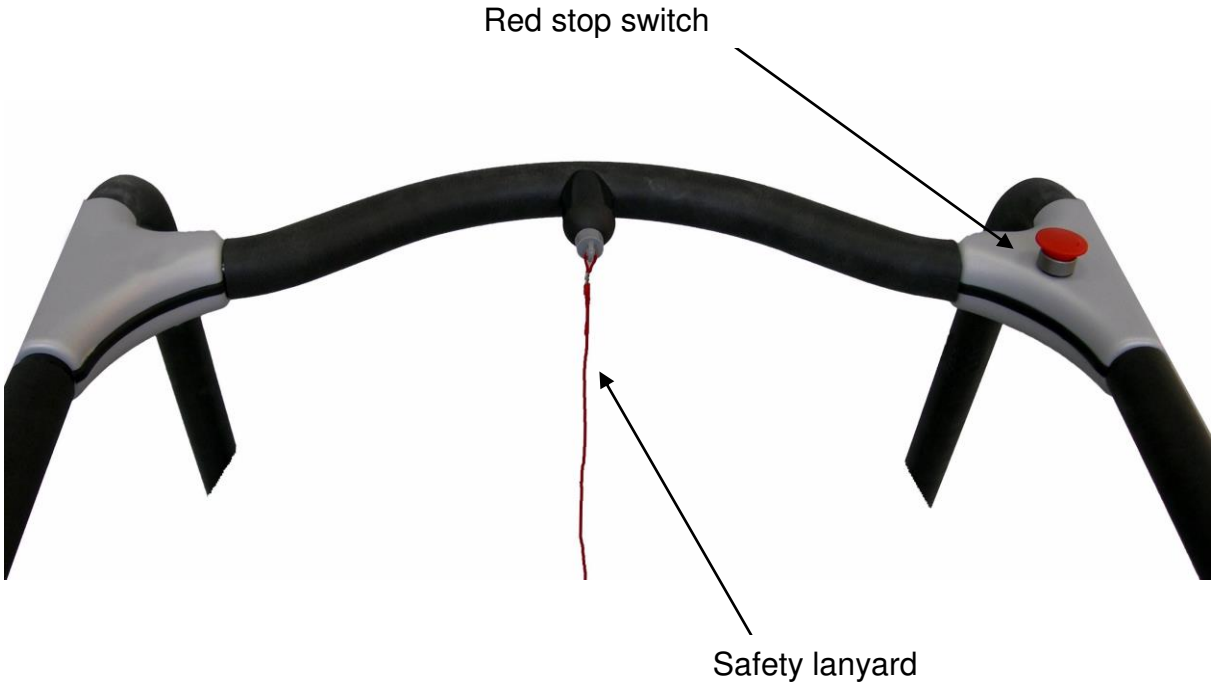
1.9 MAIN PARTS IDENTIFICATION

1 Front handrail
2 Angular covers
3 Lateral handrail
4 Red stop switch
5 Treadmill hood
6 Anti-skid tape
7 Running belt
8 Back roller

1.9.1 MODEL 870 A / 870 S / 870 C



1.9.2 HANDRAILS SPECIFICATIONS



RED STOP SWITCH:

In case of emergency, by pressing this button completely take the mains in the treadmill.

SAFETY LANYARD

By a clip is attached to the patient, in case of patient fall, it is completely switched off the mains in the treadmill.

WARNING !

CLAMP THIS CLIPS TIGHT ON VEST

WARNING !

DISENGAGE ALL STOP SWITCHES AFTER 30 SEC.

2 Packing, transport, storage and delivery

2.1 PACKING

When transporting the treadmill for significant distances, always use the original packaging of the Manufacturer. Fix the treadmill firmly to the provided wooden pallet, using the wood shafts nailed to the pallet. Fix the supplied carton over the treadmill to the pallet with appropriate plastic strips.

2.2 TRANSPORT

A forklift must be used to lift the pallet with the treadmill. Always lift the pallet from the bottom; arrows on the carton indicate the correct position of the pallet on the forklift.

WARNING !
Do not put heavy packages on top of the carton. This may cause damage to mechanical and electronic parts of the treadmill.

Transport the treadmill with care and do not subject it to any kind of mechanical shock.

2.3 STORAGE

When not in use, we recommend you store the treadmill in its original carton, on its original wooden pallet. The environmental conditions should be in the range -10 °C to 60 °C, with a maximum humidity of 90%. Keep the treadmill free from dust, and away from direct heat and sunlight, in environments that are

- dust-free and/or charged with ionising agents and/or with high humidity rate
- free of frequent or sudden changes in temperature, moisture and atmospheric pressure.
- not subject to continuous vibrations.

Storage conditions

1. Allowed temperature range: from -10° C to + 50° C.
2. Maximum relative humidity allowed: below 90%, without moisture.

WARNING!
Do not leave the equipment exposed to sunlight, rain or other atmospheric agents.

Precautions when equipment is not in use

When the equipment is left unused for long periods of time, the following steps should be followed:

- Turn off the equipment, cut off the electricity by pulling the plug from the mains, wind the cable, and lay it on the treadmill belt.
- disconnect any other device (e.g. a PC connected via a serial port).
- clean the equipment following the instructions specified in paragraph 5.2.1.2. Dry or let the equipment dry before covering it.
- Carefully cover the equipment with adequate means, so as to avoid dust, moisture or the infiltration of other atmospheric agents that might be present in the environment where equipment will be stored. The environment should meet specifications as indicated in paragraph 2.3.
- protect the cables from dust, moisture, sunlight and from heat sources by storing them in adequate containers or in a cabinet.

WARNING!
Before covering the equipment make sure that the equipment is dry.

Before reusing the treadmill

- Verify that the equipment and all accessories are in perfect conditions, state of preservation and cleanliness. If all is verified to be in excellent state, act accordingly.
- Start the equipment by switching the power on, and let it work for about an hour. This procedure allows the equipment to reach operating temperature, favouring the elimination of any moisture that might have formed inside the equipment.
- During this period, it is possible to verify that the equipment functions properly.

2.4 DELIVERY AND CLAIMS

Do not unpack the equipment immediately.
Verify that the number of cartons received equals the number listed on the delivery note. Verify that the packaging is original, and the treadmill is on its original wooden pallet. Inspect the packaging for external damage.

It is important to itemise any discrepancies on the waybill and have it signed by the carrier's agent. Failure to adequately describe external evidence of loss or damage may result in the carrier refusing to honour your claim.

If damage is discovered after the waybill is signed, contact the carrier's agent immediately by telephone, and in writing. Request an inspection, and a copy of the inspection report.
If damage is discovered do not discard the packaging materials until all checks have been made by the Medisoft RAM Italia representative. Upon being notified that you have received the equipment, a qualified Medisoft RAM Italia representative will visit your premises. They will unpack your equipment, check for internal damage or missing items, and then assemble it according to the directions of our Technical Service department.

3 Installation

3.1 INSPECTION .

The treadmill is delivered to the customer in its original carton, and is securely fixed to a wooden pallet by means of plastic strips. The carton is fixed to the wooden pallet with nails.
A forklift must be used to lift the pallet with the treadmill. Always lift the pallet from the bottom; arrows on the carton indicate the correct position of the forklift.
If a forklift is not available, four people are required to lift the treadmill with its wooden pallet.

WARNING !
When opening the carton, it is necessary to wear protective gloves to avoid injury.

1. Remove all the nails from the wooden pallet using a proper pincer.
2. Ensure you remove them all to avoid injury.
3. Lift the carton from the wooden pallet. This will require more than one person.
4. If it is likely that you will want to move the treadmill a significant distance at a later date, ensure that the carton is carefully folded and stored for this purpose. If not, dispose of it properly.
5. Cut the three plastic strips attaching the treadmill to the wooden pallet with scissors.

WARNING !
Do not leave the packaging within reach of children. Dispose of it according to current regulations governing waste disposal.

3.2 CONFIGURATION

The treadmill configuration is composed by a 800 series device (mod. 870 A, 870 S or 870 C), a RS 232 serial cable and a technical CD.
Verify the presence of the following material, inside the box of the standard accessories :

1 RS232 cable (no. 1)
2 CD ROM containing Tap_Tst program, user and service manual

3.3 MOUNTING

Three people are required to lift the treadmill from its wooden pallet. It is recommended that two people lift the treadmill from the hood end, the third near the end roller.

WARNING!
Do not try to use the treadmill on the pallet. When lifting the treadmill, lift it from the lateral frames of the body. Do NOT lift it from the plastic hood, or from the back roller. Failure to comply with this recommendation may result in damage to the equipment.

Once the treadmill is removed from the crate, it can be moved to the exercise area by rolling it on its front wheels. If it is necessary to move the treadmill over a rough surface (for example a pavement), use a trolley to avoid damage to the wheels. Position the treadmill on a smooth, level, stable surface. Ensure the weight capacity of the surface is adequate for both the treadmill, and the additional weight of the user. Short pile, industrial carpet is acceptable. The front wheels must be free and not restricted to ensure that the treadmill can incline correctly. Do not place the treadmill on thick or long pile carpet. If necessary, place a metal or hard plastic plate under the front wheels to ensure stability.

Eventually, to put the treadmill in a horizontal position, you can adjust the height of the back support feet of the treadmill.

To adjust the treadmill's support feet, it is necessary to raise the rubber protecting the feet and to use two 19 mm wrenches.

3.3.1 HANDRAILS MOUNTING

Eventually, to put the treadmill in a horizontal position, you can adjust the height of the back support feet of the treadmill.

To adjust the treadmill's support feet, it is necessary to raise the rubber protecting the feet and to use two 19 mm wrenches.

Once the treadmill body is positioned correctly, two people should lift the front handrail and position it at the front of the treadmill as indicated in fig. 1.

Fig. 1

Before executing this operation you must unthread and put away the two screws at the base of the front handrail.

While one person holds the handrail in place, a second person should fix its end approximately 2 cm into the support on the left side.

On the right side of the handrail, there is a plug to be connected to the right side rail-support.

Fig. 2

Rotate the ring nut of the plug in a clockwise direction to ensure a proper connection.

WARNING:
This ring nut must be completely rotated up to the end position in order to ensure the connection of all the pins of the plug.

Apply moderate pressure on both sides of the front handrail equally to complete insertion.

At this point it is necessary to take up again the two screws previously taken away and to screw them at the base of the front handrail.

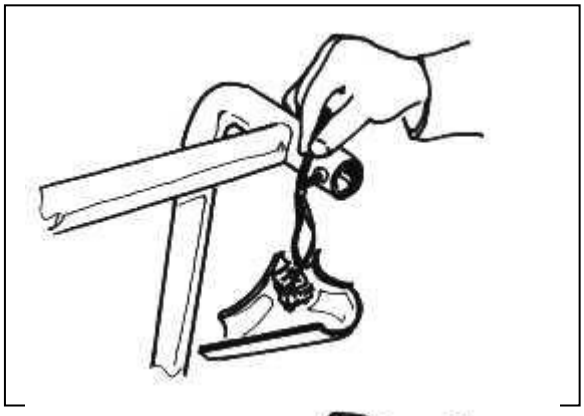


Fig. 4

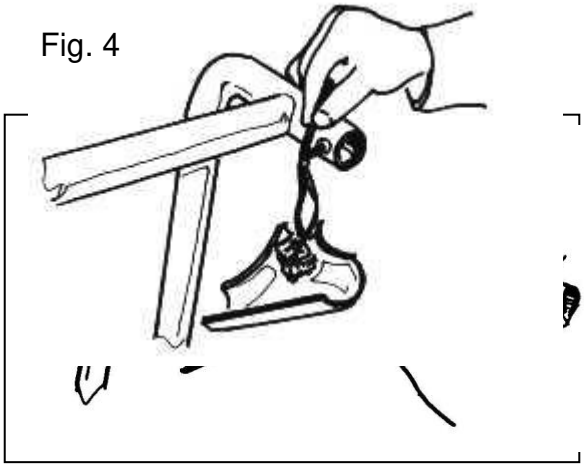


Fig. 5

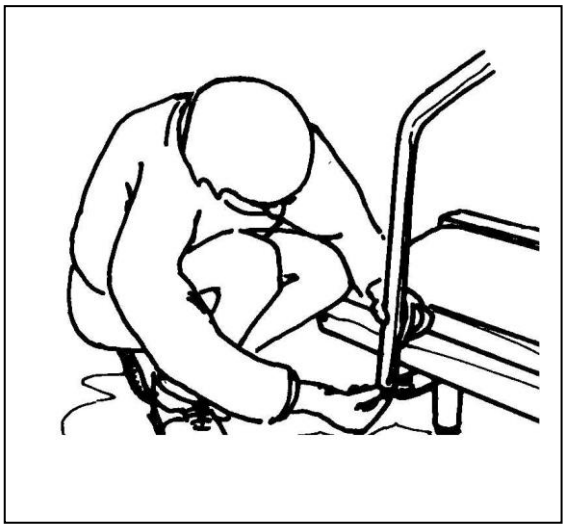


Fig. 6

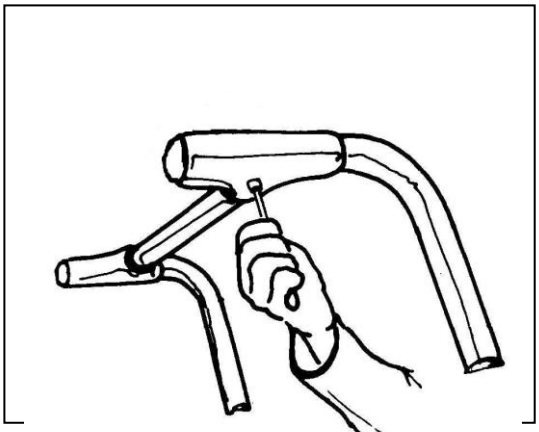


Fig. 3

Remove both angular covers of the front rail, by unscrewing the screws on the bottom of the covers. (Fig. 3).

The lower half of the covers will be removed, while the upper half will remain attached to the red stop switches connection wire. (Fig. 4).

Remove the screws at the end of lateral handrails (Fig. 6).These handrails are in the package and must be mounted.

Connect now the lateral handrails with the front handrail (Fig. 5), and insert the connection screws without tightening.
Reinsert the two pairs of screws, at the end of the lateral handrails (Fig 6).

When all screws are in place, tighten them. (Fig. 5 and Fig. 6).

Alter the angle of the control panel (if provided) by adjusting the screws on the upper side of the front handrail.

Replace the angular covers in their original positions, but be sure not to over-tighten the screws.

3.4 MOVING

To move the treadmill, lift it from the back, holding on to the side frame and NOT the rollers. You will then be able to roll it on its front wheels. Avoid rolling over rough surfaces, as this will damage the wheels. Then the treadmill can be moved by letting it roll on its front wheels. This operation should be avoided if the floor is rough or not smooth enough.

3.5 PRECAUTIONS

WARNING !
Improper installation of the equipment may cause an accident and/or malfunction. Please observe the following precautions:

- The room temperature should be between 10°C and 40°C. The room humidity should be between 20% and 85%. Keep the treadmill away from dust, moisture and radiation.

- Do not position the treadmill near heat sources such as radiators or devices sych as X-ray machines, lasers and so on.

- Before connecting the treadmill to the mains power, ensure the power switch is OFF. Connect the treadmill to a properly grounded outlet only. It is mandatory that the treadmill be plugged into an approved outlet that is properly grounded and dedicated solely to and for the exclusive use of the treadmill. No other equipment may be on the treadmill circuit.

- Before placing the plug into the outlet, verify the conformity of the electric installation with the electrical characteristics on the identification plate of the treadmill (see Technical Specifications). Do not use extension cords, multiple plugs or plug adapters.

CAUTION
A lower input voltage, below values indicated on plate, could result in uneven performance of the treadmill (failure, faltering, jerking), particularly if the weight of the patient is considerable.

- Plugging or unplugging the treadmill to the mains power must be performed with the power switch in OFF position.

- The treadmill must be grounded. If a malfunction occurs, grounding provides a path of least resistance for the electric current to reduce the risk of electric shock. The treadmill is equipped with a cable with an equipment grounding conductor, as well as a grounding plug.

- The plug must be connected to an appropriate outlet that is properly installed and grounded in compliance with current regulations.

WARNING !
The Medisoft RAM Italia S.r.l. company assumes no responsibility, and shall not be liable for, any damages to people, or objects due to a connection of the treadmill to an electricity network noncompliant to laws and norms currently in force.

- Ensure the outlet is in a position such that the cable will not be a potential hazard. If necessary, protect the cable with an adequate plastic cover.

- Check with a qualified electrician if you are in doubt as to whether the product is properly grounded. Do NOT modify the plug provided with the product. If it will not fit the outlet, have a proper outlet installed by a qualified electrician.

WARNING !
Ensure the power cord is in a non-traffic area. If necessary, protect the cable with an adequate plastic cover.

- Periodically check the physical condition of the power cable. If you suspect it is damaged, do not use it. Set the treadmill power switch to “OFF” (0), disconnect the plug from the outlet and have the cable replaced by a qualified technician.

- If the treadmill plug and the outlet are not compatible, skilled electricians must substitute the outlet.

3.6 VERIFICATION OF SPEED PARAMETERS

WARNING!! IMPORTANT!!

Perform this procedure before using the system, otherwise you could create dangerous situations for the user.

Apply a piece of scotch on running belt and another on the treadmill side cover (the latter used as a reference point). Count visually the number of times that the scotch applied to the running belt will overcome the scotch of the side cover over an accurate minute time.
Check if the counted values is the same of the tables below.

Treadmill mod. 870 A - Clinical

Units for the speed chosen	Speed value to be set	Expected count
Mph	3	27 ± 1
Km/h	3	17 ± 1

Tappeto rotante mod. 870 S - Sport

Units for the speed chosen	Speed value to be set	Expected count
Mph	3	23 ± 1
Km/h	3	15 ± 1

Tappeto rotante mod. 870 C - Athlete

Units for the speed chosen	Speed value to be set	Expected count
Mph	3	21 ± 1
Km/h	3	14 ± 1

If the values counted are different from the count expected please contact the Service department of Medisoft RAM Italia to verify the settings.

Note: This module is also provided on paper attached to the installation procedure.

If any further information is required, contact your authorised dealer. Alternatively, you may contact Medisoft RAM Italia directly:

Medisoft RAM Italia S.r.l.
Via Germania 14 - 35127 CAMIN-PADOVA (ITALY)
T +39 49 8703355 | F +39 49 8703388
info@medisoft-ram.it | www.medisoft-ram.it

4 Patient security

4.1 EMERGENCY STOP BUTTONS

The treadmill Medisoft RAM is the only device equipped with two emergency stop buttons positioned frontally to the patient on the support structure (when the patient is on walking surface) to the right and left sides . Are highly visible , fast access and usable.

By pressing the emergency button the treadmill as it turns off because the power supply is disabled.

The running belt will stop by inertia and it will take about 5-8 seconds depending on the speed that the treadmill had when the button was pressed.

There are informational stickers on the buttons that alert you to wait about thirty seconds before reactivating the button , using a small rotating counterclockwise so the treadmill will come out of safety status and back to work again. **If you do not wait 30 seconds the speed will not work .**

WARNING

) ACCIDENTALLY REBOOT SECURITY SISTEM

If the tension of the treadmill is taken off by one of this methods:

- Pushing the red emergency button
- Switch off the mains
- Pulling off the safety lanyard

Wait at least 30 seconds

Before give tension to the treadmill by this operations:

- Rotate to pull up the red emergency button
- Switch on the mains
- Put on the rubber cup of the safety lanyard

5 Maintenance

5.1 PRECAUTIONS

- **Before undertaking any maintenance procedure, we must take the following precautions:**
  - **Use tools with insulated handles**
  - **Wear personal protective clothing and equipment, such as insulated gloves and shoes,**
  - **Switch off the equipment (ON/OFF switch to "0") and remove the plug from the outlet.**
- Ensure your working conditions are appropriate. Ensure the lighting is sufficient, and the treadmill is free of all obstructions.
- The hood, handrails, belt, and exposed plastic areas may be cleaned with a soft damp cloth, dampened with a solution of tepid water and mild detergent.
- When dealing with the moving parts of the treadmill during any maintenance procedure, be extremely careful; these parts are potentially dangerous.
- When lubricating parts of the equipment as outlined below, ensure you do not exceed the recommended amount of lubricant.

5.2 ROUTINE MAINTENANCE

5.2.1 Routine Maintenance to be performed by technicians of the corporation using the equipment.

A general preventive maintenance schedule should be based on the following points:

N.	Intervention	Frequency	Materials
1	Check performance of red STOP signals	Before any use.	//
2	General cleaning of equipment	Weekly	Soap and water
3	Cleaning of side footrest belts	Weekly	Vacuum cleaner (max. 1.5 bar)
4	Cleaning of drive belts	Monthly	Vacuum cleaner and brush (detergent)
5	Check integrity of network cables (if not protected by a cable tray)	Monthly	Visual inspection

These operations must be performed by trained technicians of the private or public corporation using the equipment.
We wish to remind you that Norm EN 60601-1 defines the end user as the private or public corporation responsible for the use and maintenance of the equipment (par. 2.12.13).

WARNING!
In case that the end user is not able to adequately check the equipment by following the procedures as described above, or in the event that the end user does not wish to carry them out directly, it is possible to request assistance from the distributor or from the Manufacturer (Medisoft RAM Italia S.r.l.) who will promptly communicate the terms and conditions of technical assistance. Whatever the end user chooses to do, the maintenance steps as listed in the above table, must be performed in the way and frequency described thereof.
Failure to comply with any of the checks listed above, exonerates the Manufacturer from any responsibility whatsoever for any accident or damage caused because of it (par. 1.4).

5.2.1.1 Check performance of red STOP switch

After switching on the equipment by positioning the main power switch to "I", start the movement of the belt at any speed. Then press just one red STOP switch and check that after activating the STOP the belt stops and the display on the control panel (if present) switches itself off.
Repeat the operation for the other red STOP switch as well.

5.2.1.2 General cleaning of equipment

It is good policy to keep the equipment clean by washing it with soap and water or with mild detergents. Avoid harsh treatments or rough handling that could scratch the surfaces. Take particular care when cleaning the control panel, if present.

5.2.1.3 Cleaning of side footrest belt

These belts are used to rest the feet and therefore need particular attention during cleaning, as to keep them always in working order. This can be accomplished by following item 3 on the table above.

5.2.1.4 Cleaning of drive belt

Use a vacuum cleaner and with the aid of a soft brush, brush off any residue of dirt and dust from the drive belt.
If the surface of the belt is particularly soiled, it can be washed using a mixture of 50% water and 50% detergent (AR19 Chemsearch).
It is advisable to start the treadmill to make the belt move at 1 or 2 Km/h and after dampening a soft cloth with a mild detergent, lay it on the end part of the belt (in correspondence to the back rolls) and keep it pressed as to obtain a self-cleaning action.

5.2.1.5 Checking the integrity of network cables

The visual examination of the conditions of the cables and of the plug should verify that both the cable and the plug are in good conditions and working order

and that they are not damaged. In case of necessity please contact Customer Service.

5.2.2 Mandatory annual routine maintenance

The tasks indicated in the following table are fundamental in order to keep the performance of the equipment in top conditions, guaranteeing a long life and the safety of the device. Therefore the annual routine maintenance is mandatory.
The execution of these tasks requires the opening of the engine bonnet to access the electromechanical parts of the device.
For this reason and for the delicate nature of the interventions, these operations must be performed by the qualified personnel of the Service Assistance (Customer Service)

No.	Task
1	Cleaning of engine compartment.
2	Checking of sliding mechanism subsystem.

The detailed description of these tasks are reported in the operational instructions provided.

WARNING !
It is necessary to comply and make sure that that the annual mandatory routine maintenance is performed as indicated.
Failure to comply to this requirement exonerates the Manufacturer from any responsibility whatsoever for any accident or damage caused because of it (par. 1.4).

5.3 NON-ROUTINE MAINTENANCE

In Annex D – Troubleshooting – the problems that may require Technical Assistance are listed and they are to be considered as non-routine maintenance.
For these events, the end user should contact Technical Assistance and only Technical Assistance.

CAUTION !
If a problem requires the intervention of Technical Assistance, the end user must immediately suspend the use of the treadmill to avoid risks to patients, operators, the environment and furthermore to avoid additional damage to the equipment. Failure to comply to this caution exonerates the Manufacturer from any responsibility whatsoever for any accident or damage caused because of it .

6 Disposal

It is important to avoid for the equipment to become a source of hazard when it is no longer used and it is decided to dispose of it. To make sure that the equipment cannot be used by anyone else it is recommended that the electric cable be cut.
After executing this operation, the equipment must not be simply thrown away but should be adequately packed and properly disposed.
The equipment must be disposed of, in compliance with current norms and regulations. If necessary it may be a good idea to contact a firm specialized in the disposal of objects.

7 Treadmill model 870 A technical specifications

Dimensions:
205 cm - length
80 cm - width
112 cm - height(*)
(*) with treadmill at zero inclination
Running surface:
50 X 150 cm
Distance of the running surface from the floor:
17 cm.
Working distance of the handrails from the running surface:
93 cm
Weight:
163 kg
Patient capacity:
200 kg
Speed range:
0 – 20 km/h
Speed increments:
0.1 km/h (from 1,0 km/h min. speed)

Incline range:
0 – 25 %
Incline increments:
0.5 %
Speed motor:
Asynchronous three phase 2.0HP, AC (nominal power)
Elevation motor:
90 watt DC (nominal power)
Running belt:
Impact absorbing, self lubricating system
Thickness 2,7 mm.

Colours:
Surfaces: embossed metallic grey
Handrails: black
Belt: black
Safety devices:
- N. 2 (two) red stop switches
- Opt.005: safety lanyard (optional)
- Opt.004: paediatric handrails (optional)

Classification
1) Protection against electrical hazard:
   - Class I
2) Protection against direct or indirect contacts:
   - Type B applied part
3) Protection against water penetration:
   - Common device IPXO
4) Safety level against air and oxygen flammable:
   - Not protected
5) Utilization
   - Continuous operation

Warnings:
The connection to the mains is indicated by a light.
Data Input/Output:
Serial port: RS232 asynchronous
Connector: DB9 F
Baud rate: 4800 bps
Operation: Remote device interface

The treadmill 870 A must be connected to devices meeting the **EN 60950** standard only.

Power supply	Standard	Optional
Voltage	230 VAC 50-60 Hz	115 VAC 50-60 Hz
Power	2,1 KVA	2,1 KVA
Weight	163 Kg	163 Kg
Power supply cord	Not separable, 2P+T, 3x2,5 mm^2, length 3,0 m	Not separable, 2P+T, 3x4 mm^2, length 1.30 m

Utilisation conditions
Temperature: From 10 to 40 C°
Humidity: Lower than 85%

Storage and transport conditions
Temperature: From -10 to 60 C°
Humidity: Lower than 90%
Packaging: Carton box bound with wooden pallet

8 Treadmill model 870 S technical specifications

Dimensions:
230 cm - length
89 cm - width
115 cm - height(*)
(*) with treadmill at zero inclination
Running surface:
58 X 170 cm
Distance of the running surface from the floor:
17 cm.
Working distance of the handrails from the running surface:
93 cm
Weight:
220 kg
Patient capacity:
200 kg
Speed range:
0 – 25 km/h
Speed increments:
0.1 km/h (from 1,0 km/h min. speed)
Incline range:
0 – 25 %
Incline increments:
0.5 %
Speed motor:
Asynchronous three phase 3,0HP, AC (nominal power)
Elevation motor:
90 watt DC (nominal power)
Running belt:
Impact absorbing, self-lubricating system
Thickness 2,7 mm.

Colours:
Surfaces: embossed metallic grey
Handrails: black
Belt: black
Safety devices:
- N. 2 (two) red stop switches
- Opt.005: safety lanyard (optional)
- Opt.004: paediatric handrails (optional)

Classification
1) Protection against electrical hazard:
   - Class I
2) Protection against direct or indirect contacts:
   - Type B applied part
3) Protection against water penetration:
   - Common device IPXO
4) Safety level against air and oxygen flammable:
   - Not protected
5) Utilization
   - Continuous operation

Warnings:
The connection to the mains is indicated by a light.
Data Input/Output:
Serial port: RS232 asynchrones
Connector: DB9 F
Baud rate: 4800 bps
Operation: Remote device interface

The treadmill 870 S must be connected to devices meeting the **EN 60950** standard only.

Power supply	Standard	Optional
Voltage	230 VAC 50-60 Hz	115 V 50-60 Hz
Power	3,0 KVA	3,0 KVA
Weight	220 Kg	220 Kg
Power supply cord	Not separable, 2P+T, 3x2,5 mm^2, length 3,0 m	Not separable, 2P+T, 3x4 mm^2, length 1.30 m

Utilisation conditions
Temperature: From 10 to 40 C°
Humidity: Lower than 85%

Storage and transport conditions
Temperature: From -10 to 60 C°
Humidity: Lower than 90%
Packaging: Carton box bound with wooden pallet

9 Treadmill model 870 C technical specifications

Dimensions:
252 cm - length
96 cm - width
115 cm - height(*)
(*) with treadmill at zero inclination
Running surface:
65 X 190 cm
Distance of the running surface from the floor:
17 cm.
Working distance of the handrails from the running surface:
93 cm
Weight:
245 kg
Patient capacity:
200 kg
Speed range:
0 – 32 km/h
Speed increments:
0.1 km/h (from 1,0 km/h min. speed)
Incline range:
0 – 22 %
Incline increments:
0.5 %
Speed motor:
Asynchronous three phase 4,0HP, AC (nominal power)
Elevation motor:
90 watt DC (nominal power)
Running belt:
Impact absorbing, self-lubricating system
Thickness 2,7 mm.

Colours:
Surfaces: embossed metallic grey
Handrails: black
Belt: black
Safety devices:
- N. 2 (two) red stop switches
- Opt.005: safety lanyard (optional)
- Opt.004: paediatric handrails (optional)

Classification
1) Protection against electrical hazard:
   - Class I
2) Protection against direct or indirect contacts:
   - Type B applied part
3) Protection against water penetration:
   - Common device IPXO
4) Safety level against air and oxygen flammable:
   - Not protected
5) Utilization
   - Continuous operation

Warnings:
The connection to the mains is indicated by a light.
Data Input/Output:
Serial port: RS232 asynchrones
Connector: DB9 F
Baud rate: 4800 bps
Operation: Remote device interface

The treadmill 870 C must be connected to devices meeting the **EN 60950** standard only.

Power supply	Standard	Optional
Voltage	230 VAC 50-60 Hz	115 V 50-60 Hz
Power	3 KVA	3 KVA
Weight	245 Kg	245 Kg
Power supply cord	Not separable, 2P+T, 3x2,5 mm^2, length 3,0 m	Not separable, 2P+T, 3x4 mm^2, length 1.30 m

Utilisation conditions
Temperature: From 10 to 40 C°
Humidity: Lower than 85%

Storage and transport conditions
Temperature: From -10 to 60 C°
Humidity: Lower than 90%
Packaging: Carton box bound with wooden pallet

ANNEX A - Symbology

Ref. EN 60601-1 Annex D:
Tab. D I (IEC-ISO 417) and Tab. D II (IEC-ISO 417-878)

Symbol	IEC-ISO	Description
	417-5032	Alternate current (AC)
	348	Warning, consult attached documents
	417-5008	OFF (Power is disconnected from the mains)
	417-5007	ON (Power is connected to the mains)
	878-02-02	Type B applied part
	417-5019	Protection ground

Other symbols

	Waste Separation (Directive 2002/96/CE–RAEE)

ANNEX B - RS232 Serial Port

The treadmill may be controlled by an external system or computer through an RS232 serial port. Positioned on the back of the treadmill hood, there is a 9 pin connector.

If necessary, you can request from Medisoft RAM Italia S.r.l. the technical sheet concerning the serial interface configuration and the transmission protocols including the commands and the replies to the commands.

To utilise the RS-232 Serial Port you must:

- Connect the 9 pin serial cable to the 9 pin connector, situated on the rear of the Control Panel (or on the rear of the treadmill hood in the M version);
- Verify that the Control Panel Display (when present) is in "MAN" mode.
- The treadmill is ready to receive data from the external system.

The connecting cable is provided by Medisoft RAM Italia S.r.l.

WARNING !
The connection cable must be inserted with both the devices in OFF state. The treadmills of the 800 series must be connected to devices meeting the EN 60950 standard only.

ANNEX C - Tap-Tst program

Tap_Tst program (RAM 800 series RS232 checker) contained in the CD ROM of the treadmill's accessories, may be used to verify the treadmill response to speed and elevation commands coming from RS232 serial port.

To use the program first we need to connect the serial port of the treadmill to the serial port of the personal computer through the connection cable RS232.
After the connection takes place, in order to verify conditions it is necessary to run the setup.exe program from the CD ROM to install the software on a personal computer (Windows O.S.).

In order to isolate any problem, you are advised to install the program on a personal computer different from the one normally used to control the treadmill and before sending commands to the treadmill you should be sure that the RS232 port of the computer is properly configured end correctly functioning.

The software installation will create an icon called Tap_Tst on the computer desktop and double clicking this icon you will run Tap_Tst program.

Tap_Tst window will appear allowing the transmission of the commands to the treadmill.

Obviously the commands can reach the treadmill if the serial port of the computer and the serial port of the treadmill are connected by a RS232 cable.

On the menu bar of the Tap_Tst window there are two menus named **File** and **Settings** and a command named **About**.

- The **About** command will display a Copyright message and the Number of the Software release (for treadmills supporting the recognition of the software release number and of the measurement system typology);
- The **File** menu contains the **Exit** command that stops the program execution;
- The **Settings** menu always shows the **COM Port** menu, while the **Mode** menu is displayed only if the treadmill supports the recognition of the software release number and of the measurement system typology:
  - **Com Port** allows the serial port selection: COM1 or COM2
  - **Mode** allows to select how to display speed values: Kmh (Km/hour) or Mph (Miles/hour). Naturally, when the Mode menu is displayed, the measurement system effectively used (Kmh or Mph) depends only on the treadmill Set-up and not on the menu Mode selection.

An elevation or speed command can be sent to the treadmill by clicking on the vertical or on the horizontal bar. If you change the elevation or speed values dragging the cursor of the bars, the command will be sent to the treadmill when the mouse button will be released.

ANNEX D – Troubleshooting

Problem	Possible Cause	Remedy
Cannot switch treadmill on.	Power cable not connected	Connect the power cable to the power source
	The RED Stop Switch is activated	Deactivate the Red Stop Switch (Turn the switch clockwise, as indicated on the switch surface)
	Mains power failure	Check mains power with another appliance
	Power cable damaged	Repair or replace the power cable
	Fuses blown out	Replace the fuses as described in section 5.4
	Accidental discontinuity of the connection between the Control Panel and the Motor space	Check the connection as described in section 3.2 (see Fig. 6)
	Electronic fault in the Control Panel	Contact Medisoft RAM Italia service
Treadmill makes unexpected noise	The treadmill is not placed on a adequate surface	Move the treadmill to appropriate position
	Static converter or motor damaged	Contact Medisoft RAM Italia service
	Gear motor damaged	Contact Medisoft RAM Italia service
	Roller bearings damaged	Contact Medisoft RAM Italia service
	Drive belt bearings damaged	Contact Medisoft RAM Italia service
The treadmill stops working,	Blockage of treadmill due to excess load.	Let the system rest and then try again.

Problem	Possible Cause	Remedy
looses speed or it works unevenly and falters	Difficulties for belt to run smoothly: loss of speed, uneven operations and falters ***Warning*** **This problem can be avoided by following the mandatory annual maintenance procedures, as explained in paragraph 5.2.2. Item 3 of the table includes all tasks necessary to avoid the occurrence of this problem.**	Check the voltage values. If the problem persists, contact the Technical assistance Support (Customer Service)
	Damaged engine	Contact the Technical Assistance Support (Customer Service)
	Loose drive belt	Contact the Technical Assistance Support (Customer Service)
	Loose running belt	Contact the Technical Assistance Support (Customer Service)
	Trouble with inverter or breaking of wiring	Contact the Technical Assistance Support (Customer Service)
	Malfunctioning of cooling fan	Contact the Technical Assistance Support (Customer Service)

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