

Trainer 1000

User Manual



IMPORTANT INFORMATION

This device is not suitable for use on humans.

It is designed for training purposes only and must be kept unmistakable separate from fully operative defibrillators.

Responsibility regarding provision of information

Customers are responsible for ensuring that the relevant people within their organisation are provided with access to the information and the general safety instructions and warnings provided in this manual.

Use and purpose

The **Trainer1000** is a simulation and training device for realistic Advanced Life Support training on a defibrillator (AED). Due to the similarity of its design and operating elements, the Trainer 1000 is particularly suitable for training and instructing people in the use of the Lifepak® 1000 series defibrillators.

The **Trainer1000** does not deliver energy through adhesive electrodes, which means that it does not pose a risk to less-experienced trainees. At the same time, the Trainer 1000 can be used to simulate changes in a patient's state by using the AED Trainer's IR remote control and intervene if the Trainer is used incorrectly.

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INFORMATION ON USING THE TRAINER 1000 FOR TRAINING PURPOSES

The Trainer 1000 is designed only for training people in the use a defibrillator on adults and children over the age of 8, weighing more than 25 kg, and using standard training electrodes (black connector). This ensures that trainees are taught which electrodes to use on which patients right from the outset of their training.

Trainer 1000 AED Training System Quick Start Guide



QUICK START

Turn the AED Trainer on
 Press the PAUSE button on the remote control.
 Select the required shock protocol from the table below and press the corresponding button on the remote control.
 Press PAUSE again in order to verify your choice. The AED Trainer will turn itself off automatically.
 You can now start the training session. Use the remote control to choose a particular problem situation. Please refer to the rear of the Quick Start Guide for more information.
 Once the AED has been switched on, it will display the message CONNECT ELECTRODES. Connect the training electrodes and press the ELECTRODES button on the remote control to then proceed with an analysis. Please note: The AED Trainer will automatically open the shock protocol that was used last.
 Please refer to the **Trainer 1000** training system user manual for further information.

Remote Control button	AED-Trainer- shock protocol	Shock sequence	ECG sequence
F1	Fixed sequence no. 1	SSSSN	FFFFSr
F2	Fixed sequence no. 2	NNNN	AAAA
F3	Fixed sequence no. 3	SSNNNN	FFAASrSr
F4	Fixed sequence no. 4	SSNSSN	FFAFFSr
F5	Fixed sequence no. 5	SNNN	FAAA
C1*	Customer (Special)	*(S oder N)	*(F or A)
		S: Shock Advised	Sr: Sinus Rhythm
		N: No Shock Advised	F: Fibrillation
			A: Asystole
*Customer-specific settings can be changed in setup mode (see user manual).			

Useful information about defibrillation

Defibrillation is a recognised method for treating certain, potentially fatal, cardiac arrhythmias, i.e. abnormal heart beating. Defibrillation consists of delivering a therapeutic dose of electrical energy to the affected heart with a defibrillator. The Trainer1000 from Coretec-Service is a training and simulation device for the work performed with an automated external defibrillator (AED). The Trainer 1000 is not capable of detecting cardiac arrhythmias or of delivering a defibrillation shock, but is a training device only that allows potential users to be trained in the use of a defibrillator by simulating corresponding sounds and visual indicators.

Defibrillation is only one of the medical treatment methods available for resuscitating patients with shockable cardiac arrhythmias. Depending on the particulars of a case, patients might also require other treatment, such as:

Cardiopulmonary Resuscitation
(CPR) Supplemental oxygen
Medication

The success of a resuscitation attempt also depends on the length of time that elapses between the onset of a cardiac arrest during which no blood is circulated (e.g. in ventricular fibrillation or pulseless ventricular tachycardia) and defibrillation. According to the American Heart Association (AHA), the following is critical to survival from sudden cardiac arrest:

Early access to patients and identification of the
problem Early CPR by first responders or bystanders
Early defibrillation
Early advanced treatment by emergency medical services (EMS)

A patient's physiological state may also affect the likelihood of successful defibrillation. Failure to resuscitate a patient is therefore not a reliable indicator of the performance of the resources, equipment or rescuers involved in the resuscitation attempt. Patients will sometimes exhibit a muscular response (such as jumping or twitching) during energy transfer. The absence of such a response, however, is not a reliable indicator of the actual energy delivered or the defibrillator's performance.

Successful defibrillation largely depends on first aider's confidence in administering it - which is why regular and repeated theoretical and practical training in the use of defibrillators can save lives. This is what the Trainer1000 is designed to help you with.

Operating Modes

THE TRAINER1000 CAN BE USED TO SIMULATE THE FOLLOWING OPERATING MODES:

AED mode (with activatable and de-activatable Defi-electrode derivation)

Manual mode (with Defi-electrode discharge derivation)

manual Setup mode

AED MODE

As with real live automated external defibrillators, the Trainer1000 evaluates the selected ECG rhythms and issues specific instructions when detecting shockable rhythms or non-shockable rhythms. The delivery of shocks (defibrillation) to the simulated patient requires the active involvement of the person operating the defibrillator.

MANUAL MODE

This function allows expert users to decide on administering defibrillation shocks on the basis of the ECG analysis derived through the electrodes.

ECG MONITORING MODE

ECG mode simulates the monitoring of the electrical activity of a patient's heart using conventional ECG electrodes that are attached using snap fasteners. The readout provided on the screen represents the consolidated data from lead II. The Trainer 1000 does not issue any spoken instructions in this mode. If the CPPS (Continuous Patient Surveillance System) has been activated (setup menu), the user will be prompted to check the patient and change to defibrillation electrodes if a shockable cardiac rhythm is detected.

SETUP MODE

Setup mode is used to select the relevant settings for specifying how the Trainer1000 is to be operated.

Safety Instructions

SAFETY - TERMS

This manual and the Trainer1000 make use of the following terms:

Hazard: Immediate hazard that will result in serious injury or death.

Warning: Hazard or unsafe practice that could result in serious personal injury.

Caution: Hazard or unsafe practice that could result in minor personal injury, product damage or property damage.

WARNING!

Electric shock hazard.

The Trainer1000 is powered by electricity. If not used properly and as described in these instructions, this electrical energy may cause serious injury and death. Users must be thoroughly familiar with these operating instructions and all of the Trainer 1000's operating controls, indicators, connections and accessories' functions before operating the device.

Electric shock hazard.

Do not disassemble the Trainer1000. It contains no responder-serviceable components and may carry dangerous voltages. Always contact Customer Services for repairs.

Fire and electric shock hazard.

Do not immerse any part of the Trainer1000 in water or other fluids. Avoid spilling any fluids onto the device and its accessories. Do not clean with ketones or other flammable agents. Unless specified otherwise, do not autoclave or sterilise the Trainer1000. Clean only using a slightly damp cloth and mild detergent.

Fire and explosion hazard.

Do not use defibrillators in the presence of flammable gasses or anaesthetics. Particular care must be taken when using a defibrillator in close proximity to sources of oxygen (e.g. anaesthesia bags or respirator hoses). Turn off gas source or remove source before defibrillation. Please instruct users to observe this safety precaution before use of the Trainer1000 observe whenever possible for training purposes.

Possible electrical interference.

The use of cables, electrodes or accessories not explicitly specified for use with this training unit can affect the Trainer 1000's performance. Do not use any of the Trainer1000's accessories with fully operational defibrillators that are used to treat patients and vice a verse. The Trainer 1000 must only be used with the components and accessories specified in this user manual.

Potential device failure.

Always carry the charger when taking the device to training events and courses held outside your premises in order to prevent the battery from running out of power.

WARNING!**Potential device malfunction.**

The use of cables, electrodes or batteries from other manufacturers can cause the Trainer 1000 to malfunction, and could void your warranty. The Trainer 1000 must only be used with the accessories specified in this user manual.

Only use the original charger with the original cable supplied with the Trainer 1000 for connecting it to the mains. Only use manufacturer-approved accessories.

Safety risk and potential device damage.

Monitors, defibrillators, training devices and their accessories (including training electrodes and cables) contain ferromagnetic materials. As with all ferromagnetic equipment, this training device must not be used in the presence of the high electromagnetic fields generated by Magnetic Resonance Imaging (MRI) devices. The high magnetic field created by an MRI device will attract the device with a force sufficient to cause death or serious injury to persons located between the two. This magnetic attraction may also cause damage to the device. Please contact the MRI device's manufacturer for more information. The device should, in general, never be exposed to magnetic fields as, e.g. emanate from annual magnets commonly used in medicine. Any spaces designated 'Do not bring your credit card into this area' are not suitable for setting up the Trainer 1000.

Route the power cables in such a way that they are not at risk of being damaged. Never use damaged cables! Damaged cables can cause fire and potentially fatal electric shocks.

CAUTION!**Potential device damage.**

Incorrect or improper mechanical use i.e. immersing into water or dropping, can damage the device. Do not continue using the device following such an incident. Please contact Coretec-Service GmbH's technical services in such a case.

Please note: The Trainer 1000, the training electrodes and cables do not contain any latex.

Please keep this manual for future reference.

Symbols

The Trainer 1000 features the following symbols with the following meanings:



Read the user manual

*Read this user manual before using the Trainer1000 for the first time.
Observe the safety instructions.*



Do not dispose of as household waste

Do not dispose of the Trainer1000 and its packaging as household waste.



CE Mark

CE certification provided by the manufacturer



Year of manufacture

The number behind the symbol is the year of manufacture.



Electrode connector symbol

This is where the electrodes are connected.



Remote control symbol

This is where the cable for the remote control is connected and where the infrared receiver for the remote control is located.



**CHARGER
ONLY!**

Charger socket

*Socket for the charger. Caution! Only use the supplied charger.
Do not connect a power supply plug or a different charger.*



Fuse Symbol

*This is where the fuse is located and where it can be replaced. Available as a spare part.
The fuse can also be replaced with a standard micro fuse with the following specifications:
G fuse pack 1,25A slow blow (250V) 20 x 5 mm*



Fragile! Do not throw!

Handle with care



Protect from moisture

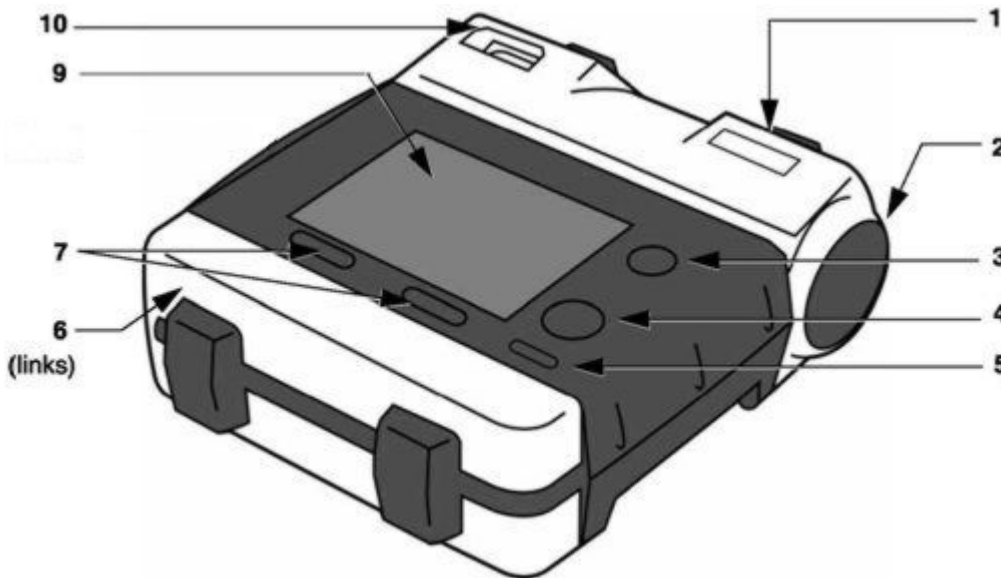
Do not store in a wet or damp location and protect from moisture during transport.






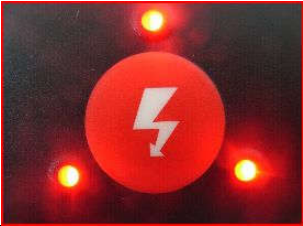



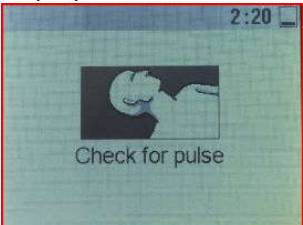

Top

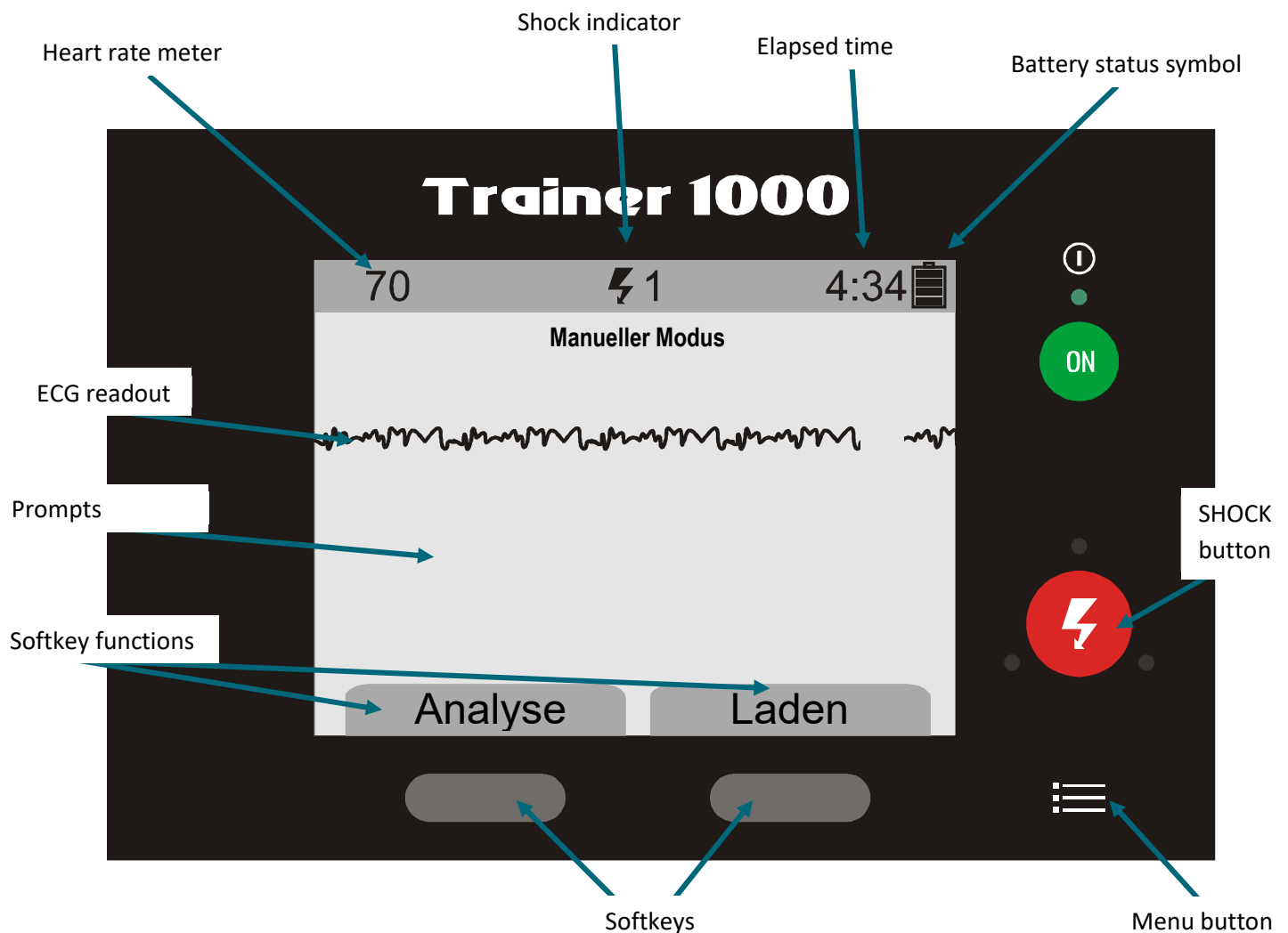
This side up!

Operating Elements, Controls and Connections



<p>1</p>	<p>Readiness display</p> 	<p>This indicator comprises three symbols that indicate whether the defibrillator is ready for operation or whether there is a problem. The meaning of each of these symbols and the place / time it will be shown will be explained in the following section. Please note that the Trainer 1000 is equipped with a plastic indicator placeholder instead of a display. This means that, for training purposes, all of these symbols will be visible at all times.</p> <p>The spanner symbol indicates a condition that might or is preventing the defibrillator from being used normally. The corresponding indicator and audio signal can be activated by pressing the symbol key on the remote control.</p> <p>The OK symbol indicates that the defibrillator is ready for use. This symbol will only be shown when the defibrillator is turned off.</p> <p>The standby indicator will display the battery symbol only when the defibrillator is turned off. If the battery symbol is shown with one bar inside it, the battery is running low. If the symbol is empty, the battery is running very low and the OK symbol will subsequently not be displayed when the defibrillator is turned off. The corresponding indicator and audio signal can be activated by pressing the symbol key on the remote control.</p>
<p>2</p>	<p>Speaker</p> 	<p>Issues voice prompts and audio signals.</p>
<p>3</p>	<p>ON / OFF button</p> 	<p>The green ON/OFF button turns the power supply on and off. The green LED above this button will always light up when the Trainer 1000 is turned on.</p>

<p>4</p>	<p>SHOCK button</p> 	<p>Pressing this red button will cause the device to simulate a delivery of a shock to the patient (when flashing).</p>
<p>5</p>	<p>Menu button</p> 	<p>For selecting the operating mode (manual or AED).</p>
<p>6</p>	<p>Charger socket</p> 	<p>Socket for the charger.</p>
<p>7</p>	<p>Softkeys</p> 	<p>The two softkeys work in conjunction with the screen and can be used to make selections while using the defibrillator. The relevant function of the softkeys depends on the action undertaken at the time and will be indicated by their corresponding labels as shown on the screen.</p>
<p>9</p>	<p>Display</p> 	<p>Displays pertinent information for use during all modes of operation.</p>
<p>10</p>	<p>Electrode socket</p> 	<p>For connecting training defibrillation electrodes (black) and training ECG cables (green).</p>



Heart rate meter

The heard rate meter will display heart rates between 20 and 300 beats per minute. This meter will only be shown in AED mode during AED monitoring and in manual mode.

Battery status symbol

The battery status symbol on the screen indicates the relative charge held by the battery when the Trainer 1000 is turned on, and can be adjusted through the remote control. This symbol can be displayed in two ways: 1. With four solid bars inside it, indicating that the battery is fully charged. 2. Blank, indicating that the battery is running very low, and accompanied by the message REPLACE BATTERY.

ECG

The ECG readout shown on the screen is a non-diagnostic ECG that is generated with the aid of the training electrodes. The ECG rhythm is either specified by the instructor through the remote control, or as part of one of the pre-programmed scenarios. Please notify trainees that the presence of an ECG is not a reliable indicator that the patient has a pulse.

Softkey label

This label defines the respective function of the relevant softkey. Examples of those are ANALYSE and DISCHARGE.

Preparing the Trainer1000 for use

This section describes how to prepare the AED Trainer for use. Please check whether the device has been supplied with all of the components specified below in order to prevent later complications.

Unpacking and checking components

Remove the AED Trainer from its box. Check the device and all of its accessories for signs of transport damage. Keep the box for potential later use.

The box the AED Trainer is supplied in should contain:

- Trainer 1000
- Remote control
- 2 AAA batteries (for the remote control)
- Plug-in charger
- Training electrodes
- Soft or hard bag, depending on order
- Spare fuse
- Declaration of conformity

Charging the battery

The AED Trainer is fitted with a rechargeable lithium ion battery. This battery requires little attention and can hold sufficient charge for running the Trainer 1000 for approx. 2,5 hours of non-stop simulation when used properly.

Once empty, this battery can be recharged from the mains using the supplied charger.

Only use the supplied charger for operating the Trainer 1000 and charging the battery. Other mains adapters might damage the Trainer 1000.

When switched off, the Trainer 1000 will fully recharge within approx. 2.5 hours (using the European charger). The Trainer 1000's battery can also be charged while it is switched on, although it will then take longer to charge.

Batteries age. This aging process depends on such factors as time and charge/discharge cycles. We recommend having the Trainer 1000's batteries replaced by our customer services once the battery no longer provides sufficient power to operate the Trainer 1000 for a full 0,5 hours in battery mode.

Starting a Training Session

Verifying or creating an AED Trainer configuration

To simulate a LIFEPAK 1000 S with Defi-electrode ECG monitoring and manual mode, select "YES" under the setup options ECG READOUT and "YES" under MANUAL ACCESS.
Check the AED Trainer settings and configure as required. Please refer to the relevant sections of this manual for detailed information on the setup options and configurations.

Connecting the training electrodes to the Trainer1000

Push the electrode connector into the relevant socket on the AED Trainer until it engages.
To remove, take a firm hold of the connector and carefully, but firmly, pull out of the socket. Never try to unplug the training electrodes by pulling on the cable! Do not use any tools to unplug the electrodes, since these could damage the Trainer 1000's housing and electronics.

Turning the unit ON / OFF

To switch on or RESTART the AED trainer for the first time, remove the remote control from the storage box. Initialization of the self-test takes place for approx. 25 seconds. During this time, all display elements light up once.

The following image appears briefly:
CORETEC-SERVICE GmbH

After the self-test is complete, the green ON indicator light up permanently and the Trainer1000 automatically begins to operate. Then the following screen appears to the user: CONNECT ELECTRODES

To turn off the device, press the ON button again, device turns off. To turn on again, press the ON button again, device turn on again immediately.

Please note:

If the Trainer1000 was switched off for more than 15 minutes, the energy saving mode is activated to protect the battery. After this time it is no longer possible to switch on the Trainer1000 using the ON button. In this case put the remote back into the storage box and remove again to RESTART the device.

The AED Trainer cannot be turned on if the Li-ion battery is low on charge.
In this case, connect it to the charger. It should take no more than a few minutes for the Trainer to be charged sufficiently for it to be turned on. However, the AED Trainer must always remain connected to the charger until the battery has been sufficiently recharged. (The charge indicator LED will go out when the battery is fully charged).

Please note furthermore: The remote control MUST ALWAYS be put into the storage box after use !

Attaching the training electrodes to the mannequin

The illustration below shows where to position the training electrodes on the mannequin.

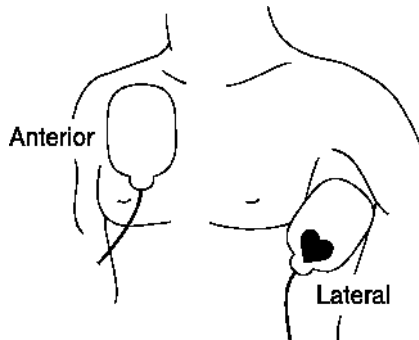


Figure: Attaching the training electrodes to the mannequin

Once the electrodes have been attached to the mannequin, the instructor must signal the device accordingly by pressing the ELECTRODES button on the remote control. This will automatically activate the selected scenario with the relevant settings.

This training scenario will only start running if the training electrode connector has been properly inserted into the socket on the AED Trainer and the instructor has verified that the electrodes have been correctly attached through the remote control.

If, while using the AED Trainer:

- the training electrodes are removed from the device, it will display the message CONNECT ELECTRODES
- the training electrodes, on the other hand, come off the mannequin, it will not display this message (CONNECT ELECTRODES).

This message function can be turned on/off by the instructor by pressing the electrode button on the remote control.

Please note:

Never use defibrillator electrodes intended for use on patients. The Trainer 1000 will not recognise these electrodes and they could damage the outer skin of the mannequin or leave behind stubborn residues.

Using the Remote Control

The remote control requires 2x AAA batteries. To fit and replace batteries, proceed as follows:

Press hard onto the battery compartment cover on the rear of the remote control with your thumb and push open. Insert two AAA batteries; make sure that the batteries' (+) and (-) poles are correctly aligned. Replace the battery compartment cover and make sure it engages.

During a training session, the remote control can be used to create realistic training scenarios, i.e. can be used by the instructor to:

stop the AED Trainer from operating

call up pre-configured routines that involve the messages NO SHOCK ADVISED, CONNECT ELECTRODES, MOTION,

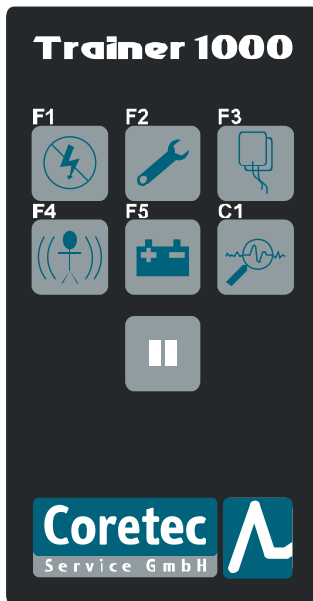
CALL SERVICE and REPLACE BATTERY

select one of the six existing shock protocols (only possible while the device in PAUSE MODE) (if applicable) select the ECG readout to be displayed on the screen.

The AED Trainer and remote control can communicate with a wireless connection, using infrared signals.

When using the remote control, the instructor will have to stand behind the AED Trainer. The remote control should always be held horizontally rather than aimed straight at the AED Trainer. When the AED Trainer is turned on, all of the remote control settings from the previous training session, with the exception of the current shock protocol, which will be saved, will be deleted.

Remote control buttons and functions



Button



This button changes all shock decisions to NO SHOCK ADVISED. This function can only be used when the message PRESS FOR ANALYSIS or ANALYSIS IN PROGRESS, STAND CLEAR! Is being displayed.



By pressing this button you simulate the fitting of the training electrodes to the mannequin. Pressing the button again simulates disconnection of the electrodes.



Turn the MOTION SIMULATION function On or OFF. This function is only available during analysis.



Press once to activate service alert and to display the message CALL CUSTOMER SERVICE. To cancel, turn off the AED Trainer or press button again.



Press once to activate LOW BATTERY alert. Press again to deactivate.



This button is disabled. Intended only for use on Trainers with ECG mode.



PAUSE. Can be pressed at any time to stop any of the Trainer1000's functions. Press again to resume operation. Press F1, F2, F3, F4, F5 or C1 for changing the shock protocol while the Trainer1000 is set to PAUSE. Press PAUSE again to verify the change and to turn the AED Trainer off.

Setup Mode

This section describes how to: access setup mode select or change the Energy Protocol, Auto Analyse and CPR-time setting options. select the required language for the voice prompts and text messages, and to use other device options. These settings will not be deleted when the device is turned off and will even be saved if the battery runs completely empty.

Accessing setup mode

Make sure that the AED Trainer is turned off. Press both softkeys at the same time and simultaneously press the AED Trainer ON/OFF button. The screen will now display the configuration menu (set up mode).

The Trainer 1000's setup mode is not password protected, as this is not relevant to a training device.

You will now be presented with 4 different menus in which to adjust the Trainer 1000's settings to suit your requirements:

GENERAL

This menu can be used to configure the audio settings. AED MODE

This menu can be used to select the settings that correspond to your CPR algorithm and the display options available to users in semi-automatic mode.

Manual mode

Chose between AED operation only or manual operation for specialist personnel. You can also active the analysis function for use in manual mode as a useful tool for the user.

Service mode (not accessible for customer) Trainer settings

These settings are used to adapt the Trainer 1000's functions to mimic those of your defibrillator. This is also where the language for the voice prompts, text messages and training scenarios can be adjusted.

General Settings

Menue / submenu	Menu item	Description	Options
General Device ID	Device ID	The Device ID is an internal number of your Trainer 1000 and is specific to your device, which is why it	None
General settings Date / Time	Date / Time	In fully operational defibrillators, the date and time are only used for data storage and recording purposes. Since the Trainer 1000 is not equipped with these functions, the date and time setting has been included in the menu for demonstration purposes only and cannot be changed.	None
General settings Audio	Prompt volume	This option can be used to set up the audio signals issued by the Trainer 1000, and to select one of 3 volume settings.	Volume: High , Medium, Low
	Shock Tone	Depending on the area of application, this option can be used to turn the audio alert that accompanies the delivery of defibrillation shocks on or off.	Shock Tone: On , Off
	Service alert	Can be used to specify maintenance intervals in fully operational devices.	None
General settings Device data	Device data	This is where you can find the Trainer 1000's software version	None
General settings Delete After send	Delete After Send	A data management option only available in fully operational devices.	None

AED MODE settings

Menu / submenu	Menu item	Description	Options
AED Mode Energy Protocol	Energy 1	You can select the energy to be delivered during the 1 st and 2 nd shock individually, and that to be delivered during the 3 rd and all subsequent ones. The selected energy settings must always be at least equal or greater than that of any preceding shocks.	Select from 150,175,200,225,250,300,325 or 360 joules (Standard: 200, 300, 360 joules)
	Energy 2		
	Energy 3		
	Flexible Protocol	As a measure of care, the energy delivered by a shock will not be increased if the last heart rhythm was not shockable.	Flexible protocol: On, Off
	Stacked Shocks	In consideration of the latest, internationally recognised findings on the effectiveness of consecutive shocks of equal or higher intensity, the option of delivering consecutive shocks has been excluded.	None
AED Mode CPR	Confirmation (only for SW versions later than 1.10)	Maximise the amount of CPR being administered by using the advanced CPR settings. Also see CPRmax. The device will repeatedly prompt the user to perform CPR.	Confirmation: On, Off
	Time 1		CPR Time 1: 15s, 30s, 45s, 60s, 90s, 120s , 180s
	Time 2		CPR Time 2: 15s, 30s, 45s, 60s, 90s, 120s , 180s
	Initial CPR (Later than 1.10)		Initial CPR: Off , initial analysis, initial CPR
	Initial CPR (time)		Initial CPR (time): Off , 15s, 30s, 45s, 60s, 90s, 120s, 180s
	PreShock CPR		PreShock CPR: Off , 15s, 30s
	CPR prompt	The device will repeatedly prompt the user to perform CPR.	CPR prompt: On, Off

AED Mode Pulse	Pulse check	Select the times the rescuer should be prompted to check the patient.	Check pulse: Always, Never , After every NSA (No Shock Advised, i.e. analysis result: No Shock Advised) Later than SW 1.10: Never , After every second NSA, after every NSA, Always
	Pulse Check prompt	Select voice prompts for pulse checking.	Voice prompt: Check Pulse , Check Breathing, Check vital signs, Open Airway
	AED Monitoring	For using the CPPS (Continuous Patient Surveillance System) to monitor the patient for shockable heart rhythms.	AED monitoring: On, Off
	Monitoring Repeat	For specifying the frequency with which the CPPS (Continuous Patient Surveillance System) is to monitor the patient for shockable heart rhythms.	Monitorin: Off , 1 min, 2 min, 3 min, 5 min
AED Mode ECG Display	ECG Display	Optimise your device for your target rescuer group by making the device display the ECG readout in AED mode.	ECG Display: On, Off
AED Mode Auto Analyse	Auto Analyse	Specify to what extent the device will require user-input. The device will start to analyse the ECG automatically if on.	Auto Analyse: On , After 1 st Shock, Off
AED-Mode Motion Detection	Motion Detection	The device is able to recognise patient movements and can reject an analysis, thus increasing safety of the patient.	Motion Detection: On , Off

MANUAL MODE settings

Menu / submenu	Menu item	Description	Options
Manual Manual Access	Manual Access	Enables or disables manual defibrillation modes.	Manual access: On, Off
Manuell Analyze	Analyze	As a decision-making aid enable the analysis function for use in manual mode.	Analysis: On , off

Einstellungen im Menü SERVICE-MODUS

The Service Mode menu of this device cannot be changed.

Trainer SETTINGS menu

Menu / submenu	Menu item	Description	Options
TRAINER SETTINGS Option: ECG Display	Option: ECG Display	Select the level of function of your defibrillator: LIFEPAK 1000 (AED) or LIFEPAK1000 S (AED, Defi-electrode monitoring and manual). Depending on this setting, certain options will not be available in the setup menu.	Monitoring: On , off
TRAINER SETTINGS Language	Language	Select the language for the voice prompts and text message in correspondence with the target group the training is to be delivered to.	Language: Depends on version
TRAINER SETTINGS Training scenario	Training scenario	Select a sequence of heart rhythms that are shockable and those that are not shockable in order to device a realistic training scenario (see Quick Start Guide)	Scenario: Fix 1 (SSSSN) Fix 2 (NNNN) Fix 3 (SSNNNN) Fix 4 (SSNSSN) Fix 5 (SNNN) Customer (freely configurable) (S: shock, N: no shock advised)

Settings options: CPRmax menu

The cprMAX technology has the following setup options:

Initial CPR time. Only applies to the first analysis. Prompts for CPR immediately after the first analysis.

Pre-Shock CPR time. Prompts for CPR after a shockable ECG rhythm is detected and while the defibrillator is charging. Only applies to second and subsequent analyses if a SHOCK ADVISED. The SHOCK button will only be enabled once the charging process has completed and the CPR Time has elapsed.

Confirmation analysis. For an abbreviated rhythm analysis after Initial CPR Time or Pre-Shock CPR Time.

Stacked Shocks. Eliminates analysis after each shock and inserts a CPR prompt after each shock. This eliminates the three-shock stack.

Pulse Check. Eliminates Pulse Check prompts after shocks, but only if shock is

advised. The duration of CPR can be increased by selecting the following setup

options:

Initial CPR Time: 15 seconds or longer

Pre-Shock CPR Time: 15 seconds or

longer Confirmation Analysis: Off

Stacked Shocks:

Off Pulse Check:

Off

Please note: It is not necessary to activate all options in order to maximise the quantity of CPR administered during treatment with an AED.

If the Initial CPR Time is set to 15 seconds or longer, a CPR will be prompted by the time the electrodes have been attached to the patient and the first analysis has been completed.

Once the electrodes have been attached, the AED will prompt *STAND CLEAR, ANALYSING NOW, STAND CLEAR*, followed by *START CPR*.

The display will now show a CPR Countdown Timer. The CPR time displayed by the timer is determined by the time that was chosen in the setup options.

If the AED detects a shockable ECG rhythm, it will prompt to start CPR immediately and will then prompt *IF YOU WITNESSED THE ARREST, PUSH CANCEL*.

If you witnessed the arrest, you should proceed with the defibrillation. If you did not witness the arrest, you should perform CPR. To proceed with the defibrillation, press the CANCEL softkey. This will end the CPR time and will be followed by the voice prompt *SHOCK ADVISED* and the charging tone. Proceed with the delivery of the shock in accordance with your AED your training.

To proceed with CPR, do not press the CANCEL softkey. The Initial CPR Time will then correspond to the time selected in the setup options, for example, 90 seconds. The elapsing of the CPR Time will be followed by the voice prompt *SHOCK ADVISED*. Proceed with the delivery of the shock in accordance with your AED training.

If the AED detects a non-shockable ECG rhythm, it will prompt to start CPR. There will be no other prompt. You should proceed to perform CPR for the time shown by the countdown timer.

Pre-Shock CPR Time

If the Pre-Shock CPR Time is set to 15 seconds or longer, you will be prompted to start CPR immediately after a shockable rhythm is detected, before the shock is delivered and while the AED is charging.

Please note: The Pre-Shock CPR Time refers to the second and any subsequent shocks.

If the AED determines that a rhythm is shockable after completion of the analysis, it will display the following message: *START CPR*. The CPR Time will then correspond to the time selected in the Pre-Shock CPR Time setup options, such as, for example, 15 seconds. The elapsing of the CPR Time will be followed by the voice prompt *SHOCK ADVISED*. Proceed with the delivery of the shock in accordance with your AED training

Stacked shocks and Pulse Checks

Stacked Shocks

If STACKED SHOCKS have been set to OFF, the amount of CPR that will be administered will increase because you will be prompted to perform CPR after each shock as opposed every third shock. Once a shock has been delivered, the AED will prompt you to check the pulse and start CPR as opposed to starting an analysis. Once the CPR Time has elapsed, the AED will prompt you start an analysis.

Pulse Check

If the PULSE CHECK option is set to OFF, the time available for performing CPR increases since the PULSE CHECK prompt after delivery of a shock will have been eliminated. If the PULSE CHECK option is set to OFF, the AED will prompt you to immediately start CPR after delivery of three consecutive shocks without performing a pulse check.

Combining Stacked shocks and Pulse Checks

If both the STACKED SHOCKS and PULSE CHECK options are set to OFF, the AED will proceed as follows:

The AED will not perform an analysis after delivering a shock.

The AED will not prompt for a PULSE CHECK after delivering a shock.

The AED will prompt you to START CPR, as detailed above. Following the elapsing of the CPR Time, the AED will prompt you to perform an analysis. If the subsequent analysis determines that NO SHOCK is ADVISED, the AED will prompt you to perform a PULSE CHECK.

Confirmation analysis

If the CONFIRMATION ANALYSIS option is set to ON, the AED will perform an abbreviated rhythm analysis immediately before the delivery of a shock to confirm that there is still a shockable rhythm. Confirmation analyses are only performed if the Initial CPR Time or Pre-Shock CPR Time options are enabled.

If the Initial CPR Time or Pre-Shock CPR time options are enabled, the AED will start a confirmation analysis and prompt you to *STAND CLEAR. ANALYSING NOW, STAND CLEAR* as soon as the countdown timer reaches 0.

If the rhythm has changed, the confirmation analysis will cancel the shock and the AED will prompt *NO SHOCK ADVISED*. If the rhythm is still shockable, the previous decision of SHOCK ADVISED will be confirmed and the AED will prompt to *PUSH SHOCK BUTTON*.

Configuring the energy protocol

Open setup mode (described in preceding sections above). Select ENERGY PROTOCOL.
 Keep pressing NEXT to go through the different shock protocol options. You can select the energy to be delivered during the 1st and 2nd shock individually, and that to be delivered during the 3rd and all subsequent ones. These can be set to either: 150,175,200,225,250,300,325 and 360 joule
 Press SELECT to save the required energy setting when it comes up and move to the next setup screen or press ON/OFF to close the setup menu and to turn off the Trainer 1000 with the new settings.

Please note:

The AED's default shock energy settings start with 200, escalate to 300, and are then followed by 360 joules for all subsequent shocks, which, in studies conducted by Medtronic Physio-Control with the Medtronic Impulse Defibrillators with Adaptiv-Biphasic™ technology, have proven to be the most effective and safe.

Changing settings for Customer

Press **SELECT** when CUSTOMER1 is shown on the display.
 The first S will then be shown with a cursor. While the cursor is on the first S:
 Press **NEXT** to change between S and N (S = Shock, N = No Shock).
 For all successive Ss': Press **NEXT** to change between S, N and the space character. Press **NEXT** to move the cursor to the right.
 Press **NEXT** to finish. Your scenario will be saved.

Adjusting CPR Time

Setup option	Description
CPR Time	The CPR Time is the period of time for which the AED Trainer will prompt the user to perform a CPR. There are two different CPR Times, each of which can be set to any of seven different periods of time (in seconds): 15, 30, 45, 60, 90, 120, and 180. The default settings for both CPR Time 1 and CPR Time 2 are 120 second.
CPR Time 1	CPR Time after delivery of shocks.
CPR Time 2	CPR Time for CPRs if NO SHOCK is ADVISED.

In consideration of the latest, internationally recognised findings on the effectiveness of consecutive shocks of equal or higher intensity, the option of delivering consecutive shocks has been excluded. Please contact Coretec- Service GmbH if you would like to receive any additional information on this.

Ein- / Ausschalten von AUTOANALYSE

Autoanalyse ist eine Funktion, die es ermöglicht, die Anwenderaktion auf ein Minimum zu reduzieren. Nach dem Anschließen der Klebeelektroden beginnt der **Trainer 1000** automatisch mit der EKG-Analyse. Die Wahrscheinlichkeit von Fehlbedienungen bei der Anwendung durch Laienhelfer wird so vermindert.

Maintenance

Cleaning and maintaining the Trainer1000

Always disconnect the Trainer 1000 from the charging voltage supply by pulling out the mains plug.

The Trainer 1000's surfaces can be cleaned with a conventional, mild all-purpose cleaner and a damp cloth. Please make sure before use that the cleaner will not damage the Trainer's surfaces.

Do not allow any liquid to find its way into the Trainer through slots or connectors.

For safety reasons, we recommend not to switch on the device and not to reconnect it to the mains until it has fully dried.

Do not use any easily flammable solvents such as Acetone, ethyl alcohol or white spirit for cleaning as these are fire hazards and can corrode the Trainer 1000's surfaces.

Please note:

The Trainer 1000 cannot be sterilized.

Battery

Batteries age. This aging process depends on such factors as time and charge/discharge cycles.

We recommend having the Trainer 1000's batteries replaced by our customer services once the battery no longer provides sufficient power to operate the Trainer 1000 for a full 0,5 hours in battery mode.

Disposal

Recycle the packaging and the Trainer 1000, when it has reached the end of its life, in accordance with the local regulations and laws.



Do not dispose of the Trainer1000 and its packaging as household waste.

Please contact our customer services for more information and environmentally friendly disposal.

Potential errors and remedies

Error	Potential cause	Remedy
The Trainer doesn't start	The battery charge is so low that there is not sufficient current to start the Trainer.	Plug in the charger and wait a few minutes. Now switch on the Trainer and use it as normal but leave the charger in. When the charging LED goes out, the battery is full and the charger can be disconnect.
	Remote control is still in the storage box or AED Trainer has been switched off for more than 15 minutes.	Remove remote control from storage box or insert remote control briefly in storage box and remove again.
	The fuse is not properly screwed in.	Check whether the fuse holder on the bottom of the Trainer contains a fuse and whether the fuse is properly screwed in. Once you have finished, start the Trainer 1000.
	The fuse is broken	Replace the fuse using only G fuse packs 1.25 A/250 V, slow blow DIN 415671 as replacements and then start the Trainer 1000.
Wrong language setting	No error	To change the language setting when you do not speak the language currently in place, proceed as follows: -Press down both of the soft keys while pressing the ON button. You will now be in the setup menu. -Keep pressing the left soft key until the frame is on the bottom menu item. -Press the right soft key. A submenu will open. -Press the left soft key. You are now in the second line -Press the right soft key. The language menu opens. -Keep pressing the left soft key until you get to the required language -Press the right soft key to confirm your selection- Switch off the Trainer For more information, please refer to the description of the setup menu

Error	Potential cause	Remedy
The remote control doesn't work	It doesn't have any batteries.	Insert batteries (2x AAA).
	Batteries inserted incorrectly	Check whether the batteries are inserted the right way round. Insert as specified in the battery compartment.
	Batteries empty	Insert fully charged batteries.
	No visual contact	Since infrared does not use radio but optical signals, the infrared transmitter (glass ball at the front of the remote control) must be within the visual range of the receiver (behind black disk) on the Trainer 1000.
	Out of range	Move closer to the Trainer.
	Pressed button twice	With some buttons, pressing them once will switch on a function and pressing them again will switch
	The training electrodes are not connected.	When the Trainer 1000 is switched on, the training electrodes must be connected and the corresponding remote control button pressed ONCE in order for the message "Connect electrodes" to disappear.
	Wait.	All of the functions will become active only after a short delay.
	This button does not have a function in this setup	Not all of the buttons have functions in all setups.

If none of the above remedies work, the Trainer 1000 might have a fault. In this case, please contact the manufacturer and the manufacturer's customer services.

Order

Models

Item no.	Version	Languages included
8724637-10	Trainer1000 – American version	Spanish, French, Portuguese, US English
8724637-20	Trainer1000 – Central European version	German, French, British English, Italian, Dutch, US English
8724637-30	Trainer1000 – Northern European version	Danish, Finish, British English, Norwegian, Swedish
8724637-40	Trainer1000 – Southern European version	Spanish, British English, Greek, Italian, Portuguese
8724637-50	Trainer1000 – Southeast Europe version	British English, Greek, Croatian, Hungarian, Serbian, Slovenian
8724637-60	Trainer1000 – Eastern European version	Czech, British English, Lithuanian, Polish, Russian, Slovenian

When placing an order, please also specify:

- The required bag (soft or hard bag). If no bag is specified, the Trainer 1000 is supplied with a soft bag.
- The required charger (please see under accessories for available models)

Accessories

Item no.	Accessories	Information
1004001	Soft bag - Trainer 1000	
1004002	Hard bag - Trainer 1000	
1005001	Charger EUR (C)- Trainer 1000	
1005002	Charger USA (A) - Trainer 1000	
1005003	Charger GBR (G)- Trainer 1000	
1005004	Charger AUS (I) - Trainer 1000	
1007001	Remote control - Trainer 1000	Remote control and batteries
1007003	AED Training electrodes - Trainer 1000	Also suitable for use with the training electrodes from the Lifepak 500-Trainer.
1008001	Spare fuse - Trainer 1000	
1008002	User manual - CD - Trainer 1000	

Certification and Technical Data

Software versions

Trainer 1000	Lifepak 1000	Properties
SW - V 1.0x	1.5	LIFEPAK 1000 Software status while the Trainer 1000 was developed The software version is shown under Device Data in the setup menu in the Trainer
SW - V 1.10	2.2x	Change to the LIFEPAK 1000 software that was taken over to the Trainer 1000: Removal of the confirmation analysis. During the initial CPR, it is possible to specify that the user will be prompted to perform CPR before the first analysis. "Check pulse" can now also be set to "After second NSA" in addition to the former options. There is no need to protect the Trainer's setup menu with a password. The Trainer's setup menu responds significantly faster in SW 1.10.
SW - V 1.5.1	2.2x	Set up power saving mode to protect the battery

DEFIBRILLATOR:

The Trainer 1000 has the operation extent and menu navigation of the LIFEPAK® 1000, but without delivery of shocks. So displayed energies are only simulated.

Energy Sequence: User configurable, 150 – 360 joules. Default energy output settings are 200, 300, 360 joules. 360 joules for every shock thereafter.

REMOTE CONTROL:

Transmission:

Wireless infrared signal: Range 4 meters

Size: 8.4 cm (3.3 in) x 4.6 cm (1.8 in) x 1.6 cm (0.6 in)

Batteries: 3 volts supplied by two AAA alkaline batteries

Weight: 33 g (.07 lb) without batteries, 55 g (.12 lb) with batteries

Buttons: 7-key membrane switch pad labeled for the following functions: shock decision, electrode pad contact, motion, service required, replace battery, pause and change of scenario

DEVICE SETTINGS

Modes:

- **AED** – Provides operating capability for basic users
- **Manual** – Provides operating capability for advanced users
- **Setup** – Allows user to configure the device

Controls: On/Off, Shock, Menu, Two (2) configurable soft keys

User Defined Options:

- **Energy Sequence** – User configurable from 150 to 360 joules
- **Flexible Energy** – Increases only after a lower energy was unsuccessful
- **Auto Analyze** – User can configure device to auto analyze, auto analyze after first shock, or prompt user to push analyze key before each analysis period
- **CPR Time** (post shock or after no shock advised) – User configurable – 15, 30, 45, 60, 90, 120, 180 seconds
- **Voice Prompt Volume** – Allows user to change speaker volume

- **ECG Display** (if option set in setup menu)

– Turns display on/off for AED mode

- **Motion Detection** – User defined ON/OFF
- **Service Alert** – Audio alarm if the device needs servicing. Configurable on/off
- **Manual Access** – (if ECG display option set in setup menu) – Devices configured with an ECG display may be set up to allow user to initiate a charge and shock without analysis.

cprMAX Technology Settings:

- **Initial-CPR** – User defined time for CPR after first analysis regardless of analysis decision. Can be set to OFF, 15, 30, 45, 60, 90, 120 or 180 seconds.
- **Pre-shock-CPR** – Allows for CPR while device is charging. Can be set to OFF, 15 or 30 seconds.
- **Confirmation Analysis** – Confirms shockable rhythm after completion of Initial CPR or Pre-shock CPR periods and prior to Push to Shock prompt (default Off)
- **Stacked Shocks** – (ON/OFF) When Off, allows for provision of CPR after each shock
- **Pulse Check** – (Always, After Every NSA, Never) Allows device to prompt for a pulse check either after each shock, after every NSA, or never prompt for a pulse check (default Never)

TRAINER SETTINGS

LIFEPAK® 1000 Version - It can be selected in the setup whether a LIFEPAK(R) 1000 with or without ECG option is simulated. **Training scenarios** - There are different training scenarios which can be selected in the setup or alternatively by remote control.

Languages – The Trainer 1000 is delivered in different language versions. There are several languages contained in one trainer, which can be changed in the setup menu. The following language combinations are available.

- America: Spanish, French, Portuguese, US English
- Central Europe: German, French, British English, Italian, Dutch, US English
 - Northern Europe: Danish, Finish, British English, Norwegian, Swedish
 - Southern Europe: Spanish, British English, Greek, Italian, Portuguese
 - Southeast Europe: British English, Greek, Croatian, Hungarian, Serbian, Slovenian
 - Eastern Europe: Czech, British

English, Lithuanian, Polish, Russian, Slovenian

- Can also potentially be provided in other languages upon request

DISPLAY

Backlit LCD displays number of shocks delivered, elapsed time, text and graphics of heart rhythm and optional ECG

Size: 120 mm (4,7 in) x 89 mm (3,5 in)

Display Resolution:

1024x600 ECG option:

- **Waveform Sweep Speed** – 25 mm/sec for ECG, nominal
- **Waveform Amplitude** – 1cm/mV, nominal
- **Heart Rate** – 20 to 300 BPM digital display, Display „...“ if heart rate is less than 20 bpm. Heart symbol flashes for each QRS detection.

ECG information is a simulated signal from electrodes in anterior-lateral position.

INTERNAL BATTERY

Nominal voltage: 7.2 V

Fully charged batteries run the device for at least 2,5 hours. There is a warning before the device is turned off at low battery.

A plug-in charger is delivered with the Trainer 1000.

ENVIRONMENTAL

Device designed for low impact, low stress environments. For use in temperature-controlled areas protected from precipitation. Capable of withstanding heavy useage and prolonged periods of operation. Operating Temperature: 0°C to 50°C **Humidity:** 15% to 85 %, non-condensing **Storage temperature:** -30°C to +70°C **Humidity:** 15% to 85 %, non-condensing Storage Temperature: -20°C (0°F) to +60°C (140°F) EMC: Emission: EN 55011 Class B Immunity: EN 61000-6-2 **Housing:** Flame Protection according to UL 94-V0

PHYSICAL CHARACTERISTICS

High: 8.7 cm (3.4 in)

Width: 23.4cm (9.2

in) **Depth:** 27.7 cm

(10.9 in)

Weight: 1.3 kg (2.86 lb)

With bag and accessories: 2,0 kg (4.4 lb)