

Trainer 1000 SE

Supplementary user manual

-ONLY FOR USE IN CONJUNCTION WITH THE **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 separate from fully operative defibrillators and ECGs.

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 Trainer 1000 is a simulation and training device for realistic Advanced Life Support training on a defibrillator (AED) and providing treatment to patients on the basis of an ECG diagnosis. 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 Trainer 1000 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 condition by using the AED Trainer's IR remote control and to intervene if the Trainer is used incorrectly.

The Trainer 1000's ECG function does not provide any information on the actual heart rhythm of patients connected to it. The rhythms indicated by the device are provided only in order to train people to make a quick initial diagnosis based on the ECG.

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IMPORTANT INFORMATION ON MANUAL DEFIBRILLATION

Manual defibrillation is a proven and effective method for treating hyperdynamic heart failure. In manual defibrillation, first-aiders decide whether or not to defibrillate on the basis of ECGs and independently of the automatic analysis performed by the defibrillator. Manual defibrillation furthermore involves independently choosing the strength of and moment at which shocks are delivered.

This flexibility in the use of the defibrillator's functions enables users to time the defibrillation with the performance of other additional treatment measures, such as, e.g. administering medication, managing airways and similar, in accordance with the special requirements presented by each individual treatment case.

Manual defibrillation must only be performed by persons trained in ECG diagnosis. Medical personnel that is not expressly and legally authorised to perform electrotherapy in the country of application are advised to consult the head of their department before use.

IMPORTANT INFORMATION ON PERFORMING ECGS WITH THE TRAINER 1000

The LIFEPACK 1000 SE's monitoring function is designed to monitor the heart's electrical activity through a stable limb lead II cable. The lead and the amplitude setting cannot be changed. The Trainer 1000 is designed to simulate this function and does so by infinitely replaying an ECG recording that is stored inside the Trainer. Using the remote control, the Trainer 1000 enables instructors to select the heart rhythm to be displayed and thus adapt it to the simulated patient's condition and any treatments that might already have been administered.

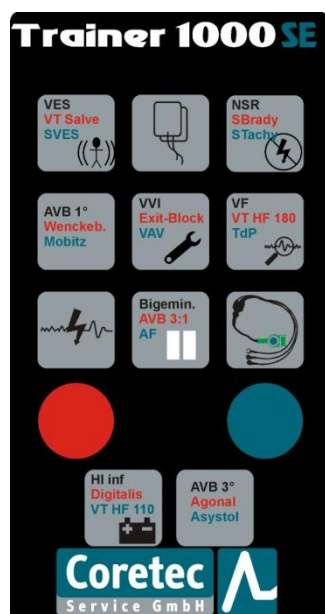
The monitoring function is not designed for the diagnosis of cardiac arrhythmia or to verify death. The ECG recording shown on the Trainer 1000 is intended only to help users choose suitable treatment measures, to assess a patient's state, and to monitor fully conscious patients and those whose consciousness is impaired.






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.

REMOTE CONTROL BUTTONS



Button	AED-mode button function	Manual-mode and monitoring-mode button function
	For switching between On and Off for MOTION ARTEFACT. This function is only available during analysis.	Pressing this button once in ECG mode will bring up a recording of a singular ventricular extrasystole on the display. Pressing this button after having pressed a function button will bring up either a self-terminating ventricular tachycardia or a supraventricular extrasystole on the display.
	For switching between On and Off for fitting the training electrode to the mannequin. This function is only available when the training electrodes are connected to the AED Trainer.	This button indicates to the device that the monitoring electrodes have been attached and makes it start showing a heart rhythm.
	Pressing this button will cause all shock decisions to be changed to NO SHOCK ADVISED. This function can only be used if either the messages PRESS FOR ANALYSIS or ANALYSIS IN PROGRESS, STEP BACK! are being displayed.	Pressing this button will bring up a normal sinus rhythm, a sinus bradycardia with approx. 40 beats per minute or a sinus tachycardia with approx. 180 beats per minute.
	No function	Pressing this button will make the device simulate a first-degree AV block, a Wenckebach type 2° AV block and a Mobitz type 2° AV block.
	Pressing this button once will activate a service alert, and will cause the message CALL CUSTOMER SERVICE to be displayed. To cancel,	In ECG mode, this button will bring up various pacemaker rhythms: A single-chamber pacemaker, an exit block and a dual chamber

	turn off the AED Trainer. Press button again.	pacemaker.
	This button is not active. It is only used on Trainers with ECG mode.	In ECG mode, this button will bring up ventricular fibrillation, ventricular tachycardia with a heart rate of 180/minute or torsade de pointes on the display.
	No function	Pressing this button before selecting a rhythm ensures that the rhythm will only be changed after defibrillation. (Only in manual mode)
	Press at any time to stop any of the Trainer 1000's functions. Press again to make the Trainer 1000 continue its operation from the point it was previously stopped at. Press F1, F2, F3, F4, F5 or C1 for changing the shock protocol while the Trainer 1000 is set to PAUSE. Press PAUSE again to verify the change and to turn off the AED Trainer.	Pressing this button will bring up a bigeminus, a 3:1 AV block or atrial fibrillation on the display.
	To change to ECG mode	Pressing this button will make the Trainer 1000 only use the signals from the connected lead for monitoring. Pressing this button will make the device switch to ECG mode
	No function	Pressing this button will enable you to activate the heart rhythms shown in red. To do so, press this button first and then the required rhythm button.
	No function	Pressing this button will enable you to activate the heart rhythms shown in green. To do so, press this button first and then the required rhythm button.
	Pressing this button once will activate the warning LOW BATTERY. Press again to deactivate warning.	Pressing this button will bring up an ST-elevation or a non-ST myocardial infraction rhythm. It can also be used to simulate a VT with a heart rate of approx. 120/minute.
	No function	This button will bring up a third degree AV block, an agonal rhythm (electro-mechanical dissociation) or an asystole.

OPERATING MODES

Functions

The Trainer 1000 SE features the same functions as the Trainer 1000:

AED mode (with activatable and de-activatable paddle discharge indicator)

Manual mode (with paddle discharge indicator)

However, the Trainer 1000 SE also features an

ECG monitoring mode (requires Upgrade Kit, 3-lead ECG cable, only in monitoring mode)

which can be used to display a range of ready-installed ECG rhythm recordings on the display and to match the rhythm shown on the display to the simulated patient's condition using the remote control.

AED MODE

As with real automated external defibrillators, the **Trainer 1000** evaluates the selected ECG rhythms and issues specific instructions when it identifies a shockable rhythm. The delivery of shocks (defibrillation) to the simulated patient requires the active involvement of the person operating the defibrillator.

MANUAL MODE

This mode allows expert users to decide on administering defibrillation shocks on the basis of the ECG analysis derived through the electrodes. Instructors can choose the ECG recording to be shown on the display to provide advanced training in the use of additional and drug-based treatment. The heart rhythm can be changed at any time in manual mode. If the Trainer 1000 is configured in such a way that the analysis function can be used in manual mode, users will also be able to use the AHA and ILCOR treatment -recommendations-based computer-assisted decision-making aid regarding whether or not to defibrillate.

ECG MONITORING MODE

In ECG mode, the electrical activity of a patient's heart can be monitored using conventional ECG electrodes that are attached using snap fasteners. The readout provided on the screen represents the consolidated data from lead II. The instructor can select one of the rhythm recordings stored on the system by remote control and adjust the recording to the simulated patient condition. The device does not give voice prompts. If the device identifies a heart rhythm that potentially calls for defibrillation, it will prompt the user to check the patient and to change to the defibrillation electrodes.

OPERATION

The Trainer 1000 can be switched to **ECG mode** from both AED and manual mode. To do so, proceed as follows:

- If the training electrodes are connected, remove them
 - by pressing the electrode connection button, 1st row, centre, on the remote control (taking the electrodes off the patient)
 - disconnecting the training electrode connector on the Trainer
- The ECG cable now needs to be connected and this action confirmed by pressing the ECG cable button (3rd row, right). This will make the device switch to ECG mode. The following message will be briefly shown: "Connect ECG lead"
- If you want a different heart rhythm from the previous or pre-set one, this can be changed now by remote control before an ECG is shown.
- Connect the 3-lead cable to the mannequin (see the section "Attaching the ECG lead to the mannequin") and confirm this action by pressing the "Connect electrode" button on the remote control (1st row, centre). The ECG will now be shown.

On the remote control, ECGs can be selected as follows:

Black ECGs:	Press button
Red ECGs:	Press the red button first and then the ECG button
Blue ECGs:	Press the blue button first and then the ECG button

To exit **ECG mode**, simply reverse these steps.

If the rhythm shown by the ECG is shockable, the Trainer 1000 will prompt you to connect defibrillation electrodes and to exit ECG mode.

On exiting ECG mode, the Trainer will switch back to the mode it was previously in.
I.e. either:

- **Manual mode**
In manual mode – as in ECG mode – ECGs can be selected using the remote control. This only applies to Trainers who have been upgraded to ECG mode. This means that there will not be any scenarios. In manual mode, it is also possible to switch from the ECG rhythm to administering shocks with the remote control. (Left button in 3rd row, also see section on the remote control)

Or
- **AED mode**
In these devices, AED mode works in exactly the same way as in Trainers without ECG mode, with the exception that the scenario might be adjusted.
Since the ECG needs to stay the same when exiting ECG mode, it might be necessary to change the scenario accordingly. This adjustment must be performed in accordance with the following schema (next page):

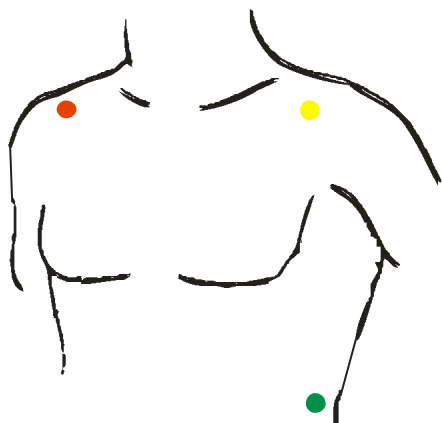
Selected under Setup or using the remote control	Shock sequence	ECG sequence	Applied scenario	
			Based on shockable rhythm	Based on non-shockable rhythm
Fix 1	SSSSK	FFFFSr	Fix1	Fix2
Fix2	KKKK	AAAA	Fix1	Fix2
Fix3	SSKKKK	FFAASrSr	Fix3	Fix5
Fix4	SSKSSK	FFAFFSr	Fix4	Fix5
Fix5	KSKSS	AFSrFF	Fix4	Fix5
Customer	XXXXX (S or K)	(F or A)	Customer/ Fix4	Customer/ Fix5
	S: Shock advised K: No Shock Advised	Sr: Sinus rhythm F: Fibrillation A: Asystole		

ATTACHING THE ELECTRODES TO THE MANNEQUIN

Attaching the ECG lead to the mannequin

First, switch to ECG mode (see Operation section)

The illustration shows the standard way of attaching the 3-lead ECG cable.



The designations of the ECG leads leading to the patient can vary, but are generally as follows:

AHA designations	IEC designations	Electrode position
RA	R	Right arm
LA	L	Left arm
LL	F	Left leg

If your mannequin does not have any connections for the ECG cable, you can use conventional adhesive ECG electrodes. In this case, we recommend using Ag/AgCl solid gel adhesive electrodes and to leave them on the mannequin for continued use, as constantly removing and re-attaching them can over time damage the plastic skin.

Attaching the training defibrillation electrodes

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

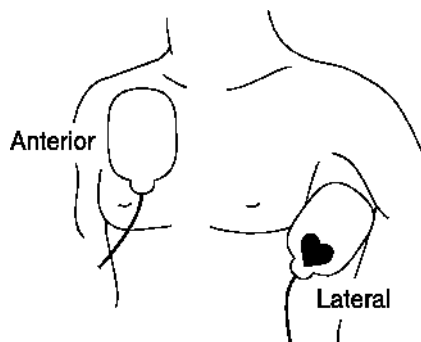


Figure: Attaching the training electrodes to the mannequin

The instructor must press the ELECTRODES button on the remote control to signal to the device that the training electrodes have been attached to the mannequin. This will cause the device to automatically start running the selected scenario with the relevant settings.

This training scenario will only start if the connector of the training electrodes has been properly inserted into the socket on the AED Trainer and the instructor has verified that the electrodes have been correctly attached via 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 must 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 can potentially damage the outer skin of the mannequin or leave behind stubborn residues.