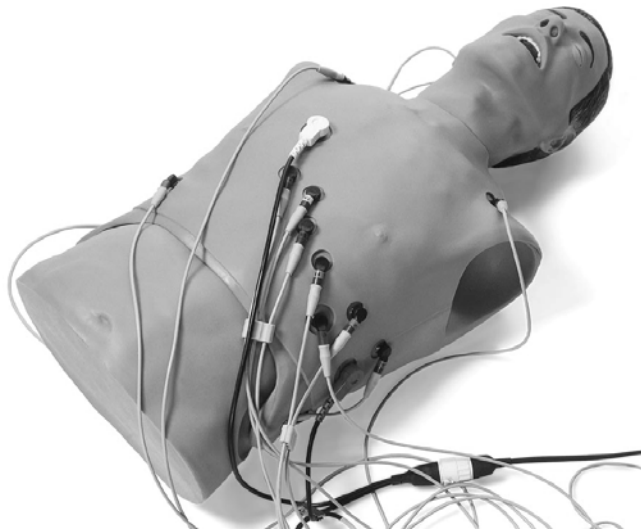


# TWELVE LEAD TASK TRAINER

Directions for Use



**Laerdal**<sup>™</sup>  
*helping save lives*



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The Twelve Lead Task Trainer (260-20001) is a torso lifelike manikin designed to realistically simulate airway management scenarios and train students in the proper utilization of 12 lead ECG devices, including the proper connection of patient cable, acquisition and interpretation of 12 lead ECG, and understanding and utilizing the AMI algorithm and local protocols relating to treatment of suspected or confirmed AMI.

The manufacturing excellence and ease of replacing trainer individual parts should provide many sessions of training when reasonable care and maintenance is practiced.

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**Laerdal Recommendations:**

7.5 ET Tube  
Use Manikin Lubricant prior to training sessions

**Safety Precautions used during Defibrillation  
of a Patient/Trainer**

1. Read and follow all safety and operating instructions provided with your defibrillator and associated equipment.
2. This trainer can be shocked with actual voltages and current used on a live patient. All precautions and safety measures must be used during the defibrillation and pacing phases of training. Failure to follow safety measures could result in injury or death to operators, students or onlookers not heeding these warnings.

## **Items Included:**

- (1) Adult Manikin Torso with Electronics
- (1) Wired Remote Control
- (2) "C" Cell Batteries
- (1) Manikin Lubricant
- (1) Tank Top
- (1) Carry Case
- (1) Laerdal Global Warranty Booklet
- (1) Directions for Use

## **Skills Taught:**

### **Airway Management:**

- Oral/nasal/digital intubation
- Right mainstem intubation
- Oropharyngeal/Nasopharyngeal airway insertion
- Bag-Valve Mask ventilation
- Suctioning techniques
- Abdominal thrust
- Combitube insertion and ventilation

### **Cardiac Related Skills:**

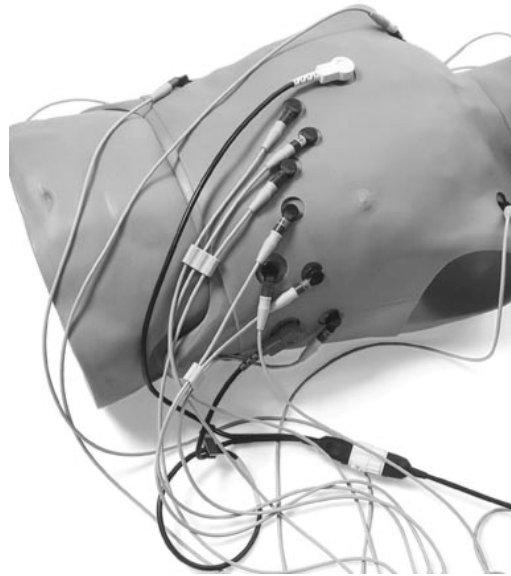
- Carotid pulse palpation, manually generated
- Closed chest compressions
- Connection sites for four limb leads and V1 through V6
- Compatible with 12-lead defibrillator/monitors
- Defibrillation via hands free cables or paddles
- Pacing with option to capture or fail to capture
- Closed chest compressions

### **Training in:**

- Proper connection of patient leads
- Operation of 12 lead ECG devices
- Acquisition and interpretation of 12 lead ECG
- Understanding and utilization of current treatment algorithms
- Understanding and utilization of local protocols relating to and treatment of suspected or confirmed electrical abnormalities

## Features:

- Scenarios of up to nine (9) ECG choices may be programmed.
- System is capable of being shocked at 360 joules and receiving fifteen (15) sets of three (3) shocks per set.
- Operates on DC current from a replaceable battery contained in the manikin torso and will accommodate an AC adapter.
- Battery can operate the system for 40 hours of normal operation.
- When using battery, system will turn “off” after fifteen (15) minutes of inactivity.



- Excluding remote, operating system is contained within the manikin.
- Complete system weighs no more than forty (40) pounds.
- Meets FCC and CE requirements

## Overview –

The AST-12 unit is used in a teaching environment to display 12 lead signals on an ECG monitor. The unit is capable of storing up to nine (9) training scenarios. Each one can contain as many as nine (9) steps each. The unit supports defibrillation and pacing training and allows for advancement to next waveform in a scenario on a defib pulse. The unit incorporates a two (2) line by 16 character LCD to display current waveform information, as well as the current scenario status.



The unit may be powered through a 12VDC 100mA AC adapter or by two (2) 'C' cell batteries. When on battery power, the unit will automatically shut off after 15 minutes of inactivity.

## Operation –

*This operational section assumes that unit is in default configuration with no scenarios programmed into the unit.*

When unit is powered "On," it will begin an initialization routine. During this time, the remote control unit will display the model name on top line and version number on bottom line.

After a brief delay, unit will initialize to waveform mode 'WFM' with pacing disabled 'N' and set to waveform #21 'Normal Sinus'. At this point, the unit will output 12 lead waveform data.

Using the remote control unit as a guide, and starting at the top left, the displayed items are:

- Current mode (MOD)
- Current scenario # (SCEN)
- Current scenario step # (STEP)
- Scenario defib step advance (DFIB)
- Pacing mode (PACE)
- Scenario step timer (TMR)

On the bottom of remote control are the waveform number (#) (WAVEFORM) and waveform name.

## **Waveform mode –**

While in waveform mode, the unit will display the current mode and pacing status on the top line and the current waveform # and name on the bottom line. The unit will output 12 lead waveform data for the currently selected waveform. Waveform mode also allows waveform pacing.

### **To enable pacing:**

Press the 'Pace' button while in waveform mode. When waveform pacing is enabled, the top line of the LCD will display the letter 'Y.' This is located under the 'PACE' text on the remote. The letter 'N' will be displayed when pacing is not enabled. When enabled ('Y'), the manikin can receive pacing output from a pacer unit. Once the pacer unit output reaches approximately 80 – 90 mA, the AST-12 allows electrical capture.

Pacing enabled – 'Y'

Pacing not enabled – 'N'

### **Program mode:**

To enter program mode, press 'Prog>' button. **This is where all scenario program editing is done.** The unit allows for storage of up to nine (9) scenarios having nine (9) steps each. During editing, the user may use any of the digits on the numeric keypad or the '+' and '-' buttons.

While in program mode, the unit will display on the top line:

- Current mode
- Current scenario #
- Current scenario step number
- Defib step advance
- Step timer status

The bottom line will display the waveform # and name for the indicated scenario and step.



Assuming there are no scenarios currently programmed, the display will look like this:

**PRG I I N 0:00**  
**000 END SCENARIO**

Starting at the top left:

**PRG** – Current mode – programming mode

**I** – Current scenario number

**I** – Current scenario step number.

**N** – Scenario will not advance to the next step with a defib pulse.

**0:00** – Timer is disabled for this step

And the bottom line:

**000** – indicates this step is the last step of the scenario

NOTE: Waveform 000 (END SCENARIO) will end a scenario with fewer than nine (9) steps, and a timer value of 0:00 will disable the timer for the current step.

### **Programming the unit –**

NOTE: If you hold the 'Prog>' button down **for more than 5 seconds**, the scenarios data will be updated and saved.

To move cursor while in programming mode, press the 'Prog>' button. When you reach the end of the bottom line, the cursor will go back to the front of the top line.

1. Move the cursor to the 'SCEN' position
2. Select the scenario number (1 through 9) you want to edit by pressing a number or the +/- buttons on the keypad
3. Move the cursor to 'STEP' position
4. Select the step number (1 through 9) you want to edit by pressing a number or the +/- buttons on the keypad
5. Move the cursor to the 'DFIB' position
6. Select whether or not you want your scenario to advance (**Y** or **N**) to the following step when it detects a defib pulse by pressing the +/- buttons on the keypad.

7. Move the cursor to the 'TMR' position
8. Select the amount of time (0 thru 9:59) this step will run before advancing to the next step by pressing numbers or the +/- buttons on the keypad. (**To DISABLE the timer for this step, set the timer to 0:00.**)

NOTE: If 'DFIB' is set to 'N' and 'TMR' is set to 0:00, **the scenario will not automatically advance to the next step from this step.** This will allow you to decide when to advance to the next step manually by pressing the '+' button on the keypad.

**To end a running scenario**, either repeatedly press the '+' button to advance through each step or press the 'Run' button to end it immediately.

9. Move the cursor to the 'WAVEFORM' position
10. Select the waveform number (0 through 80) to use for this scenario step.

**To END SCENARIO**, select waveform 0.

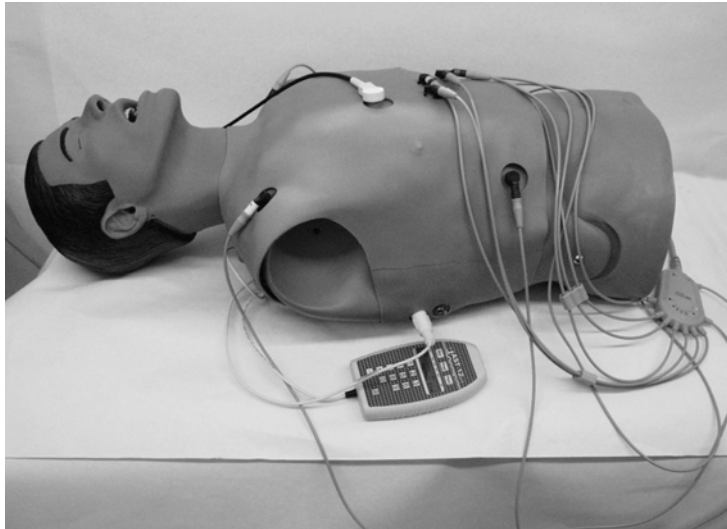
NOTE: Be sure to end each scenario with waveform 000. If 'END SCENARIO' is selected as step number 1, the scenario will not appear to run, since this waveform will tell it to end as soon as it starts.

If you have five (5) steps in your scenario, and want to change it to a three (3) step scenario, and you **do not select 'END SCENARIO'** as the waveform for step 4, instead of stopping after step 3, the scenario will continue with step 4 since it was not changed to 'END SCENARIO.' It will then finish step 4 and continue on with step 5, since the data was not removed from the scenario.

11. Either press and hold the 'PROG>' button for five (5) seconds to save your changes or start the process again by selecting a different scenario or step number. Before saving, the unit will prompt the user to verify the edits should be saved (+ for yes and - for no).

Any waveform is paceable except "END SCENARIO".

000	End Scenario	040	SR74_Couplet
001	SR_78	041	ST_120_PAC
002	SR_76	042	ST100_MulPVC
003	SR_92	043	AVBlk_34_PVC
004	STach_118	044	AVBlk_60
005	STach_144	045	Vent_Escape
006	STach_148	046	1_Couplet
007	STach_156	047	2_Type II
008	STach_162	048	SBrady34_ST
009	STach_154	049	SBrady50_ST
010	ST106_UniPVC	050	2_Type_II
011	SR_66	051	SR_80
012	SR_72	052	S_Tach_168
013	SR_86	053	SR_84_PJC
014	SR_98	054	SR_58_Bigem
015	STach_110	055	Inj_Ant
016	ST_114	056	Inj_AntSept
017	ST_146	057	Inj_AntSept
018	ST_108	059	Inj_Inferior
019	SR_88	060	Inj_Inferior
020	SR_82	061	Inj_Inferior
021	SR_76	062	Inj_Inferior
022	PSVT	063	Inj_Inf/Post
023	S_Brady_58	064	Inj_Inf/Post
024	SBrady50_PAC	065	Inj_Sept/Inf
025	SR_64_PAC	066	AVBlk_60
026	SBrady58_PAC	067	1_Wide_QRS
027	S_Tach_117	068	Ideovent
028	ST102Uni_PVC	069	Paced
029	SVT_198	070	Paced
030	Afib_76	071	Paced_54
031	AF_PVC_Coup	072	Paced_60
032	AF_64_AbVent	073	Paced
033	Aflut_96	074	Paced
034	Aflut_64	075	Paced_98
035	Junct_54_^ST	076	Paced
036	Junct_60_ST	077	Paced
037	Junct_58_ST	078	Paced
038	SR_58_Bigem	079	Paced_60
039	ST118_Trigem	080	Paced_108



## Running scenarios –

### To run a scenario:

1. Start in the waveform (WFM) mode
2. Press the 'RUN' button and the display will switch to selection 'SEL' mode and prompt the user to select a scenario number
3. Select the scenario by pressing a number or the +/- buttons on the keypad. The rest of the top line of the display will show the "DFIB" status and "TMR" status of the first step of the current scenario.
4. Once you have selected the scenario you want to run, press the 'Run' button again to start the scenario.

The text under 'MOD' will animate the word 'RUN' to indicate a scenario is running.

The number under 'SCEN' indicates the currently running scenario number.

The number under 'STEP' indicates the currently running step number.

The letter under 'DFIB' indicates whether or not defib advance is enabled for the current step.

The number under 'TMR' indicates the time remaining before the scenario will advance to the next step. The bottom line displays the currently used waveform number and name.

To manually advance to the next step, press ‘+.’  
To manually end the scenario, press ‘Run.’

When the scenario has been completed, the unit will revert back to waveform mode using the waveform from the last scenario step.

### **Battery Replacement**

There are two “C” cell batteries located on the trainer’s right side.

To replace these batteries:

Lift skin from the shoulder of the torso and pull down toward the bowel. An insert module will be exposed on the right side of the manikin torso. The upper module is removed to expose the battery compartment.

Replace the batteries as needed.

In the event this trainer is stored for more than a few weeks, remove the batteries to keep possible battery leakage from damaging the battery holder.



**Replacement Parts:**

For latest version of Spare Parts and Accessories, visit [www.laerdal.com](http://www.laerdal.com)

**Global Warranty:**

See the Laerdal Global Warranty Booklet, or [www.laerdal.com](http://www.laerdal.com)

**Cautions and Warnings**

This product contains **Natural Rubber** latex which may cause allergic reactions when in contact with humans.





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Printed in USA  
1004856 Rev D



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