

# AED Trainer

i-PAD **NF1200-T**

Operator's Manual



ICU Medical Systems, Inc.

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# 1. Introduction

## Product Description

The i-PAD NF1200-T is a defibrillator simulator designed to mimic the operations of the i-PAD NF1200. It can simulate functions of the i-PAD NF1200 such as charging and shock delivery.

 **NOTICE**

The charging and shock delivery operations of the i-PAD NF1200-T are simulated only. The device does not contain any defibrillating capacitor and thus it can not deliver a real defibrillating shock.

It has preprogrammed rescue scenarios that are in accordance with the recommended rescue protocol of international rescue policy making bodies such as the American Heart Association, the European Resuscitation Council, and the American Red Cross.

It is to be used in conjunction with the resuscitation mannequin from CU Medical Systems, Inc.

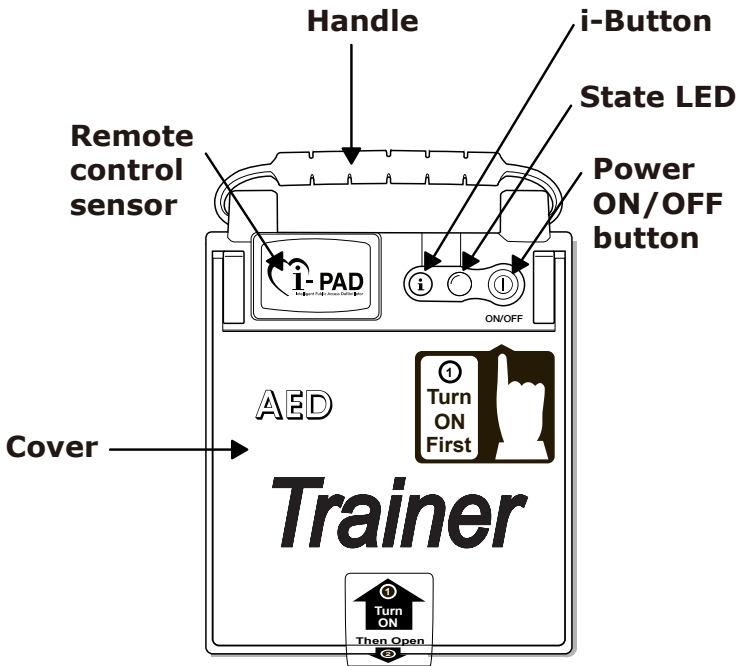
It has a standard infrared remote control accessory which renders it operable by an instructor from a distance.

## Intended Use

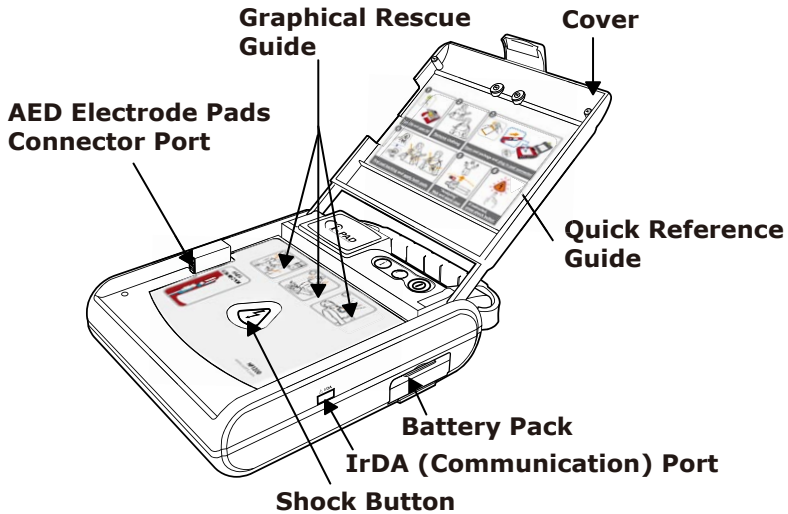
The i-PAD NF1200-T is intended for use during Advanced Cardiac Life Support training, Basic Life Support training, or any other physician approved trainings that deal with the operation of an automated external defibrillator.

The i-PAD NF1200-T is not intended for use during actual rescue operations as it can not deliver a defibrillating shock.

## 2. Device Orientation



- Top View of the i-PAD NF1200-T with its cover closed

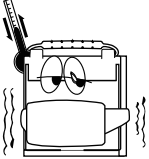
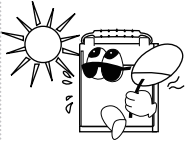


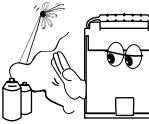
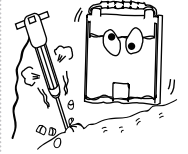


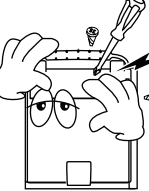


- Perspective view of the i-PAD NF1200-T with its cover open

<b>Power ON/OFF Button</b>	Press this button to turn the i-PAD NF1200-T ON or OFF.
<b>i-Button</b>	This button may be used to change the compression-ventilation ratio. When no pads are attached, entering administration mode by pressing this button is disabled in this version of the i-PAD NF1200-T.
<b>State LED</b>	Indicates the status of the i-PAD NF1200-T <ul style="list-style-type: none"> <li>• <b>blinking green:</b> the i-PAD NF1200-T is in standby mode and ready for a rescue operation</li> <li>• <b>solid green:</b> the i-PAD NF1200-T is in rescue mode.</li> <li>• <b>blinking red:</b> the i-PAD NF1200-T detected a system error or low battery level during a self-test.</li> <li>• <b>solid blue:</b> the i-PAD NF1200-T is conducting a self-test.</li> </ul>

<b>Handle</b>	An easy-grip carrying handle for increased portability of the i-PAD NF1200-T.
<b>Cover</b>	Covers the front panel of the i-PAD NF1200-T and retains the defibrillator electrode pads package.
<b>SHOCK button</b>	Press this button when the i-PAD NF1200-T prompts you to “Press the flashing orange button now”. Pressing this button delivers a simulated defibrillation shock to the manikin.
<b>AED electrode pads connector port</b>	Plug the connector of the AED electrode pads into this port
<b>Graphical Rescue Guide</b>	Guides you by indicating the current step in the simulated rescue process.
<b>Quick Reference Guide</b>	A printed card that summarizes the steps of a simulated rescue process using the i-PAD NF1200-T.
<b>Battery Pack</b>	Provides power to the i-PAD NF1200-T.
<b>IrDA Communication Port</b>	This port is disabled in this version of the i-PAD NF1200-T.
<b>Remote Control Sensor</b>	Senses the infrared control signal from the remote controller. Point the remote controller at this sensor when you want to control the i-PAD NF1200-T.

For product installation and storage, be sure to refer to the following instructions and avoid damage to the product.

	<p>Do not store the device in areas with highly fluctuating temperatures.</p>		<p>Do not store the device in areas that are directly exposed to sunlight.</p>
	<p>Do not operate or store the device in conditions that are beyond the following specified limits.</p> <p>Standby conditions          Temperature: 0 °C to 43 °C (32 °F to 109 °F)          Humidity: 5 % to 95 % (non – condensing)          Operating Conditions          Temperature: 0 °C to 40 °C (32 °F to 104 °F)          Humidity: 5 % to 95 % (non – condensing)          Storage Conditions          Temperature: -20 °C to 60 °C (-4 °F to 140 °F)          Humidity: 5 % to 95 % (non – condensing)</p>		<p>Do not store the device near heating equipment.</p>
	<p>Do not install or store in environments where humidity tends to rapidly increase or there is a ventilation problem.</p>		<p>Do not store the device in areas where there is high vibration (in excess of Category 10 of MIL-STD-810E).</p>
	<p>Do not operate or store the device in environments with high concentration of flammable gas or anesthetics.</p>		<p>Do not operate or store the device in areas with high concentration of dust.</p>
	<p>Only personnel authorized by the manufacturer may open the device for servicing. There are no user serviceable components inside the device.</p>		

### 3. Setting up the i-PAD NF1200-T Package Contents

The i-PAD packaging box contains the following items.

<p><b>i-PAD NF1200-T</b></p> 	<p><b>Operator's Manual</b></p> 
<p><b>Disposable, non-rechargeable battery pack</b></p> 	<p><b>Trainer Pads</b></p> 
<p><b>Rechargeable battery pack (option)</b></p> 	
<p><b>Battery Charger (option)</b></p> 	<p><b>Infrared Remote Controller</b></p> 



## Infrared Remote Controller (Remocon)

This enables an instructor to control the i-PAD NF1200-T from a maximum distance of 3 meters. The Remote Controller should be pointed at the remote controller sensor of the i-PAD NF1200-T when controlling its operation.

The instructor should control the i-PAD NF1200-T using this Remote Controller only. Any changes in simulated ECG and training scenario should be done using this Remote Controller.

### Infrared Remote Controller



Infrared Remote Controller Functions	
Key	Function
<b>POWER OFF</b>	Turns the power of the i-PAD NF1200-T OFF when pressed while the i-PAD NF1200-T is ON.
<b>PAD ON/OFF</b>	<p>Simulates pads ON and pads OFF conditions. Toggles between the said two conditions when pressed (i.e. if the pads are ON, turns OFF the pads when pressed; if the pads are OFF, turns ON the pads when pressed).</p> <p>After the trainee attaches the pads to the manikin, pressing this button simulates the attachment of the pads and starts rescue scenario 1.</p>
<b>LOW BAT</b>	Simulates a low battery condition when pressed.
<b>UP</b>	Increases the level of audio volume when pressed.
<b>DOWN</b>	Decreases the level of audio volume when pressed.
<b>S1 to S8</b>	Rescue scenarios 1 to 8. The rescue scenarios simulate rescue conditions in the field. The trainee may react to the scenarios by doing the appropriate actions. Only scenarios 1 to 8 are implemented on this version of the i-PAD NF1200-T

## Rescue Scenarios

Scenario Number	Scenario
<b>S1</b>	<ul style="list-style-type: none"> <li>a. Shockable rhythm</li> <li>b. Shock delivery</li> <li>c. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>d. Normal Sinus Rhythm</li> <li>e. CPR administration (30 chest compressions, 2 artificial breaths)</li> </ul>
<b>S2</b>	<ul style="list-style-type: none"> <li>a. Normal Sinus Rhythm</li> <li>b. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>c. steps a and b looped continuously</li> </ul>
<b>S3</b>	<ul style="list-style-type: none"> <li>a. Shockable rhythm</li> <li>b. First Shock delivery</li> <li>c. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>d. Shockable rhythm</li> <li>e. Second Shock delivery</li> <li>f. Normal Sinus Rhythm</li> <li>g. CPR administration (30 chest compressions, 2 artificial breaths)</li> </ul>
<b>S4</b>	<ul style="list-style-type: none"> <li>a. Shockable rhythm</li> <li>b. First shock delivery</li> <li>c. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>d. Normal Sinus Rhythm</li> <li>e. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>f. Rhythm changes to shockable rhythm.</li> <li>g. Second shock delivery</li> <li>h. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>i. Normal Sinus Rhythm</li> <li>j. CPR administration (30 chest compressions, 2 artificial breaths)</li> </ul>

**Rescue Scenarios, continued**

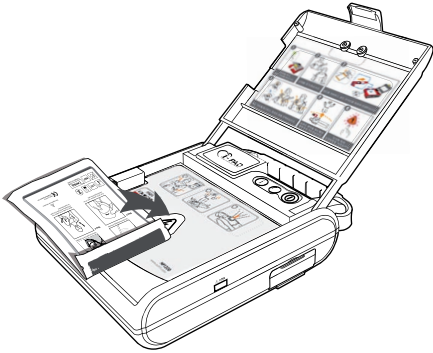
Scenario Number	Scenario
<b>S5</b>	<ul style="list-style-type: none"><li>a. Shockable rhythm</li><li>b. Shock delivery</li><li>c. CPR administration (30 chest compressions, 2 artificial breaths)</li><li>d. Steps a to c looped continuously</li></ul>
<b>S6</b>	<ul style="list-style-type: none"><li>a. Shockable rhythm</li><li>b. First Shock delivery</li><li>c. CPR administration (30 chest compressions, 2 artificial breaths)</li><li>d. Shockable rhythm</li><li>e. Second shock delivery</li><li>f. CPR administration (30 chest compressions, 2 artificial breaths)</li><li>g. Normal Sinus Rhythm</li><li>h. CPR administration (30 chest compressions, 2 artificial breaths)</li><li>i. Rhythm changes to shockable rhythm</li><li>j. Third shock delivery</li><li>k. CPR administration (30 chest compressions, 2 artificial breaths)</li><li>l. Normal Sinus Rhythm</li><li>m. CPR administration (30 chest compressions, 2 artificial breaths)</li></ul>

## Rescue Scenarios, continued

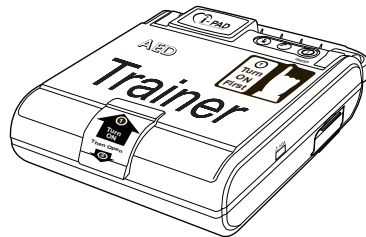
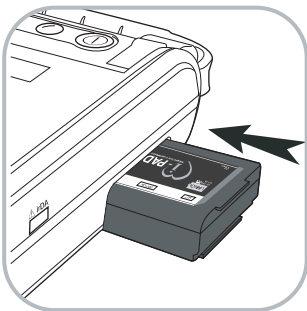
Scenario Number	Scenario
<b>S7</b>	<ul style="list-style-type: none"> <li>a. Shockable rhythm</li> <li>b. First Shock delivery</li> <li>c. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>d. Shockable rhythm</li> <li>e. Second shock delivery</li> <li>f. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>g. Shockable rhythm</li> <li>h. Third shock delivery</li> <li>i. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>j. Normal Sinus Rhythm</li> <li>k. CPR administration (30 chest compressions, 2 artificial breaths)</li> </ul>
<b>S8</b>	<ul style="list-style-type: none"> <li>a. Normal Sinus Rhythm</li> <li>b. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>c. Shockable Rhythm</li> <li>d. Shock delivery</li> <li>e. CPR administration (30 chest compressions, 2 artificial breaths)</li> <li>f. Normal Sinus Rhythm</li> <li>g. CPR administration (30 chest compressions, 2 artificial breaths)</li> </ul>

## Setting up the i-PAD NF1200-T

- ① Upon opening the packaging box, verify that it contains all the items listed in the packing list.
- ② Familiarize yourself with the controls and features of the i-PAD NF1200-T. Study the functions of the buttons, switches, indicators, and connection ports.
- ③ Place the trainer defibrillator pads package as shown in the following figures.



- ④ Install the battery pack.

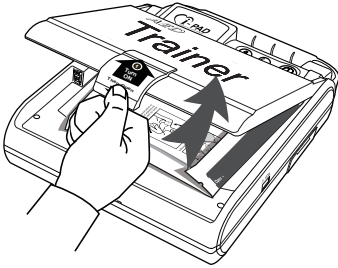


- ⑤ Place the i-PAD NF1200-T inside the carrying case if you have purchased this optional accessory.

## 4. Using the i-PAD NF1200-T

### Simulated Rescue Preparation

#### 1. Open the cover of the i-PAD NF1200-T



#### 2. Press the ON/OFF button to turn the i-PAD NF1200-T ON

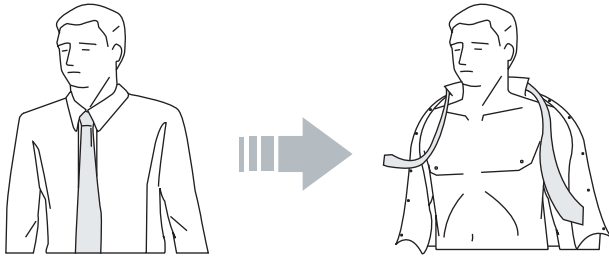


The i-PAD NF1200-T activates the following Indicators and Voice Prompt, in sequence:

- **State LED:** turns solid blue
- **Beeper:** emits a short continuous beep
- **State LED:** turns solid green
- **Voice prompt:** "Attach pads"

The voice prompt is played until the training instructor presses the PAD ON/OFF or any scenario key (S1 to S8) button to simulate a rescue scenario. The training instructor must press the PAD ON/OFF button only after the pads are attached to the manikin by the trainee.

### 3. Remove the clothing of the patient simulator (manikin)



#### **⚠ CAUTION**

To the training instructor: Emphasize the following caution to the trainee.

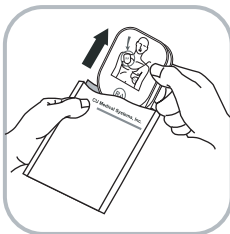
Do not waste time in removing the patient simulator's clothing. If necessary, rip off or cut off the patient simulator's clothing.

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### 4. Tear open the packaging of the pads

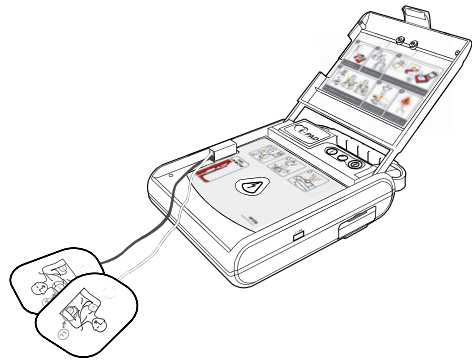
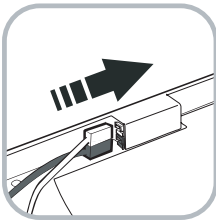


### 5. Take the pads out of its packaging

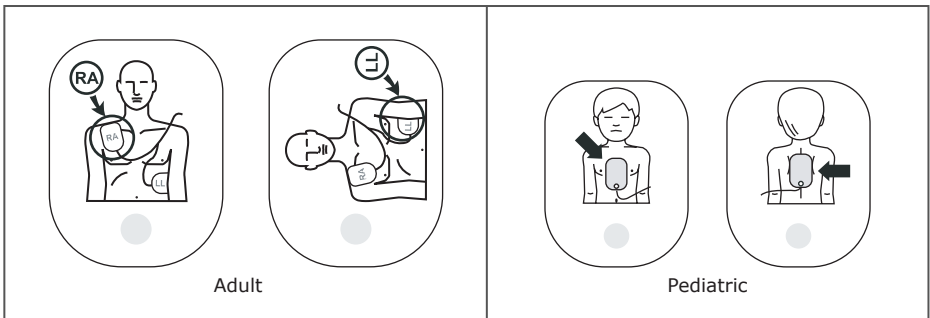




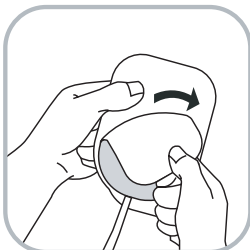
**6. Plug the connector of the pads into the AED electrode pads connector port of the i-PAD NF1200-T**



**7. Look at the graphics on the back of the pads. The graphics indicate the positions of the pads on the patient's body.**

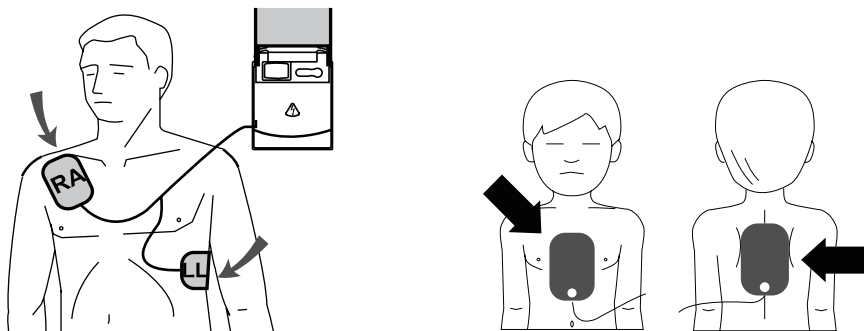


**8. Peel off the protective sheets of the pads.**



## Simulated Main Rescue Sequence

### STEP 1: Attach the pads



To the training instructor: As soon as the pads are attached, press the PAD ON/OFF button or run the desired scenario by pressing the appropriate scenario key on the remote controller. Pressing the PAD ON/OFF button runs scenario 1 by default.

### STEP 2: Press the SHOCK button if instructed

The i-PAD NF1200-T begins rhythm analysis simulation as soon as the training instructor presses the PAD ON/OFF button or any scenario button from S1 to S8.

The i-PAD NF1200-T activates the following Indicator and Voice prompt during simulated rhythm analysis:

- **Voice prompt:** "Analyzing heart rhythm"
- **Graphical Rescue Guide:** lights up the second step of the rescue operation.

After simulated rhythm analysis, the i-PAD NF1200-T proceeds according to the rhythm predetermined by the chosen rescue scenario.

**If a shock is needed:****Indicators and Voice prompts:**

- **Beeper:** 1 second continuous beep
- **Voice prompt:** "Shock advised"
- **Beeper:** beeps continuously until the SHOCK button is pressed or until the i-PAD NF1200-T disarms itself if the SHOCK button is not pressed within 15 seconds.
- **Voice prompt:** "Press the flashing orange button, now. Deliver shock, now"
- **SHOCK button backlight:** flashing orange.

**You must press the SHOCK button to deliver the simulated shock.**

- If you press the SHOCK button, the i-PAD NF1200-T delivers a simulated defibrillating shock. It informs you of the shock delivery with the voice prompt: "Shock delivered"
- If you do not press the SHOCK button within 15 seconds, the i-PAD NF1200-T disarms itself and proceeds to CPR Guidance.

**If a shock is not needed:****Indicator:**

- **Voice prompt:** "No shock advised"

**⚠ WARNING**

To the training instructor: Emphasize the following warning to the trainee.

Do not let anybody touch the patient when you press the SHOCK button. Defibrillation shock can cause operator or bystander injury.

## STEP 3: Perform CPR

The i-PAD NF1200-T directs you to do CPR after delivering one shock or if the ECG rhythm is not shockable, after rhythm analysis.

### Indicators and Voice Prompts

- **Graphical Rescue Guide:** lights up the third step of the rescue operation.
- **For other indicators and voice prompts, see CPR Protocol**

In the real i-PAD NF1200 device, the CPR protocol depends on the following settings:

1. Rescue Provider
  - Lay Rescuer
  - Healthcare Provider
2. Compression-Ventilation Ratio
  - 30:2 (30 compressions, 2 breaths)
  - 15:2 (15 compressions, 2 breaths)

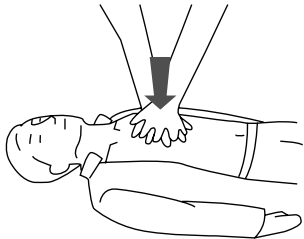
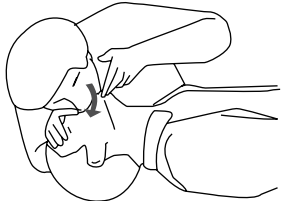
In the i-PAD NF1200-T, the rescue provider setting may not be changed. The rescue provider is set to Healthcare Provider setting period.

The compression-ventilation ratio setting may be changed by pressing the i-Button during CPR administration.

CPR Protocol	
<b>Healthcare Provider Mode</b>	<p>Scenario 1: The ECG rhythm of the patient is shockable and a shock has been delivered.</p> <ul style="list-style-type: none"> <li>● <b>Voice Prompt:</b> "Begin CPR, now"</li> <li>● <b>Beeper:</b> 1 second continuous beep</li> <li>● <b>CPR Guidance:</b> played on the speaker, see following pages for complete description</li> </ul>
	<p>Scenario 2: The ECG rhythm of the patient is nonshockable and no shock has been delivered.</p> <ul style="list-style-type: none"> <li>● <b>Voice Prompt:</b> "Check pulse"</li> <li>● <b>Beeper:</b> 1 second continuous beep</li> <li>● i-PAD NF1200-T pauses for 10 seconds to allow the trainee to check the pulse of the simulated patient.</li> <li>● <b>Voice Prompt:</b>  "Begin CPR, now" (ECG Rhythm is Asystole)  "If no pulse, begin CPR" (ECG Rhythm is other than Asystole)</li> <li>● <b>CPR Guidance:</b> played back on the speaker, see following pages for complete description</li> </ul>
Compression-Ventilation Ratio Setting	
<b>30:2</b>	Thirty chest compressions for every 2 breaths delivered to the patient.
<b>15:2</b>	Fifteen chest compressions for every 2 breaths delivered to the patient.

## CPR Guidance

The i-PAD NF1200-T gives guidance in the form of prompts and beat rhythm during CPR. Following is the description of the guidance sequence.

Step	Description	Your Action(s)
1	<p><b>Voice Prompt:</b> Push the chest down fast two inches</p>	<ul style="list-style-type: none"> <li>Place your hands, one on top of another on the area between the nipples of the patient</li> <li>Push the chest down 2 inches</li> </ul>
2	<p><b>Beat sound:</b> Rhythm beat sound played at 100 beats per minute. The number of beats depends on the Compression - Ventilation ratio setting 30:2 setting: 30 beats 15:2 setting: 15 beats</p>	<ul style="list-style-type: none"> <li>Push the chest of the patient hard and fast in time with the beat provided by the i-PAD NF1200-T.</li> </ul> 
3	<p><b>Voice Prompt:</b> Give two breaths</p>	<ul style="list-style-type: none"> <li>Immediately open the airway using a head tilt-chin lift maneuver.</li> </ul>
4	<p><b>Voice Prompt:</b> Breathe, breathe</p>	<ul style="list-style-type: none"> <li>Give two breaths</li> <li>Each breath must last for 1 second.</li> <li>Each breath must have enough volume to produce visible chest rise</li> <li>Give the two breaths within 5 seconds</li> </ul> 
5	<p><b>Cycles:</b> Steps 1 to 4 are repeated for 5 cycles</p>	<ul style="list-style-type: none"> <li>Do 5 cycles of CPR.</li> </ul>

## 5. Servicing the i-PAD NF1200-T

### Warranty

- This device is warranted by CU Medical Systems, Inc. against defects in materials and workmanship for two full years from the date of original purchase. During the warranty period, we will repair or, at our option, replace at no charge a product that proves to be defective, provided you return the product, shipping prepaid, to CU Medical Systems, Inc. or its authorized representative.
- This warranty does not apply if the product has been damaged by accident or misuse or as the result of service or modification by an entity other than CU Medical Systems, Inc. or its authorized representatives. IN NO EVENT SHALL CU MEDICAL SYSTEMS BE LIABLE FOR CONSEQUENTIAL DAMAGES.
- Only products with serial numbers and their accessories are covered under this warranty. PHYSICAL DAMAGE CAUSED BY MISUSE OR PHYSICAL ABUSE IS NOT COVERED UNDER THIS WARRANTY. Items such as cables and modules without serial numbers are not covered under this warranty.

### Warranty Disclaimer

- Servicing by unauthorized personnel renders this warranty null and void.
- If the factory seal is broken without proper authorization from CU Medical Systems, Inc., this warranty becomes null and void.

## Service

- The i-PAD NF1200-T must be serviced only by authorized personnel. Unauthorized servicing during the warranty period renders the warranty null and void.
- The i-PAD NF1200-T will be serviced free of charge during the warranty period. After the warranty period, the cost of material and service shall be shouldered by the user.
- When the i-PAD NF1200-T is not operating properly, immediately bring it for servicing to an authorized service center.
- Please fill up the following table with the necessary information when requesting for service.

<b>Product classification</b>		<b>Semi-Automated External Defibrillator Trainer</b>	
<b>Product Name</b>		<b>i-PAD Trainer</b>	<b>Model Name</b>
<b>Serial Number</b>			<b>Date of Purchase</b>
<b>Sales Representative</b>			
<b>User Information</b>	<b>Name</b>		
	<b>Address</b>		
	<b>Contact no.</b>		
<b>Brief description of the problem</b>			



## How to Contact Us

### CU Medical Systems, Inc.

#### ▶ **Product and Order Inquiries:**

##### **Overseas Sales Department**

CU Medical Systems, Inc.

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Uiwang, Gyeonggi, Republic of Korea

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Fax: +82 31 421 9911

##### **Service Request and Technical Support**

##### **Customer Service Team**

CU Medical Systems, Inc.

Dongwha Medical Instrument Complex 1647-1

Dongwha, Munmak, Wonju, Gangwon, Republic of Korea

Tel: +82 33 747 7657

Fax: +82 33 747 7659

<b>Homepage :</b>	www.cu911.com
<b>Sales inquiries :</b>	sales@cu911.com
<b>Technical inquiries :</b>	techinfo@cu911.com
<b>Service :</b>	service@cu911.com

#### ▶ **EU Authorized Representative of CU Medical Systems, Inc.**

Medical Device Safety Service

Schiffgraben 41,

30175 Hannover, Germany

**TEL :** +49 511 6262 8630

**FAX :** +49 511 6262 8633

##### **Branch Office of CU Medical Systems, Inc. in Germany**

Kuester Strasse 6, 30519 Hannover, Germany

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AED Trainer

i-PAD **NF1200-T**

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