

# HR AEDTRAINER-501T

## User's Manual

This HR-501T is training and educational equipment for AED(Automated External Defibrillator) HR-501 Series.



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## 1. Summary

Thank you for purchasing Heart Guardian AED Training equipment HR-501T. HR-501T is training and educational equipment to educate the use of HR-501 Series, Low power automated external defibrillator.

### Warning



This equipment is manufactured only for training and education of Automated External Defibrillator(Low power AED) HR-501 Series, therefore, it cannot be used for first aid under emergency situation.

In this User's Manual, method of using and managing HR- 501T and characteristic of this HR-501T, is explained in detail. To use this HR-501T for a long time under safe operation and without any breakdown, read this operation manual carefully before use without fail, and after you sufficiently learn method of operation and things to be considered, use this HR-501T.

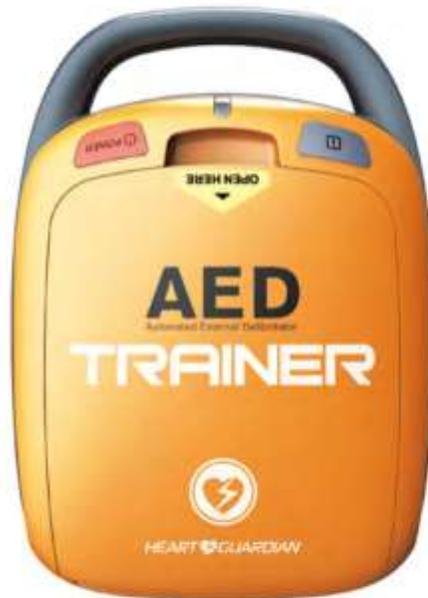
- \*When using this HR-501T, refer to operation manual certainly.
- \*Manufacturer is not responsible for any problem in this HR-501T which is caused by careless operation or careless management of user.
- \*This HR-501T can be repaired or serviced only by manufacturer or certified agent.
- \*For safety and reliability of this HR-501T, use parts or accessories only provided by our company without fail.
- \*Do not disassemble or modify this HR-501T without manufacturer's consent.
- \*Copyright of this operation manual is reserved by Radian Corp. Use, quotation or distribution of this operation manual without permission is strictly prohibited.

## 2. Explanation of HR-501T

### 2.1 Function of HR-501T

- 1) 8 kinds of scenario are provided for appearance of various situations so as to cope with quickly under emergency situation.
- 2) When training, AED simulator is not needed because ECG rhythm is embedded in equipment.
- 3) This HR-501T is operated by battery pack and training can be done conveniently thanks to easy portability.

### 2.2 HR-501T Appearance and details



Name	Explanation
1. Power button	This is button to turn on/off the HR-501T.
2. i button	This button is used, when selecting scenario, together with power button.
3. Handle	This is used when transporting/ moving the HR-501T.
4. Cover	HR-501T is used after opening this cover.
5. Adult/Child selection switch	You can select Adult/Child mode optionally.
6. Shock button	This is button with which electric shock is applied. This equipment is for training; therefore electric shock is not applied actually.
7. Pads connection	This is connection which connects Pads with this equipment. Projecting area of Pads connector shall be connected with groove of Pads connection exactly.

### 3. Preparation

#### 3.1 Components



HR-501T

This equipment is manufactured to use only for training and education of AED, therefore it cannot be used for patient under emergency situation.



Educational Pads (P-303T)

This is educational Pads for using HR-501T. Do not use this Pads

in applying actual AED. Electric shock cannot be applied.

### User's Manual

This is operation manual for educational equipment, HR-501T.



### Carrier

This is used for a transportation or storage of equipment.



### Educational Battery Pack (RC-303T)

This is used as power source to educational equipment, HR-501T. It cannot be used for AED (HR-501). Be careful of impact and do not keep in the place where temperature and humidity is high.



### Recharger and Adaptor (CH-303T) [option]

This is recharger which can recharge battery exclusive for HR-501T. Do not insert non - rechargeable battery into a recharger. Rechargeable battery is indicated explicitly as "Rechargeable Battery."



### 3.2 Preparation

Preparation for using HR-501T can be done very quickly and easily. Prepare the equipment in following order.

- ① Open the packing box and check each component.
- ② Referring to operation manual [Chapter 2: Appearance and name of HR-501T], be fully aware of appearance.
- ③ Keep Pads pack in inner pocket of bag.
- ④ Install battery pack in battery connecting port of equipment
  - ※ Battery pack is not recharged at the time of release from factory, therefore use it after charging without fail.
- ⑤ Keep the equipment safely in the carrier.

## 4. How to Use HR-501T

### 4.1 Order of using HR-501T

- ① If equipment is inside carrier, take it out from bag.
- ② Open cover and turn on the power by pressing power button. -Voice guidance “Equipment Operates Properly”
- ③ Set Adult/Child selection switch.
  - Adult mode: It can be selected for the patient above 8 or whose weight is above 25kg.
  - Child mode: It can be selected for the patient below 7 or whose weight is below 25kg.
  - In case that age and weight of patients are not known, use in adult mode without delaying emergency measures.
  - You can change Adult/Child selection switch anytime after or before power is ON/OFF. If possible, change switch before Pads is attached, and change definitely before voice starts saying “Under ECG analysis”.
- ④ Completely take off jacket and underwear of patient (mannequin). Do not waste time in taking off jacket because time is very important factor for cardiac arrest patient. Take off jacket promptly even by cutting or tearing off patient's clothes. Eliminate moisture or hair on the chest of patient so that Pads can be attached well.
- ⑤ Attach educational Pads to patient (mannequin) and connect educational Pads with equipment.

- Voice guidance saying “Attach Pads to patient as shown in picture”
  - Take out Pads kept in carrying bag and open the package of Pads to take out Pads from bag.
  - Referring to picture drawn in Pads, check the position where it is attached to patient (mannequin).
  - Attach Pads to skin surface of patient. It is not important to classify Pads number 1 and 2, so please pay attention to position of attachment on patient. It is not that important even if attachment position of Pads No. 1 and 2 is changed, so leave as it is and follow voice guidance.
- If Pads for actual AED is not attached well, check whether adhering surface is dried. If Pads is dried, it should be replaced with new one. However, differently from actual AED, even if educational Pads is dried, it does not cause any problem in education. Do not cover clothes or cloth under or above Pads attached to patient (mannequin).
- ⑥ Connect connector of Pads to equipment.



### Caution

electric shock. It doesn't matter if there is any contact because this is educational one.

When Pads attached to patient is connected to equipment, equipment starts to implement ECG analysis. Educational Pads starts to implement ECG analysis when connected to equipment only, even not connected to After a little while.

※ If any scenario is not set separately, educational equipment HR-501T proceeds in following order, i.e. electric shock(Shock)→ CPR→ In case that electric shock is required(VF: ventricular fibrillation)→ Electric shock(Shock)→ CPR→ In case that electric shock is not required(NSR: Normal sinus rhythm). (Scenario 3)

- ⑨ In case that electric shock is required (Ventricular fibrillation is required)
- Voice guidance: “Electric shock is needed”
  - When charging is completed after a while, orange colored shock button flickers.
  - Voice guidance “Press the flashing orange colored shock button”
- ※ Educational equipment HR-501T does not apply electric shock to patient (mannequin) actually.
- ※ When Automated External Defibrillator (HR-501, AED) is used actually, avoid contact between patient and other person certainly before pressing shock button. Therefore check it before use.
- Voice guidance: When user presses shock button, it sounds
- “The electric shocks have been delivered”
- ⑩ Implement CPR according to voice guidance (5 cycles for 2 minutes). After electric shock, voice will guide you through CPR process. Following procedure is one cycle.
- Voice guidance: “Start CPR”
  - Voice guidance: “Compress the chest30 times”,  
Beeper rings 30 times.
  - Voice guidance: “Start mouth to mouth CPR 2 times”  
CPR guidance is repeated every 24 seconds and after repeat of 5 cycles, it operates as below.
  - Voice guidance: “Stop CPR”

⑩ In case that electric shock is not required (VF not required) If electric shock is not required, it operates as below.

-Voice guidance: "No shocks are needed"

-Voice guidance: "Check the patient's pulse"

-Voice guidance: "If there's no pulse, start CPR immediately"

※ During guidance of CPR, equipment does not analyze ECG of patient. When CPR guidance is finished, equipment informs it through voice message and starts to re-analyze ECG of patient.

⑪ Other circumstances

1) If Pads is not attached to patient well or Pads connector is not connected to equipment well, equipment operates as below.

-Voice guidance: "Attach the Pads to the patient as the picture shown"

-Voice guidance: "Firmly attach the Pads to the patient's bare skin" (After CPR)

2) When applying electric shock, if user does not press flickering shock button for more than 25 seconds, equipment does not apply electric shock and move on to CPR stage together with following voice guidance.

-Voice guidance: "The shock button was not pressed. Check the patient's pulse. If there's no pulse, start CPR immediately.

Compress the chest 30 times"

## 4.2 Introduction of CPR

HR-501T provides voice guidance and beeper sound for guidance of CPR

Stage	Voice guidance	How to implement CPR
1	Start CPR	
2	Compression the Chest 30 times	<ul style="list-style-type: none"> <li>Folding both hands, place them between nipples of chest.</li> <li>Press chest so that hands go 4-5cm downwards.</li> </ul>
3	Beeper sound 30 times	<ul style="list-style-type: none"> <li>Implement chest compression according to beeper sound provided by HR-501T.</li> </ul>
4	Start mouth to mouth CPR 2 times	<ul style="list-style-type: none"> <li>Tilt head backwards to open air duct.</li> </ul>
5	Repeat 2-5	<ul style="list-style-type: none"> <li>Implement artificial respiration 2 times. Implement each artificial respiration for 1 second. Blow air sufficiently to the extent that chest of patient swells. Implement artificial respiration 2 times for 5 seconds.</li> </ul>
6	stages 5 times.	<ul style="list-style-type: none"> <li>Implement CPR 5 times.</li> </ul>

※Note: According to guideline for CPR revised in 2015, it would be fine to implement only chest compression without artificial respiration.

## 5. Safety Consideration

In this operation manual, following terms are used to emphasize safety and caution which should be complied with during use of HR-501T. Be fully aware of danger, warning, caution and reference indicated in this operation manual and use this HR-501T safely.

Level of safety/ Possible danger or dangerous factor

Level of safety	Possible danger or dangerous factor
Warning 	HR-501T and educational Pads are for educational purpose only; therefore do not use them for actual cardiac arrest patient.
Warning 	Use of battery and Pads which is not provided by Radian is strictly prohibited.
Warning 	Do not use it where flammable material or gas mixture exists.
Warning 	Do not disassemble or modify HR-501T arbitrarily.
Caution 	Do not apply excessive impact.
Caution 	Pads and battery is consumables, so replace it after use.
Caution 	Be careful that moisture or liquid shall not penetrate into equipment.
Reference 	Use this HR-501T after you are fully aware of method of using equipment, referring to this operation manual.

## 6. Storage and Management of HR-501T

If possible, keep in noticeable place and manager of HR-501T needs to be fully aware of the place where it is kept. Educational Pads and battery is consumables, therefore they should be replaced with new one after consumption.

- Educational battery pack does not indicate residual quantity (amount).
- When battery is consumed completely, power is off.

### Caution during storage of HR-501T



#### Caution

- Avoid exposure to moisture and direct sunlight.
- Scope of workable temperature: 0°C~ 40°C
- Scope of humidity: 5%~ 95% (Place where dew condensation does not occurs)
- Avoid the place where chemicals or explosive gas leaks
- Avoid the place close to electric heating appliances.
- Avoid the place where excessive impact or vibration can be applied.
- Be careful that dust or metal material shall not go in.
- Do not disassemble or dismantle HR-501T. In that case, manufacturer is not responsible at all.
- If surface of HR-501T is stained, soak soft cloth with water or diluted neutral detergent and clean it after squeezing the cloth.

## 7. Recharger(option)

### 01. Composition of HR-501T

Recharger main body + AC adaptor + User's manual



### 02. Operational Voltage

- AC adaptor: Input AC 110 ~ 240V, 50/60hz/ Output 14V 0.6A ±2%
- Voltage: 14VDC

### 03. Recharging Specification

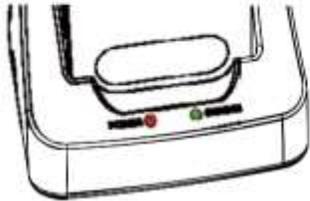
- This HR-501T recharges battery safely under optimal condition by using recharge controller IC.
- Rechargeable battery: RC-303T
- Caution: It is strictly prohibited to recharge BT-303(for AED), BT-304(for basic educational purpose) and other battery.
- Required time to charge: Maximum 5 hours

※Actual time may differ from suggested one, depending on residual amount of battery, frequency of use and other factors.

### 04. How to Recharge

- Before using recharger, read operation manual without fail and then use it.
- Connect AC adaptor to recharger body.
- Connect plug of AC adaptor to 220V power terminal.
- If red light is on at power LED of main body of recharger, it means recharger is ready to operate normally.
- Paying attention to direction of arrow indicated on educational rechargeable battery RC-303T, insert battery to recharger so that the side where "Caution" or red arrow is indicated faces to connecting terminal of recharger.
- If green light is flickering once every 1 second at recharge LED of main body of recharger, it means battery is recharged normally.
- Please check details about indication of recharging condition of LED in main body.





Recharging Condition				
	No power recharge	Under recharge	Completed to recharge	Failure in recharge
Green LED	LED is off  (While battery is inserted)	LED is flickering once every 1 second.	LED is off	LED is flickering quickly four times every 1 second  (While battery is inserted)
Red LED	It is always ON when power is supplied to main body of recharger through adaptor			

### 05. Check point when battery is not recharged

- Check whether method of use is correct in accordance with operation manual.
- Check whether battery is normal or there is no problem in connecting battery with recharger.
- Check connecting condition between main body of recharger and AC adaptor.
- If there is still problem even after checking above check points, inquire to A/S center.

## 8. Important safety guidelines

- If it is not used in accordance with method of use specified in operation manual, fatal risk may follow, such as battery burst, damage to equipment, damage to skin, fire and explosion.
- Be careful that recharge does not touch water. Use in watery or wet place like bathroom may cause fire, overheating or electric shock.
- Avoid use or storage in direct sunlight or hot place, like near heating element.
- Do not modify or disassemble recharger.
- If recharger is used for a long time, do not touch recharger. You may suffer serious low temperature burns.
- Be careful that children would not touch it. Do not allow children to use this HR-501T without guardian.
- When battery is charged at recharger, make sure that connecting terminal of battery faces to recharging terminal of recharger correctly.
- Do not insert wire or similar metal material.
- Use AC adaptor only which is provided by our company.

## 9. Warning

- Do not use educational rechargeable battery for AED.
- Do not use recharger with damaged AC adaptor, or when plug is not completely connected to power socket.
- When battery is not recharged, pull the plug out of power socket. ·If any abnormal situation occurs in recharger such as abnormal odor, noise or smoke, pull socket or AC adaptor out of recharger and inquire to service center.
- Do not place heavy object on recharger, or neglect recharger in unstable place, or wet or dusty place.
- Do not shake recharger while battery is installed.
- During transportation or when impact is applied after battery is installed in recharger, battery may be separated and cause injury, therefore always be careful of using it.
- If you touch recharging terminal, there is risk of electric shock, so do not touch it.
- Do not recharge battery continuously for more than 24 hours, it may cause fire, explosion, leakage of battery fluid or overheating.
- When recharging battery, make sure that battery is in firm contact with terminal of recharger.

## 10. Warranty

- 1) This HR-501T is manufactured in accordance with strict quality control and inspection regulation set by Radian Corp.
- 2) Warranty period for this HR-501T is 2 years from purchase. You can get free repairing service for any breakdown or defect caused during warranty period under normal transportation condition or normal service environment.
- 3) Compensation standard for repairing and replacement of HR-501T abides by consumer damage compensation regulation specified in notification by Economic Planning Board.
- 4) In following cases, certain service fee is recharged after repair.
  - Breakdown caused by natural disaster such as fire, earthquake, stroke of lightning or flood
  - Breakdown caused by improper transportation and careless handling in use
  - Breakdown cause by repair or modification without consent from manufacturer
  - Any breakdown or defect of HR-501T for which warranty period expired
  - Replacement of consumables, such as Pads or battery which is consumed normally during use
- 5) This warranty is valid only in Korea.
- 6) When you request repair, please submit this warranty without fail.
- 7) Keep this warranty carefully because it shall not be issued again.

HR-501T name	AED Trainer	Model name	HR-501T
Date of purchase		Manufacture number	
Customer information	Address		Contact information
	Name		
Shop	Address		Contact
	Shop name		information

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