

# HeartSine® samaritan® PAD 450P AED



Public Access Defibrillator with Integrated CPR Rate Advisor™

## Key Link in the Chain of Survival

Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillators (AEDs) are key links in the chain of survival of sudden cardiac arrest (SCA). Some cardiac events are treatable with effective CPR alone. Others require a combination of effective CPR and the delivery a lifesaving shock by an AED. Either way, every minute counts. Typically, only about five percent of SCA victims survive. However, survival rates can increase up to 74%<sup>1</sup> if CPR and a shock from an AED are provided within three minutes of collapse. Reducing response time by even one or two minutes from collapse to shock can mean the difference between death and survival.<sup>2</sup>

More than a simple AED, the HeartSine® samaritan® PAD 450P with integrated CPR Rate Advisor™ meets the needs of two key links in the chain of survival. Not only can the samaritan PAD 450P deliver a lifesaving shock, it provides real-time visual and verbal feedback to the rescuer on the rate of CPR compressions during an SCA resuscitation – effectively assisting the rescuer to perform CPR.

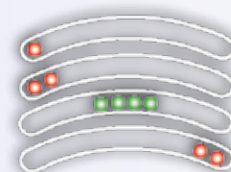


## Real-Time CPR Rate Feedback

**ICG-Based Feedback.** With its revolutionary technology, HeartSine's proprietary CPR Rate Advisor detects the rate of CPR being applied via the defibrillator electrodes, without the addition of accelerometers (or pucks) commonly used in other AED solutions.

**Easy-to-Follow Visual and Verbal Guides.** Designed for ease of use, the samaritan PAD 450P uses easy-to-understand visual and voice prompts to guide the rescuer through the entire CPR process, providing specific feedback on the rate of compressions.

**Improved CPR Fraction.** To improve hands-on time for CPR delivery, the samaritan PAD 450P continues to remind the rescuer to perform CPR when no CPR is detected.



No CPR being performed/"Begin CPR"

"Push Faster"

"Good Speed"

"Push Slower"

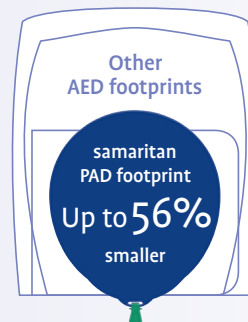
Visual indicators and verbal feedback tell the rescuer if the rate of CPR is in line with the AHA guidelines.

## Ready to Shock

**Highest level of protection from dust and water.** With its IP56 rating, the samaritan PAD 450P defibrillator offers unmatched ruggedness.

**Clinically Validated Technology.**<sup>3</sup> The samaritan PAD 450P utilizes proprietary electrode technology and SCOPE™ biphasic technology, an escalating, low-energy waveform that automatically adjusts for differences in patient impedance.

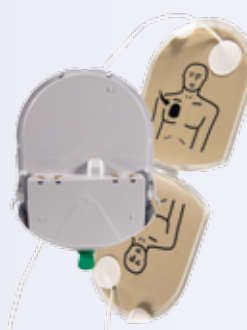
**Most compact design.** At 2.4 lbs and with a compact footprint, the samaritan PAD is the most portable AED on the market.



## Simple to Own

**Two parts, one expiration date.** The innovative Pad-Pak™, an integrated battery and electrode single-use cartridge with one expiration date, offers one simple maintenance change every four years.

**Low cost of ownership.** With a shelf life of four years from date of manufacture, the Pad-Pak offers significant savings over other defibrillators that require separate battery and electrode replacements.



**Pad-Pak and Pediatric-Pak™** with pre-attached electrodes.

The HeartSine samaritan PAD's built-in intelligence and unique Pediatric-Pak ensure the appropriate energy level is delivered for children, between 1 and 8 years of age or up to 55 lbs/25 kg.

CPR Rate Advisor is deactivated when the Pediatric-Pak is in use.



Physical	With Pad-Pak™ Inserted
<b>Size:</b>	8.0 in x 7.25 in x 1.9 in/20 cm x 18.4 cm x 4.8 cm
<b>Weight:</b>	2.4 lbs/1.1 kg

Defibrillator	
<b>Waveform:</b>	Self-Compensating Output Pulse Envelope (SCOPE™) optimized biphasic escalating waveform compensates energy, slope and duration for patient impedance

Patient Analysis System	
<b>Method:</b>	Evaluates patient's ECG, signal quality, electrode contact integrity and patient impedance to determine if defibrillation is required
<b>Sensitivity/Specificity:</b>	Meets IEC/EN 60601-2-4
<b>Impedance Range:</b>	20 - 230 ohms

Environmental	
<b>Operating/Standby Temperature:</b>	32°F to 122°F/0°C to 50°C
<b>Transportation Temperature:</b>	14°F to 122°F/-10°C to 50°C for up to two days. If the device has been stored below 32°F/0°C, it should be returned to an ambient temperature of between 32°F to 122°F/0°C to 50°C for at least 24 hours before use.
<b>Relative Humidity:</b>	5% to 95% (non-condensing)
<b>Enclosure:</b>	IEC/EN 60529 IP56
<b>Altitude:</b>	0 to 15,000 feet/0 to 4,575 meters
<b>Shock:</b>	MIL STD 810F Method 516.5, Procedure 1 (40 G's)
<b>Vibration:</b>	MIL STD 810F Method 514.5+, Procedure 1 Category 4 Truck Transportation – US Highways Category 7 Aircraft – Jet 737 & General Aviation
<b>EMC:</b>	IEC/EN 60601-1-2
<b>Radiated Emissions:</b>	IEC/EN 55011
<b>Electrostatic Discharge:</b>	IEC/EN 61000-4-2 (8 kV)
<b>RF Immunity:</b>	IEC/EN 61000-4-3 80 MHz-2.5 GHz, (10 V/m)
<b>Magnetic Field Immunity:</b>	IEC/EN 61000-4-8 (3 A/m)
<b>Aircraft:</b>	RTCA/DO-160G, Section 21 (Category M) RTCA/DO-227 (TSO/ETSO-C142a)
<b>Falling Height:</b>	3.3 feet/1 meter

Energy Selection	
<b>Pad-Pak:</b>	Shock 1: 150J; Shock 2: 150J; Shock 3: 200J
<b>Pediatric-Pak:</b>	Shock 1: 50J; Shock 2: 50J; Shock 3: 50J

Charging Time	
<b>New Battery:</b>	Typically 150J in < 8 seconds, 200J in < 12 seconds

Event Recording	
<b>Type:</b>	Internal Memory
<b>Memory:</b>	90 minutes of ECG (full disclosure) and event/incident recording
<b>Review:</b>	Custom USB data cable (optional) directly connected to PC with Saver EVO™ Windows-based data review software



Materials Used	
<b>Housing:</b>	ABS, Santoprene
<b>Electrodes:</b>	Hydrogel, Silver, Aluminum and Polyester

Pad-Pak — Electrode and Battery Cartridge	
Adult Pad-Pak (Pad-Pak-01) and Pediatric Pad-Pak (Pad-Pak-02) <i>*TSO/ETSO - certified aviation Pad-Pak also available</i>	
<b>Shelf Life/Standby Life:</b>	See the expiration date on the Pad-Pak/Pediatric-Pak (4 years from manufacture date)
<b>Weight:</b>	0.44 lbs/0.2 kg
<b>Size:</b>	3.93 in x 5.24 in x .94 in/10 cm x 13.3 cm x 2.4 cm
<b>Battery Type:</b>	Disposable single-use combined battery and defibrillation electrode cartridge (lithium manganese dioxide (LiMnO <sub>2</sub> ) 18V)
<b>Battery Capacity (New):</b>	> 60 shocks at 200J or 6 hours of continuous monitoring
<b>Electrodes:</b>	HeartSine samaritan disposable defibrillation pads are supplied as standard with each device
<b>Electrode Placement:</b>	Anterior-lateral (Adult); Anterior-posterior or Anterior-lateral (Pediatric)
<b>Electrode Active Area:</b>	15 in <sup>2</sup> /100 cm <sup>2</sup>
<b>Electrode Cable Length:</b>	3.3 feet/1 meter
<b>Aircraft Safety Test (TSO/ETSO-certified Pad-Pak):</b>	RTCA/DO-227 (TSO/ETSO-C142a)

- Valenzuela TD, et al. 2000. Outcomes of Rapid Defibrillation by Security Officers After Cardiac Arrest in Casinos. *New England Journal of Medicine*. 343:1206-09.
- Mosesso VN Jr. MD, et al. 2002. Proceedings of the National Center for Early Defibrillation Police AED Issues Forum. *Prehospital Emergency Care*. 6(3):273-82.
- Simon J. Walsh, Anthony J.J. McClelland, Colum G. Owens, James Allen, John McCanderson, Colin Turner, A.A. Jennifer Adgey, Efficacy of Distinct Energy Delivery Protocols Comparing Two Biphasic Defibrillators for Cardiac Arrest, *Am J Cardiol* 2004;94:378-380.

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 The HeartSine products described in this brochure meet the European Medical Directive requirement.  
 UL Classified. See complete marking on product.

**CAUTION:** U.S. Federal law restricts this device to sale by or on the order of a licensed practitioner.

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 HeartSine®

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