Electrode Choice Is Important
Electrodes are not only the primary point of contact between the patient and the defibrillator, but in many ways they form the critical link between the AED and its ability to deliver lifesaving energy to the patient.

HeartSine Electrodes
HeartSine electrode technology provides an outstanding four-year shelf life without a significant increase in cost or compromise in specification.

This same technology provides good electrical performance, rapid recovery time and greatly reduced noise.

HeartSine electrodes are large and have very low impedance, both of which are critical to successful defibrillation.\textsuperscript{1, 2, 3}

Due to both the high stability and low impedance of the electrodes it is possible to acquire additional Impedance Cardiography (ICG) information that can be utilized to provide detailed CPR feedback.

How It Works
Traditional electrodes use a tin/aluminum alloy conductor with a hydrochloride gel layer. The aging mechanism involves a chemical reaction between the chloride and the aluminium, which usually limits the useful life of the electrode to up to 2.5 years.

HeartSine electrode technology is based on an entirely different structure. HeartSine electrodes are formed by printing a thick layer of silver onto a substrate. The addition of a hydrochloride gel layer initiates a chemical reaction with the silver during the manufacturing process. After approximately one week, this reaction has formed a thin layer of silver chloride, creating a stable and self-limiting layer.

This technology effectively creates a defibrillation electrode that will be stable for at least four years. In addition, the silver/chloride interface exhibits very low offset potentials and fast recovery characteristics, providing good noise and recovery performance.

![Diagram of HeartSine Electrode and Traditional Electrode](image-url)
INDICATIONS FOR USE: The HeartSine Samaritan PAD 360P (SAM 360P), HeartSine Samaritan PAD 450P (SAM 450P), and HeartSine Samaritan PAD 350P (SAM 350P) are indicated for use on victims of cardiac arrest who are exhibiting the following signs: unconscious, not breathing, without circulation (without a pulse). The devices are intended for use by personnel who have been trained in their operation. Users should have received training in basic life support/AED, advanced life support or a physician-authorized emergency medical response training program. The devices are indicated for use on patients greater than 8 years old or over 55 lbs (25 kg). Do not delay CPR treatment if you are not sure of the exact age or weight of the patient. They are indicated for use on children between 1 and 8 years of age or up to 55 lbs (25 kg) when used with the Pediatric Pak (“Ped-Pak”) (Ped-Pak-01 or Ped-Pak-07). They are not indicated for use on neonates or patients under 1 year of age. If the Pediatric Pak or an alternative suitable defibrillator is not available, you may use an adult Pad-Pak. The SAM 360P is a fully automatic defibrillator. When required, it will deliver a shock to the patient WITHOUT user intervention. The SAM 450P CPR Rate Advisor is currently only intended to provide feedback on the patient’s rate of CPR. Do NOT use the HeartSine Samaritan Pad Pak in the vicinity of oxygen or other flammable anesthetic agents. In the presence of high oxygen concentration or flammable anesthetic agents, do not shock the patient. If the patient is immersed in water, do not shock the patient. Shocking a patient while the patient is immersed in water may cause interference. Use of the device outside the operating and storage ranges specified in the User Manual may cause the device to malfunction or reduce the shelf life of the Pad Pak. Do not immerse any part of the HeartSine Samaritan PAD in water or any type of fluid. Do not turn on the device unnecessarily as this may reduce the longevity of the device. Do not use any unauthorized accessories with the device as the HeartSine Samaritan PAD may malfunction if non-approved accessories are used. Dispose of the device in accordance with national or local regulations. Check with the relevant local government health department for information about any requirements associated with ownership and use of a defibrillator in the region where it is to be used. Pad-Paks: Check expiration date. Saver EVO™ Software: Download the complete HeartSine Samaritan PAD user’s guide for more information. In case of emergency, please consult the User Manual at www.heartsine.com for the complete list of indications, precautions, contraindications, warnings, precautions, potential adverse effects, safety and effectiveness data, instructions for use and other important information.

EMEA/APAC
HeartSine Technologies Ltd.
203 Airport Road West
Belfast, Northern Ireland
BT3 9ED
Tel: +44 28 9093 9400
Fax: +44 28 9093 9401
info@heartsine.com

U.S./Americas
HeartSine Technologies LLC
121 Friends Lane, Suite 400
Newtown, PA 18940
Toll Free: (866) 478 7463
Tel: +1 215 860 8100
Fax: +1 215 860 8192
info@heartsine.com

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

References
1. Dalzell G, Cunningham S, Anderson J, Adgey J. Electrode pad size, transthoracic impedance and success of external ventricular defibrillation. Regional Medical Cardiology Center, Royal Victoria Hospital, Belfast, Northern Ireland.