

# The POWERHEART® AED G3 Plus

Our flagship automated external defibrillator, complete with RescueCoach™ and CPR metronome to pace chest compressions

## Appropriate Locations

- Work places
- Transportation
- Sporting venues
- Schools
- Retail & hotels
- Recreation facilities
- Places of worship
- Any public place

## Primary Benefits

**Reliability.** The device is Rescue Ready®, meaning it self-tests daily to ensure it works when you need it.

### Ease of Use.

- The RescueCoach™ voice prompts and metronome guide you through a very stressful rescue situation.
- The device knows when to (and when not to) deliver the shock.
- The text screen lends extra help in noisy and chaotic environments.

**Assurance.** The unit has a 7-year warranty and a 4-year full battery replacement guarantee.



## Rescue Ready® performance sets Powerheart AEDs apart

Our Rescue Ready technology distinguishes us among competitors.

- + Every day, to ensure anytime functionality, the AED self checks all main components (battery, hardware, software, and pads).
- + Every week, the AED completes a partial charge of the high-voltage electronics.
- + Every month, the AED charges the high-voltage electronics to full energy.

If anything is amiss, the Rescue Ready status indicator on the handle changes from green to red and the device will emit an audible alert to prompt the user to service the unit. In sum, a Powerheart AED is Rescue Ready when a life depends on it.

## Most anyone can operate a Powerheart AED G3 Plus

In the chaos that follows sudden cardiac arrest, concerned but untrained people are hesitant to intervene. Will they know what to do? There's a life on the line!

We designed the Powerheart AED G3 Plus with RescueCoach™ voice prompts to talk rescuers through the steps.

- + When the rescuer applies the pads, the device analyzes the heart rhythm and “knows” when to deliver (or not deliver) the shock.
- + The shock is delivered automatically, with no button to push, and no human intervention. (We also make a semi-automatic version.)
- + After the shock, the unit prompts for CPR with a built-in metronome that sets the pace for proper chest compressions.

In a University of Pennsylvania simulated rescue study, the AED G3 Plus helped untrained adults deliver CPR of a quality similar to that of trained professionals.<sup>1</sup>

<sup>1</sup> Peer reviewed study by Benjamin S Abella et. al. “Untrained Volunteers Perform High Quality CPR When using an Automatic External Defibrillator with a CPR Voice Prompting Algorithm,” *Circulation*. 2007; 116:11\_437.

# The POWERHEART® AED G3 Plus

TECHNICAL SPECIFICATIONS	
<b>DEFIBRILLATOR</b> Operations Waveform Allowable Energy Range (J) Protocols Factory default (nominal) Voice prompts CPR cadence Text screen Visible indicators Audible alerts Synchronized shock Pacemaker pulse detection Programmable Pediatric capability Warranty	9390A (fully automatic version) and 9390E (semi-automatic version) STAR® biphasic truncated exponential Escalating Variable Energy (VE) 95J to 351J 5 energy protocols available 200VE, 300VE, 300VE RescueCoach voice instructions guide user confidently through rescue process Metronome for compression frequency Displays rescue prompts to guide user through rescue process as well as additional critical rescue information for EMS responders Rescue Ready status indicator, SmartGauge battery status indicator, service indicator, PAD indicator, text display Voice prompt, system alert Built-in automatic synchronization feature Yes Yes, via MDLink® Yes 7 years
<b>PADS</b> Minimum combined surface area Extended length of lead wire Supplied Type Shelf life	228 cm <sup>2</sup> (35.3 sq in) 1.3 m (4.3 ft) Self-checking, pre-connected to the AED Adult, pre-gelled, self-adhesive, disposable, non-polarized (identical pads can be placed in either position) defibrillation pads 2 years
<b>BATTERY</b> Type Guarantee	IntelliSense® lithium battery 4-year, full operational replacement
<b>AUTOMATIC SELF-TESTS</b> Daily Weekly Monthly	Battery, pads (presence and function), internal electronics, SHOCK/CONTINUE button, and software Battery, pads (presence and function), internal electronics, partial energy charge, SHOCK/CONTINUE button, and software Battery, pads (presence and function), internal electronics, full energy charge cycle, SHOCK/CONTINUE button, and software
<b>EVENT DOCUMENTATION</b> Type Internal memory ECG playback Communications Clock synchronization	Internal memory 60 minutes ECG data with event annotation, multiple rescue functionality Viewable via Rescuelink® software via PC Serial port or USB (via adapter) for PC with Windows Rescue event time stamp of event data
<b>DIMENSIONS (H x D x W)</b>	8 cm x 31 cm x 27 cm (3.3 in x 12.4 in x 10.6 in)
<b>WEIGHT</b>	3.1 kg (6.6 lb)
<b>MODEL NUMBERS</b> 9390A-501 9390E-501	Powerheart AED G3 Plus Automatic with 2005 AHA/ERC Guidelines protocols Powerheart AED G3 Plus Semi-Automatic with 2005 AHA/ERC Guidelines protocols  Each AED package includes (1) defibrillator, (1) IntelliSense battery (9146), (1) pair of defibrillation pads, and (1) Quick Start Tool Kit including CD-Rom with AED Manual, Training Video, Rescuelink and MDLink, and serial communication cable

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# Powerheart G3<sup>®</sup> Plus Automatic (9390A) External Defibrillator With Biphasic Waveform

AHA/ERC 2005 Guidelines Protocol

Bid Specifications

## 1 Operation and Use:

- 1.1 AED shall deliver a shock (if required) without requiring the operator to push a button.
- 1.2 Electrodes shall always be installed and ready to use in AED prior to rescue.
- 1.3 Electrodes shall be non-polarized and interchangeable allowing the user to place either electrode in the proper body position.
- 1.4 AED shall have voice, visual and text prompts to guide the user through the rescue process in a simple step-by-step manner based on the 2005 AHA/ERC Guidelines for CPR and defibrillation.
- 1.5 AED shall have a backlit LCD text display, which features elapsed rescue time, number of shocks administered, and a CPR countdown.
- 1.6 AED shall have pediatric capability with the use of pediatric electrodes.
- 1.7 AED shall have 0.08mV Asystole threshold, baseline to peak.
- 1.8 AED shall have Rescue Coach™ voice instructions to guide user through rescue process.
- 1.9 AED shall have CPR Cadence device with a metronome sound or verbal prompt, "Press," to guide compression frequency.

## 2 Waveform/Algorithm:

- 2.1 AED shall utilize a single-shock sequence of "variable" escalating energy.
- 2.2 AED waveform shall deliver variable energy levels for a broad range of patient impedances (25 Ohms-180 Ohms).
- 2.3 AED shall offer multiple programmable energy settings: 200VE-300VE-300VE, 200VE-200VE-300VE, 150VE-200VE-200VE, 150VE-150VE-200VE, and 200VE-200VE-200VE.
- 2.4 AED shall provide an allowable energy range of 95J-351J depending on programmed energy settings and patient impedance.
- 2.5 Waveform shall be Biphasic Truncated Exponential.
- 2.6 Waveform shall compensate for a patient's impedance level.
- 2.7 Waveform shall respond to patient's Cellular Response Curve by providing charge balancing, with a waveform that achieves a charge balancing index (CBI) of greater than 99% over most patient impedances<sup>1</sup>.
- 2.8 AED shall not shock patient inadvertently if the patient does not require a shock.
- 2.9 AED shall automatically synchronize delivery of a defibrillation shock with the patient's electrocardiogram R-wave. If AED is unable to synchronize, it will deliver an unsynchronized shock if necessary.
- 2.10 AED shall automatically disarm if the victim converts to a non-shockable heart rhythm after a shock decision is made (device is charged). AED shall inform the rescuer that the heart rhythm has changed and enter the CPR mode.
- 2.11 AED shall automatically detect noise (artifact) with the ECG rhythm, and alert the rescuer of the condition via a voice prompt.

<sup>1</sup> STAR Biphasic Waveform—Optimized Energy Delivery for Successful Defibrillation White Paper, pp. 3-5, p/n 400781, Rev 03, 2002

## **Powerheart G3<sup>®</sup> Plus Automatic (9390A) External Defibrillator With Biphasic Waveform**

AHA/ERC 2005 Guidelines Protocol  
Bid Specifications

### **3 Automated Self Tests:**

- 3.1 AED shall perform a daily automated self-test to confirm presence and function of electrodes and wires, and test the battery, electrical circuitry and software.
- 3.2 AED shall perform a weekly automated self-test to test battery, electrical circuitry and software, plus a partial charge of 25 Joules.
- 3.3 AED shall perform a monthly automated self-test to test battery, electrical circuitry and software, plus a full load capacitor charge and discharge test to ensure device readiness for full-scale rescue attempts.
- 3.4 AED shall warn user with visual and audible alerts at a minimum of 70 dBA if the system fails any of the automated self-tests and is not ready for use.
- 3.5 The audible warning tone will continue to sound every 30 seconds until the lid is opened or battery energy is low.
- 3.6 AED shall perform an automatic self-test when the lid of the device is opened.
- 3.7 The AED visual status indicator should be visible even when battery is completely discharged.

### **4 Electrodes:**

- 4.1 One pair of electrodes shall be included with each AED.
- 4.2 Electrodes shall be supplied in a ready-to-use, sealed package that contains one pair of self-adhesive electrodes with attached wires and a connector.
- 4.3 Electrodes shall be disposable.
- 4.4 Electrodes shall be shipped to the customer with a minimum shelf life of two years.
- 4.5 Electrodes shall be non-polarized and be interchangeable
- 4.6 A diagram to assist in proper electrode placement shall be available on the electrode package and on each individual electrode.
- 4.7 Each electrode shall have a minimum surface area of 114 cm<sup>2</sup>, with a combined surface area of 228 cm<sup>2</sup>.
- 4.8 Electrode wire shall have a nominal length of 1.3 m.
- 4.9 Electrodes shall be compatible when using Cardiac Science manufactured adapters, with Quik-Combo™ and Zoll Stat-Padz™ systems allowing electrodes to be used with ALS defibrillators.

### **5 Battery:**

- 5.1 AED shall use one, non-rechargeable extended life lithium battery for operation (called Cardiac Science Extended Life Intellisense<sup>®</sup> Lithium Battery).
- 5.2 Typical capacity of a new battery shall be able to provide at least 290 discharges at 20°C.
- 5.3 Expected shelf life of a new battery shall be five years from the date of manufacture.
- 5.4 AED shall incorporate a SmartGuage Battery Status Indicator notifying the end user of battery capacity during use in quarter life increments.
- 5.5 Battery shall incorporate a memory chip giving complete history of battery use (installation date and shocks provided, etc.).
- 5.6 Battery shall be “operationally” warranted for four (4) years from date of installation into a Powerheart G3 AED.

## **Powerheart G3<sup>®</sup> Plus Automatic (9390A) External Defibrillator With Biphasic Waveform**

AHA/ERC 2005 Guidelines Protocol

Bid Specifications

### **6 ECG Recording and Information Documentation:**

- 6.1 AED shall provide 60 minutes of internal event documentation.
- 6.2 AED shall provide multiple rescue functionality.
- 6.3 AED shall permit ECG and event information to be downloaded via a serial cable to a Windows<sup>®</sup> based PC after a rescue.
- 6.4 AED clock shall be able to be synchronized to PC clock through direct connection to a PC.
- 6.5 Optional supporting software shall allow medical directors or their designees to program devices to meet their protocols for AED use. Adjustable parameters shall include detection rates for VF/VT & SVT, Variable energy protocol options, energy level after conversion, etc.
- 6.6 Data transfer, review and management software and required cables shall be included with each AED.

### **7 Physical and Environmental:**

- 7.1 AED weight shall not exceed 6.6 lbs. (14.52 kg), which includes AED, battery and electrodes.
- 7.2 AED shall be water and foreign object resistant to a minimum of IEC 60529, IP24 certification levels.
- 7.3 AED shall have a molded handle formed in the case for easy portability.
- 7.4 Dimensions of AED shall not exceed 3.3 in. (8.4 cm) in height, 10.6 in. (26.9 cm) in width and 12.4 in. (31.5 cm) in length.
- 7.5 AED shall be capable of operating and stand-by in temperatures ranging from 0°C to +50°C (32°F to +122°F), and relative humidity ranging from 5%-95% (non-condensing).
- 7.6 AED without battery and electrodes shall be able to withstand storage at -30°C to +65°C (-22°F to +149°F).
- 7.7 AED shall meet or exceed IEC 55011/CISPR 11, Group 1, Class B specifications for EM (radiated).
- 7.8 AED shall meet or exceed ANSI/AAMI DF39, <0.5mT on surface, except within 5 cm of the lid magnet and the speaker.
- 7.9 AED shall meet or exceed IEC 61000-4-3, Level X, (20V/m); IEC 60601-2-4, Section 36.202.3 (20-V/m); AAMI DF39, Section 3.3.21.2.1 immunity tests (E-M).
- 7.10 AED shall meet or exceed IEC 61000-4-8, 80A/M; IEC 60601-2-4, Section 36.202.8; AAMI DF39, Section 3.3.21.2.3 80A/m, 47.5Hz-1320Hz immunity tests (magnetic).
- 7.11 AED shall meet or exceed IEC 61000-4-2, Level 3; IEC 60601-2-4, Section 36.202.2; 6KV contact discharge, 8KV air gap discharge for immunity tests (ESD).
- 7.12 AED shall meet or exceed IEC 60068-2-32 one meter free fall drop test.
- 7.13 AED shall meet or exceed IEC 60068-2-29 bump test, 40g and 6000 bumps.
- 7.14 AED shall meet or exceed IEC 60068-2-64 vibration (random) test, 10Hz-2KHz, 0.005-0.0012 g<sup>2</sup>/Hz.
- 7.15 AED shall meet or exceed IEC 60068-2-6 vibration (sine) test, 10Hz-60Hz, 0.15 mm and 60Hz-150Hz, 2g.

## **Powerheart G3<sup>®</sup> Plus Automatic (9390A) External Defibrillator With Biphasic Waveform**

AHA/ERC 2005 Guidelines Protocol  
Bid Specifications

### **8 Program Implementation:**

- 8.1 Program will provide Medical Direction / Medical Prescription as required by State Laws.
- 8.2 CPR/AED training shall be provided by trainers employed by the AED manufacturer.
- 8.3 Training will consist of 4 hours of American Heart Association Heartsaver CPR/AED instruction.
- 8.4 All training materials (books, certification cards and mannequins) to be provided by the AED manufacturer.
- 8.5 CPR/AED certification will be for 2 years.
- 8.6 Instructors will consist of Paramedics, EMTs or Nurses.
- 8.7 Student to CPR/AED practice mannequin shall be a 1-1 ratio.
- 8.8 Program will track AEDs by location and serial number.
- 8.9 Program will provide tracking of training roster, certification dates & recertification.
- 8.10 Program shall provide e-mail reminder notices to site contact regarding recertification scheduling, check/order battery, and re-order pads prior to expiration.
- 8.11 Program will train up to 10 students per class per location.

### **9 Technical Service/Warranty:**

- 9.1 AED shall require no yearly planned service or calibration regardless of frequency of use.
- 9.2 AED shall have a 7-year warranty on defects in materials and workmanship.
- 9.3 IntelliSense lithium battery shall have a full replacement operating warranty for four (4) years from date of installation.
- 9.4 Technical service shall be available 24 hours per day, 7 days per week, 365 days per year.

# Powerheart G3® Plus AED Semi-Automatic (9390E) External Defibrillator With Biphasic Waveform

## AHA/ERC 2005 Guidelines Protocol Bid Specifications

### 1 Operation and Use:

- 1.1 Electrodes shall always be installed and ready to use in AED prior to rescue.
- 1.2 Electrodes shall be non-polarized and interchangeable allowing the user to place either electrode in the proper body position.
- 1.3 AED shall have voice, visual and text prompts to guide the user through the rescue process in a simple step-by-step manner based on the 2005 AHA/ERC Guidelines for CPR and defibrillation.
- 1.4 AED shall have a backlit LCD text display, which features elapsed rescue time, number of shocks administered, and a CPR countdown.
- 1.5 AED shall have pediatric capability with the use of pediatric electrodes.
- 1.6 AED shall have 0.08mV Asystole threshold, baseline to peak.
- 1.7 AED shall have Rescue Coach™ voice instructions to guide user through rescue process.
- 1.8 AED shall have CPR Cadence device with a metronome sound or verbal prompt, “press,” to guide compression frequency.

### 2 Waveform/Algorithm:

- 2.1 AED shall utilize a single-shock sequence of “variable” escalating energy.
- 2.2 AED waveform shall deliver variable energy levels for a broad range of patient impedances (25 Ohms-180 Ohms).
- 2.3 AED shall offer multiple programmable energy settings: 200VE-300VE-300VE, 200VE-200VE-300VE, 150VE-200VE-200VE, 150VE-150VE-200VE, and 200VE-200VE-200VE.
- 2.4 AED shall provide an allowable energy range of 95-351J depending on programmed energy settings and patient impedance.
- 2.5 Waveform shall be Biphasic Truncated Exponential.
- 2.6 Waveform shall compensate for a patient’s impedance level.
- 2.7 Waveform shall respond to patient’s Cellular Response Curve by providing charge balancing, with a waveform that achieves a charge balancing index (CBI) of greater than 99% over most patient impedances<sup>1</sup>.
- 2.8 AED shall not shock patient inadvertently if the patient does not require a shock.
- 2.9 AED shall automatically synchronize delivery of a defibrillation shock with the patient’s electrocardiogram R-wave. If AED is unable to synchronize, it will deliver an unsynchronized shock if necessary.
- 2.10 AED shall automatically disarm if the victim converts to a non-shockable heart rhythm after a shock decision is made (device is charged). AED shall inform the rescuer that the heart rhythm has changed and enter the CPR mode.
- 2.11 AED shall automatically detect noise (artifact) with the ECG rhythm, and alert the rescuer of the condition via a voice prompt.

<sup>1</sup>STAR Biphasic Waveform- Optimized Energy Delivery for Successful Defibrillation White Paper, pp. 3-5, p/n 400781, Rev 03, 2002

# Powerheart G3® Plus AED Semi-Automatic (9390E) External Defibrillator With Biphasic Waveform

## AHA/ERC 2005 Guidelines Protocol Bid Specifications

### 3 Automated Self Tests:

- 3.1 AED shall perform a daily automated self-test to confirm presence and function of electrodes and wires, and test the battery, electrical circuitry and software.
- 3.2 AED shall perform a weekly automated self-test to test battery, electrical circuitry and software, plus a partial charge of 25 Joules.
- 3.3 AED shall perform a monthly automated self-test to test battery, electrical circuitry and software, plus a full load capacitor charge and discharge test to ensure device readiness for full-scale rescue attempts.
- 3.4 AED shall warn user with visual and audible alerts at minimum of 70dBA if the system fails any of the automated self-tests and is not ready for use.
- 3.5 The audible warning tone will continue to sound every 30 seconds until the lid is opened or battery energy is low.
- 3.6 AED shall perform an automatic self-test when the lid of the device is opened.
- 3.7 The AED visual status indicator should be visible even when battery is completely discharged.

### 4 Electrodes:

- 4.1 One pair of electrodes shall be included with each AED.
- 4.2 Electrodes shall be supplied in a ready-to-use, sealed package that contains one pair of self-adhesive electrodes with attached wires and a connector.
- 4.3 Electrodes shall be disposable.
- 4.4 Electrodes shall be shipped to the customer with a minimum shelf life of two years.
- 4.5 Electrodes shall be non-polarized and be interchangeable.
- 4.6 A diagram to assist in proper electrode placement shall be available on the electrode package and on each individual electrode.
- 4.7 Each electrode shall have a minimum surface area of 114 cm<sup>2</sup>, with a combined surface area of 228 cm<sup>2</sup>.
- 4.8 Electrode wire shall have a nominal length of 1.3 m.
- 4.9 Electrodes shall be compatible when using Cardiac Science manufactured adapters, with Quik-Combo™ and Zoll Stat-Padz™ systems allowing electrodes to be used with ALS defibrillators.

### 5 Battery:

- 5.1 AED shall use one, non-rechargeable extended life lithium battery for operation (called Cardiac Science Extended Life Intellisense® Lithium Battery).
- 5.2 Typical capacity of a new battery shall be able to provide at least 290 discharges at 20°C.
- 5.3 Expected shelf life of a new battery shall be five years from the date of manufacture.
- 5.4 AED shall incorporate a SmartGauge Battery Status Indicator notifying the end user of battery capacity during use in quarter life increments.
- 5.5 Battery shall incorporate a memory chip giving complete history of battery use (installation date and shocks provided).
- 5.6 Battery shall be “operationally” warranted for four (4) years from date of installation into a Powerheart G3 AED.



# Powerheart G3® Plus AED Semi-Automatic (9390E) External Defibrillator With Biphasic Waveform

## AHA/ERC 2005 Guidelines Protocol Bid Specifications

### 6 ECG Recording and Information Documentation:

- 6.1 AED shall provide 60 minutes of internal event documentation.
- 6.2 AED shall provide multiple rescue functionality.
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- 6.4 AED clock shall be able to be synchronized to PC clock through direct connection to a PC.
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- 6.6 Data transfer, review and management software and required cables shall be included with each AED.

### 7 Physical and Environmental:

- 7.1 AED weight shall not exceed 6.6 lbs. (14.52 kg), includes AED, battery and electrodes.
- 7.2 AED shall be water and foreign object resistant to a minimum of IEC 60529 IP24 certification levels.
- 7.3 AED shall have a molded handle formed in the case for easy portability.
- 7.4 Dimensions of AED shall not exceed 3.3 in. (8.4 cm) in height, 10.6 in. (26.9 cm) in width and 12.4 in. (31.5 cm) in length.
- 7.5 AED shall be capable of operating and stand-by in temperatures ranging from 0°C to +50°C (32°F to +122°F), and relative humidity ranging from 5%-95% (non-condensing).
- 7.6 AED without battery and electrodes shall be able to withstand storage at -30°C to +65°C (-22°F to +149°F).
- 7.7 AED shall meet or exceed IEC 55011/CISPR 11, Group 1, Class B specifications for EM (radiated).
- 7.8 AED shall meet or exceed ANSI/AAMI DF39, <0.5mT on surface, except within 5cm of the lid magnet and the speaker.
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- 7.10 AED shall meet or exceed IEC 61000-4-8; 80 A/M; IEC 60601-2-4, Section 36.202.8; AAMI DF39, Section 3.3.21.2.3 80A/m, 47.5Hz-1320Hz immunity tests (magnetic).
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- 7.12 AED shall meet or exceed IEC 60068-2-32 one meter free fall drop test.
- 7.13 AED shall meet or exceed IEC 60068-2-29 bump test, 40g and 6000 bumps.
- 7.14 AED shall meet or exceed IEC 60068-2-64 vibration (random) test, 10Hz-2KHz, 0.005-0.0012 g<sup>2</sup> /Hz.
- 7.15 AED shall meet or exceed IEC 60068-2-6 vibration (sine) test, 10Hz-60Hz, 0.15 mm and 60Hz-150Hz, 2g.

# **Powerheart G3® Plus AED Semi-Automatic (9390E)**

## **External Defibrillator With Biphasic Waveform**

### **AHA/ERC 2005 Guidelines Protocol**

### **Bid Specifications**

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#### **8 Program Implementation:**

- 8.1 Program will provide Medical Direction / Medical Prescription as required by State Laws.
- 8.2 CPR / AED training shall be provided by trainers employed by the AED manufacturer.
- 8.3 Training will consist of 4 hours of American Heart Association Heartsaver CPR / AED instruction.
- 8.4 All training materials (books, certification cards and mannequins) to be provided by the AED manufacturer.
- 8.5 CPR / AED certification will be for 2 years.
- 8.6 Instructors will consist of Paramedics, EMTs or Nurses.
- 8.7 Student to CPR / AED practice mannequin shall be a 1-1 ratio.
- 8.8 Program will track AEDs by location and serial number.
- 8.9 Program will provide tracking of training roster, certification dates & recertification.
- 8.10 Program shall provide e-mail reminder notices to site contact regarding recertification scheduling, check/order battery, and re-order pads prior to expiration.
- 8.11 Program will train up to 10 students per class per location.

#### **9 Technical Service/Warranty**

- 9.1 AED shall require no yearly planned service or calibration regardless of frequency of use.
- 9.2 AED and battery shall have a 7-year warranty on defects in materials and workmanship.
- 9.3 IntelliSense lithium battery shall have a full replacement operating warranty for four (4) years from date of installation.
- 9.4 Technical service shall be available 24 hours per day, 7 days per week, 365 days per year.

# The POWERHEART® AED G3 Pro®

Our fully-equipped automated external defibrillator for medical professionals

## Primary Users

EMS responders, hospitals,  
and medical professionals

## Primary Benefits

**Control.** The semi-automatic operation, manual override option, and 3-lead ECG monitoring capability give you the tools you need to be in complete control.

**Reliability.** The device is Rescue Ready®, meaning it self-tests daily to ensure it works when you need it.

### Ease of use.

- The color ECG display (an industry first) shows critical patient information.
- The built-in metronome (which can be switched off) can set the pace for CPR compressions.
- In AED mode, the device knows when to (and when not to) deliver a shock.
- You can choose between rechargeable and non-rechargeable battery options.

**Assurance.** The G3 Pro comes with a 7-year warranty, one of the longest in the industry.



## Rescue Ready® performance sets Powerheart AEDs apart

Our Rescue Ready technology distinguishes us among competitors.

- + Every day, to ensure anytime functionality, the AED self checks all main components (battery, hardware, software, and pads).
- + Every week, the AED completes a partial charge of the high-voltage electronics.
- + Every month, the AED charges the high-voltage electronics to full energy.

If anything is amiss, the Rescue Ready status indicator on the handle changes from green to red and the device will emit an audible alert to prompt the user to service the unit. In sum, a Powerheart AED is Rescue Ready when a life depends on it.

## Join the LA County Fire Department – equip your units with Powerheart AEDs

Los Angeles County Fire, the Australian Defence Force, and many others protect millions of lives. They chose the Powerheart AED G3 Pro to equip their units.

The G3 Pro is designed for medically trained EMS responders. It uses a proprietary analysis algorithm (RHYTHMx™) to proactively monitor for life-threatening arrhythmias so you can take control when necessary.

- + The color ECG displays the victim's heart rate, waveform, number of shocks delivered, and the elapsed rescue time – exactly what emergency workers need to know.
- + Our escalating STAR® biphasic technology customizes defibrillation therapy for each patient.
- + Features include non-committed shock, pacemaker detection, and synchronized shock.

Choose the professional AED so many others have chosen: the Powerheart AED G3 Pro.

# The POWERHEART® AED G3 Pro®

TECHNICAL SPECIFICATIONS	
<b>DEFIBRILLATOR</b> Operations Waveform Allowable Energy Range (J) Protocols Factory default (nominal) Control buttons Voice prompts Display content  Display specifications  Visible indicators Audible alerts Synchronized shock Pacemaker pulse detection Programmable Pediatric capability Warranty	Semi-automatic with manual override STAR® biphasic truncated exponential Escalating Variable Energy (VE) 95J to 351J 5 energy protocols available 200VE, 300VE, 300VE Shock button and manual override Clear, concise voice prompts guide user through the rescue Displays written instructions to guide user through rescue process, SmartGauge battery status indicator, service indicator, pad indicator, text display, ECG display 3.5 in (8.9 cm) diagonal transreflective TFT display with 320 x 240 pixels (quarter VGA). Resolution is 113.5 dots/in (4.47 dots/mm) Rescue Ready status indicator Voice prompt, system alert Built-in automatic synchronization feature Yes Yes, via MDLink* Yes 7 years
<b>PADS</b> Minimum combined surface area Extended length of lead wire Supplied Type Shelf life	35.3 sq in (228 cm <sup>2</sup> ) 4.3 ft (1.3 m) Self-checking, pre-connected to the AED Adult, pre-gelled, self-adhesive, disposable, defibrillation pads 2 years
<b>BATTERY OPTIONS</b> Type Warranty Type Warranty	9145 IntelliSense® lithium battery 1-year, or 12 hours of use whichever occurs first 9144 rechargeable battery 1-year
<b>AUTOMATIC SELF-TESTS</b> Daily Weekly Monthly	Battery, pads (presence and function), internal electronics, SHOCK/CONTINUE button, and software Battery, pads (presence and function), internal electronics, partial energy charge, SHOCK/CONTINUE button, and software Battery, pads (presence and function), internal electronics, full energy charge cycle, SHOCK/CONTINUE button, and software
<b>EVENT DOCUMENTATION</b> Type Internal memory ECG playback Communications Clock synchronization	Internal memory 60 minutes ECG data with event annotation, multiple rescue functionality Viewable via Rescuelink® software via PC Serial port or USB (via adapter) for PC with Windows Rescue event time stamp of event data
<b>DIMENSIONS (H x D x W)</b>	3.3 in x 12.4 in x 10.6 in (8 cm x 31 cm x 27 cm)
<b>WEIGHT</b>	6.6 lb (3.1 kg)
<b>MODEL NUMBERS</b> 9300P-501  9300P-601	Powerheart AED G3 Pro Automated External Defibrillator Each AED package includes: (1) defibrillator, (1) IntelliSense battery (9145), (1) pair of defibrillation pads, and (1) Quick Start Tool Kit: includes Quick Start Guide, CDROM with AED Manual, Training Video, Rescuelink and MDLink  Powerheart AED G3 Pro Automatic External Defibrillator with Rechargeable Battery. Battery charger sold separately Each AED package includes: (1) defibrillator, (1) Rechargeable Battery (9144), (1) pair of defibrillation pads, and (1) Quick Start Tool Kit: includes Quick Start Guide, CD-ROM with AED Manual, Training Video, Rescuelink and MDLink

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# Powerheart<sup>®</sup> AED G3 Pro Automated External Defibrillator With Biphasic Waveform

AHA/ERC 2005 Guidelines Protocol  
Bid Specifications

## 1 Operation and Use:

- 1.1 AED shall have three operating modes: AED Mode, Manual Mode and ECG Monitoring Mode.
- 1.2 AED shall require an operator to push no more than one shock button during a rescue in AED Mode.
- 1.3 AED shall allow Advanced Life Support rescuers to initiate Manual Override functionality to determine a shockable rhythm and deliver a defibrillation shock if desired.
- 1.4 AED shall have option for manual function, programmable by the medical director
- 1.5 AED shall have voice, visual and text prompts to guide the user through the rescue process in a simple step-by-step manner based on the 2005 AHA/ERC Guidelines for CPR and defibrillation.
- 1.6 AED shall allow Advanced Life Support rescuers to administer ongoing 3-lead ECG monitoring to a conscious and breathing patient via optional ECG cable (Lead II).
- 1.7 Electrodes shall be installed and ready to use in AED prior to rescue.
- 1.8 AED shall have a full color TFT display, which features text prompts, ECG, heart rate, battery capacity, visual impedance indicator, elapsed rescue time, number of shocks administered, and a CPR countdown.
- 1.9 AED shall automatically analyze patient ECG and signal quality using automatic algorithms to determine if a shock is required.
- 1.10 AED shall have pacemaker pulse detection capability.
- 1.11 AED shall have pediatric defibrillation capability.
- 1.12 AED shall have 0.08mV Asystole threshold, baseline to peak.

## 2 Waveform/Algorithm:

- 2.1 AED shall utilize escalating energy.
- 2.2 AED waveform shall deliver variable energy levels for a broad range of patient impedances (25 Ohms-180 Ohms).
- 2.3 AED shall offer multiple programmable energy settings: 200VE-300VE-300VE, 200VE-200VE-300VE, 150VE-200VE-200VE, 150VE-150VE-200VE, 200VE-200VE-200VE.
- 2.4 AED shall provide an allowable energy range of 95J-351J depending on programmed energy settings and patient impedance.
- 2.5 Waveform shall be Biphasic Truncated Exponential.
- 2.6 Waveform shall actively compensate for a patient's impedance level.
- 2.7 Waveform shall respond to patient's Cellular Response Curve<sup>1</sup>.
- 2.8 AED shall not shock patient inadvertently if the patient does not require a shock.
- 2.9 AED shall have the capability to program detection rates for VF/VT (can be programmed by medical directors or their designees using MDLink software).
- 2.10 AED shall have a SVT therapy option (can be programmed by medical director or their designee using MDLink software)
- 2.11 AED shall automatically synchronize delivery of a defibrillation shock with the patient's electrocardiogram R-wave. If AED is unable to synchronize, it will deliver an unsynchronized shock if necessary.
- 2.12 AED shall automatically disarm if the victim converts to a non-shockable heart rhythm after a shock decision is made (device is charged). AED shall inform the rescuer that the heart rhythm has changed and reanalyze the victim's heart rhythm (non-committed shock feature).
- 2.13 AED shall automatically detect noise (artifact) with the ECG rhythm, and alert the rescuer of the condition via a voice prompt.

<sup>1</sup> STAR Biphasic Waveform—Optimized Energy Delivery for Successful Defibrillation White Paper, pp. 3-5, p/n 400781, Rev 03, 2002

# **Powerheart® AED G3 Pro Automated External Defibrillator With Biphasic Waveform**

AHA/ERC 2005 Guidelines Protocol  
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## **3 Automated Self Tests:**

- 3.1 AED shall perform a daily automated self-test to confirm presence and function of electrodes and wires, and test the battery, electrical circuitry and software.
- 3.2 AED shall perform a weekly automated self-test with automated self-test to test battery, electrical circuitry and software, plus a partial load capacitor charge of electronics.
- 3.3 AED shall perform a monthly automated self-test to test battery, electrical circuitry and software, plus a full load capacitor charge and discharge test to ensure device readiness for rescue attempts.
- 3.4 AED shall warn user with audible and visual alerts at a minimum of 70 dB if the system fails any of the automated self-tests and is not ready for use.
- 3.5 The audible warning tone will continue to sound every 30 seconds until the lid is opened or the battery energy is low.
- 3.6 AED shall perform an automatic self-test when the lid of the device is opened.
- 3.7 The AED visual status indicator should be visible even when battery is completely discharged.

## **4 Electrodes:**

- 4.1 One pair of electrodes shall be included with each AED.
- 4.2 Electrodes shall be supplied in a ready-to-use, sealed package that contains one pair of self-adhesive electrodes with attached wires and a connector.
- 4.3 Electrodes shall be disposable.
- 4.4 Electrodes shall be shipped to the customer with a minimum shelf life of two years.
- 4.5 A diagram to assist in proper electrode placement shall be available on the electrode package and on each individual electrode.
- 4.6 Electrodes shall have a minimum combined surface area of 228 cm<sup>2</sup>.
- 4.7 Electrode wire shall have a nominal length of 1.3 m.

## **5 Battery:**

- 5.1 AED shall use one, non-rechargeable lithium battery for operation (called Cardiac Science Intellisense® Lithium Battery).
- 5.2 Typical capacity of a new battery shall be able to provide at least 290 discharges at 20°C.
- 5.3 Expected shelf life of a new battery shall be five years from the date of manufacture.
- 5.4 AED shall incorporate a SmartGuage Battery Status Indicator notifying the end user of battery capacity during use in quarter life increments.
- 5.5 Battery shall incorporate a memory chip giving complete history of battery use (installation date and shocks provided, etc.).
- 5.6 Battery shall be warranted for one (1) year from date of installation into a Powerheart AED G3 Pro or 12 hours of use, whichever is sooner.

## **6 Rechargeable Battery:**

- 6.1 AED shall be compatible with an optional, rechargeable battery.
- 6.2 Rechargeable shall allow a minimum of 60 shocks and 3 hours of ECG display on a full charge.
- 6.3 Rechargeable battery life shall be 2.5 years or 300 charge-discharge cycles, whichever is sooner.
- 6.4 Rechargeable battery will charge to full capacity in three hours (4.5 hours if completely depleted).
- 6.5 Charger for the rechargeable battery shall accept IEC power cables.
- 6.6 The battery shall be based on lithium ion technology.
- 6.7 Must have built in status and remaining capacity indicators.

# **Powerheart<sup>®</sup> AED G3 Pro Automated External Defibrillator With Biphasic Waveform**

AHA/ERC 2005 Guidelines Protocol  
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## **7 ECG Monitoring Cable and Electrodes:**

- 7.1 ECG electrodes shall indicate position of leads on the patient by labeling L, R, F as well as corresponding color convention.
- 7.2 ECG monitoring cable shall meet AAMI specifications and AHA standards and provide options for IEC specifications.

## **8 ECG Recording and Information Documentation:**

- 8.1 AED shall provide up to 60 minutes of internal event documentation.
- 8.2 AED shall provide multiple rescue functionality.
- 8.3 AED shall permit ECG and event information to be downloaded via an infrared cable to a Windows<sup>®</sup> based PC after a rescue.
- 8.4 AED clock shall be able to be synchronized to PC clock through direct connection to a PC.
- 8.5 Optional supporting software shall allow medical directors or their designees to program devices to meet their protocols for AED use. Adjustable parameters shall include detection rates for VF/VT & optional SVT therapy, variable energy protocol options, energy level after conversion, etc.
- 8.6 Data transfer, review and management software shall be included with each AED.

## **9 Color Display Specifications:**

- 9.1 Display shall be full color with a minimum diagonal size of 8.9 cm (3.5 in), 320x240 pixels (quarter VGA) and Resolution 4.47 dots/mm (113.5 dots/in)
- 9.2 Color display shall show 5 seconds of data with a sweep speed of 1.39 cm/s and ECG bandwidth of 3-33 Hz.

## **10 Visual and Audio Impedance Indicator:**

- 10.1 AED shall display a visual indicator of total transthoracic impedance between the two defibrillation pads.
- 10.2 AED shall assess adequate pad placement, quality and integrity, and assessment between pads off and pads shorted through determining an acceptable patient impedance range after pads are placed on patient.
- 10.3 AED shall prompt "Press pads firmly to patient's bare skin" if better skin contact is required.

## **11 Physical and Environmental:**

- 11.1 AED weight shall not exceed 7.0 lbs. (includes AED, battery and electrodes).
- 11.2 AED shall have enclosure protection resistant to water and foreign objects to a minimum of IEC 60529, IP24 certification levels.
- 11.3 AED shall have a molded handle formed in the case for easy portability.
- 11.4 AED shall be self contained and does not require a case to in order to function.
- 11.5 The NVI and expiration date of the pre-connected electrodes shall be visible when AED is in case.
- 11.6 Dimensions of AED shall not exceed 3.3 in (8.4 cm) in height, 10.6 in (26.9 cm) in width and 12.4 in (31.5 cm) in length.
- 11.7 AED shall be capable of operating and stand-by in temperatures ranging from 0°C to +50°C (32°F to +122°F); relative humidity ranging from 5%-95% (non-condensing); pressure ranging from 57kPa (+15,000ft) to 103kPa (-500ft).

## **Powerheart® AED G3 Pro Automated External Defibrillator With Biphasic Waveform**

AHA/ERC 2005 Guidelines Protocol  
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- 11.8 AED without battery and electrodes shall be able to withstand storage at  $-30^{\circ}\text{C}$  to  $+65^{\circ}\text{C}$  ( $22^{\circ}\text{F}$  to  $+149^{\circ}\text{F}$ ).
- 11.9 AED shall meet or exceed IEC 55011/CISPR 11, Group 1, Class B specifications for E-M (radiated).
- 11.10 AED shall meet or exceed ANSI/AAMI DF39 for magnetic emissions,  $<0.5\text{mT}$  on surface, except within 5cm of the lid magnet and the speaker.
- 11.11 AED shall meet or exceed IEC 61000-4-3, Level X, (20V/m); IEC 60601-2-4, Section 36.202.3 (20-V/m); AAMI DF39, Section 3.3.21.2.1 immunity tests (E-M).
- 11.12 AED shall meet or exceed IEC 61000-4-8, 80 A/M; IEC 60601-2-4, Section 36.202.8; AAMI DF39, Section 3.3.21.2.3 80A/m, 47.5Hz – 1320Hz immunity tests (magnetic).
- 11.13 AED shall meet or exceed IEC 61000-4-2, Level 3; IEC 60601-2-4, Section 36.202.2; 6KV contact discharge, 8KV air gap discharge for immunity tests (ESD).
- 11.14 AED shall meet or exceed IEC 60068-2-32 one meter free fall drop test.
- 11.15 AED shall meet or exceed IEC 60068-2-29 bump test, 40g and 6000 bumps.
- 11.16 AED shall meet or exceed IEC 60068-2-64 vibration (random) test, 10Hz-2KHz, 0.005-0.0012  $\text{g}^2/\text{Hz}$ .
- 11.17 AED shall meet or exceed IEC 60068-2-6 vibration (sine) test, 10Hz-60Hz, 0.15 mm and 60Hz-150 Hz, 2g.

### **12 Training:**

- 12.1 Training shall be available with a patient simulator that is separate from the AED that can be used for scenario-based training.
- 12.2 The patient simulator shall be incapable of delivering energy.
- 12.3 Training videos on the AED operation shall be included with each device.

### **13 Technical Service/Warranty:**

- 13.1 AED shall require no yearly planned service or calibration regardless of frequency of use.
- 13.2 AED shall have a 7-year warranty on parts and labor (exclusive of battery and electrodes).
- 13.3 Extended Life IntelliSense lithium battery shall be warranted for one (1) year from date of installation into a Powerheart AED G3 Pro or 12 hours of use, whichever is sooner.
- 13.4 Technical service shall be available 24 hours per day, 7 days per week, 365 days per year.



# POWERHEART® AED G3 Accessories and Supplies

Designed to give you the most out of your Powerheart AED

## Primary Users

### G3 and G3 Plus Accessories

- Health care facilities
- Sports venues
- Schools
- Recreation facilities
- Places of worship
- Any public place

### G3 Pro® Accessories:

- EMS responders
- Hospitals
- Medical professionals

## Primary Benefits

**Ease of use.** Adult non-polarized electrodes (9131) can be placed in either position on the chest (upper-right or lower-left), reducing confusion and saving you valuable time during a rescue.

**Reliability.** The 9146 medical-grade Intellisense® lithium battery for the Powerheart AED G3 and G3 Plus comes with a four-year full operational guarantee.

**Flexibility for professionals.** Professional responders will appreciate additional tools for the G3 Pro including a 3-lead ECG cable, polarized electrodes, and a rechargeable battery.

**Pediatric applications.** Our pediatric electrodes reduce the energy delivered by Powerheart AED G3 models to the appropriate, pediatric dose for children up to 8 years of age or 55 lbs (25 kg).



## Electrodes for every emergency situation

Cardiac Science offers electrodes for a variety of rescue situations. We offer non-polarized electrodes that simplify AED use for inexperienced users, and pediatric defibrillator electrodes that reduce defibrillation energy to the appropriate pediatric dose. Polarized electrodes are available for use by trained medical responders.

## Batteries you can rely on

All Powerheart AEDs use a single, medical-grade Intellisense lithium battery (as opposed to the multiple, consumer-grade batteries required by some AED manufacturers). Each Intellisense battery can deliver at least nine shocks after the AED indicates the battery is low.

## Patient cables for the G3 Pro

The three-lead patient cable enables professional responders using the G3 Pro to view the patient's ECG without using defibrillation pads. Cables are available with either AHA or IEC labeling.

## Kits to support an AED rescue

Cardiac science has an array of kits — from a basic AED Ready Kit to the Total Response Rescue Kits — to support an AED rescue. The basic kit includes gloves, wipes, and CPR masks while total response kits provide emergency oxygen and a first aid kit.

## Data cables

We also offer data cables for communication between the AED and a computer making it possible to quickly upload rescue data and transfer critical information.

# POWERHEART® AED G3 Accessories and Supplies

Accessories and supplies available	
<b>ELECTRODES</b>	
9131 Adult Electrodes	These easy-to-use non-polarized adult defibrillation pads (either pad can be applied to either side) are intended for use with the G3 Plus, G3 Automatic, and G3 Semi-Automatic. Two-year shelf life.
9660 Adult Electrodes	These polarized (site-specific) adult defibrillation pads are intended for use to defibrillate and monitor with the G3 Pro. Two-year shelf life.
9730 Pediatric Electrodes	These pediatric defibrillation pads can be used with any AED G3 to reduce defibrillation energy to the appropriate pediatric dose. Two-year shelf life.
<b>BATTERIES</b>	
9146 Intellisense Lithium Battery	For use with the G3 and G3 Plus, this Intellisense lithium battery comes with a 4-year, full operational replacement guarantee.
9145 Intellisense Lithium Battery	For use with the G3 Pro, this Intellisense lithium battery comes with a 1-year from deployment or 12 hours of use (whichever comes first) full operational replacement guarantee.
9144 Rechargeable Battery	This rechargeable battery is for use with the G3 Pro. A fully charged battery delivers 60 to 100 shocks and has a usable lifetime of 2.5 years or 300 discharge cycles.
9044 Battery Charger	This charger will recharge the 9144 battery for the G3 Pro to full capacity.
<b>PATIENT CABLES</b>	
5111-001 3-Lead Cable, AHA labeling	This 3-lead ECG cable for G3 Pro allows users to see a patient's ECG on the Pro's color screen without requiring the user to place defibrillation pads. This cable comes labeled according to AHA standards. Two-year shelf life.
5111-002 3-Lead Cable, IEC labeling	This 3-lead ECG cable for G3 Pro allows users to see a patient's ECG on the Pro's color screen without requiring the user to place defibrillation pads. This cable comes labeled according to IEC standards. Two-year shelf life.
<b>RESCUE KITS</b>	
5550-005 AED Ready Kit	This basic ready kit includes nitrile gloves, razor, scissors, towel, gauze, antiseptic wipes, one-way filter mask for CPR, and carabineer attachment.
5587-001 Total Response Rescue Kit	The kit includes an emergency oxygen cylinder, oxygen tubing, oxygen regulator, personal mask with oxygen inlet, a blood-borne pathogens responder kit, blood-borne pathogens cleanup kit, and first aid kit. Includes a wire wall-mount rack so you can store the kit on the wall near your AED.
5588-001 Total Response Rescue Backpack	The sturdy backpack with adjustable straps includes an emergency oxygen cylinder, oxygen tubing, oxygen regulator, personal mask with oxygen inlet, a blood-borne pathogens responder kit, blood-borne pathogens cleanup kit, and first aid kit.
<b>DATA CABLES</b>	
162-0108-001 Infrared Communications Cable	For use with G3 Pro, this cable allows users to download rescue data to a PC running Rescuelink software.
170-2120 Serial Communications Cable	For use with all G3 and G3 Plus models, this cable allows users to download rescue data to a PC running Rescuelink software.

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# POWERHEART® AED Storage Solutions

Keep your AED highly visible and easy-to-access

## Primary Users

- Health care facilities
- Sports venues
- Schools
- Recreation facilities
- Places of worship
- Any public place

## Primary Benefits

**Ease of access.** Wall-mount cabinets and sleeves let you keep your AED in one clearly marked location known to everyone responsible for safety at your facility.

**Visibility.** Wall-mount cabinets and sleeves are clearly marked "AED," so even someone new to your facility can identify the AED if an emergency occurs.

**Portability.** The Cardiac Science backpack and carry case solutions make it easy to transport your AED while keeping one or both hands free. These are ideal for transporting your AED to an athletic field or remote location.

**Emergency communication.** The audible alarm and strobe light options on the wall-mount cases ensure that people in your facility are aware of an emergency in progress.



Shown: 50-00395-20  
Semi-Recessed AED  
Wall Cabinet with alarm

When seconds count, make sure you can find your AED

Having a highly visible, well-marked cabinet to house your facility's AED can make a life-saving difference when sudden cardiac arrest occurs.

Cardiac Science offers a variety of wall-mount cases, metal sleeves, racks, and baskets to keep your AED visible and accessible to rescuers at all times. The audible alarm and strobe light options for the wall-mount cases can help you make sure that people nearby are alerted that an emergency is in progress.

These storage solutions are ideal for busy facilities including schools, corporations, airports, health clubs, hotels, manufacturing plants, and sport arenas.

Take your AED into the field

You can extend the assurance of heart safety to events that take place outdoors. Having a backpack or case to transport an AED to an athletic field or outdoor concert, or over rough terrain for search-and-rescue efforts, means not having to waste precious minutes running back to a field house or vehicle should an emergency occur.

Cardiac Science provides a range of carrying options suitable for professional rescue teams, scouting organizations, or community recreation groups.



180-2022-001  
AED Wall Storage sleeve



168-6000-001  
AED Carry Bag



168-0064-001  
AED Rescue Backpack



# POWERHEART® Storage Solutions

PRODUCT LIST	
50-00392-10	<b>Surface-Mount AED Wall Cabinet</b> This well-constructed metal cabinet stores your AED in an easily accessible location.
50-00392-20	<b>Surface-Mount AED Wall Cabinet with alarm, security enabled</b> This well-constructed metal cabinet comes with an alarm that is triggered when the door is opened to make it widely known that an emergency is in progress. This alarm can be wired into a building's security system and can be enabled or disabled with the key provided.
50-00392-30	<b>Surface-Mount AED Wall Cabinet with alarm and strobe, security enabled</b> This well-constructed metal cabinet comes with an alarm and highly visible strobe light that are triggered when the door is opened to make it widely-known that an emergency is in progress. This alarm can be wired into a building's security system and can be enabled or disabled with the key provided.
50-00400-10	<b>Fully Recessed AED Wall Cabinet</b> This well-constructed metal cabinet stores your AED in an easily accessible location.
50-00400-20	<b>Fully Recessed AED Wall Cabinet with alarm, security enabled</b> This well-constructed metal cabinet comes with an alarm that is triggered when the door is opened to make it widely known that an emergency is in progress. This alarm can be wired into a building's security system and can be enabled or disabled with the key provided.
50-00400-30	<b>Fully Recessed AED Wall Cabinet with alarm and strobe, security enabled</b> This well-constructed metal cabinet comes with an alarm and highly visible strobe light that are triggered when the door is opened to make it widely-known that an emergency is in progress. The alarm can be wired into a building's security system and can be enabled or disabled with the key provided.
50-00395-10	<b>Semi-Recessed AED Wall Cabinet</b> This well-constructed metal cabinet stores your AED in an easily accessible location.
50-00395-20	<b>Semi-Recessed AED Wall Cabinet with alarm, security enabled</b> This well-constructed metal cabinet comes with an alarm that is triggered when the door is opened to make it widely known that an emergency is in progress. This alarm can be wired into a building's security system and can be enabled or disabled with the key provided.
50-00395-30	<b>Semi-Recessed AED Wall Cabinet with alarm &amp; strobe, security enabled</b> This well-constructed metal cabinet comes with an alarm and highly visible strobe light that are triggered when the door is opened to make it widely-known that an emergency is in progress. The alarm can be wired into a building's security system and can be enabled or disabled with the key provided.
180-2022-001	<b>AED Wall Storage Sleeve</b> This metal wall-mounted storage sleeve is an economical and attractive way to keep your AED in an easily accessible location.
168-0064-001	<b>AED Rescue Backpack</b> A storage and carry solution for users who take their AED with them on the go, including bicycle medic teams, search and rescue teams, and scout troops. The AED fits in an easily accessible outer pouch. The spacious main compartment is filled with pouches for essential rescue supplies
9157-004	<b>Hard-Sided Waterproof AED Carry Case</b> This case is a great storage solution for rugged environments. The Powerheart AED fits safely and snugly inside while the durable outer shell protects against bumps, drops, and the elements
168-6000-001	<b>AED Carry Bag</b> This semi-rigid carry bag with adjustable shoulder strap provides additional protection for your 9300-series AED and makes it easy to grab the unit in a hurry. The large back pouch stores extra electrodes. The Rescue Ready® indicator and pads' expiration date are visible at all times.
170-2145-001	<b>Wall-Mount Wire Rack for AED</b>
170-2146-001	<b>Wall-Mount Wire Rack for AED, with straps</b>
170-2150-001	<b>Wall-Mount Basket for AED</b>
170-2152-001	<b>Wall-Mount Basket for AED, with straps</b>

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# The POWERHEART® AED G3 Trainer

Our simple-to-use trainer that offers a realistic, hands-on rescue experience

## Users

- AED/CPR instructors
- Designated workplace responders
- EMS responders
- Anyone who wants to learn how to help a sudden cardiac arrest victim

## Primary Benefits

**Practice.** The device gives students a realistic way to prepare for a real-life situation.

**Ease of use.** Clear, instructive voice prompts guide students through a simulated rescue, and the built-in metronome sets the proper chest compression pace.

**Flexibility.** The device provides four pre-programmed rescue scenarios and simulates shockable and non-shockable rhythm situations.



The Powerheart AED G3 Trainer plays a key role in your successful AED program

Purchasing AEDs gets you most of the way to rescue readiness. But experiencing a simulated hands-on rescue situation is the best way to prepare for a sudden cardiac arrest emergency.

The Powerheart AED G3 Trainer helps you prepare. It simulates different rescue situations and gives students valuable, realistic practice.

- + The wireless remote control allows instructors to spontaneously vary the rescue conditions while students respond to make things more realistic.
- + The device can be paused in mid-scenario to allow instructors to emphasize an important point; then, it picks up the simulation where it left off.
- + The device mimics both automatic and semi-automatic AED operation.
- + The device allows students to practice with adult or pediatric Powerheart AED G3 Trainer reusable training pads.

The Trainer provides an easy way to stay in practice

The G3 Trainer helps you meet training requirements set by various Federal, state, and/or international regulations. The advantage of having your own trainer is you'll be able to practice rescue readiness whenever you like – perhaps when a new employee or colleague joins your team.

Trust us, if you ever face a real-life sudden cardiac arrest, you'll be glad you trained with the G3 Trainer.

Note these important G3 Trainer accessories

9035 Adult reusable training pads

9725 Pediatric reusable training pads



# The POWERHEART® AED G3 Trainer

TECHNICAL SPECIFICATIONS	
<b>INTERACTIVE</b>	<ul style="list-style-type: none"> <li>Four preprogrammed, simulated rescue scenarios correspond to American Heart Association (AHA) and European Resuscitation Council (ERC) guidelines and the AHA Heartsaver AED curriculum.</li> <li>Instructor advances rescue stages and scenarios through an infrared, wireless remote control.</li> <li>Instructor may at any time pause and interrupt the rescue scenario for anecdotal comments or additional instruction.</li> <li>Students hear voice prompts that would typically occur during an actual rescue attempt.</li> </ul>
<b>VERSATILE</b>	<p>With the Cardiac Science AED Trainer, the instructor has the ability to:</p> <ul style="list-style-type: none"> <li>Change the rescue scenarios based on class needs.</li> <li>Vary simulated cardiac rhythms from shockable to non-shockable.</li> <li>Monitor the skills of the student while responding to a simulated rescue attempt.</li> <li>Select from any of the multiple languages preprogrammed within the AED Trainer.</li> <li>Utilize with the Powerheart AED G3 family of products.</li> </ul>
<b>ECONOMICAL</b>	<ul style="list-style-type: none"> <li>Reusable training electrodes.</li> <li>Compatible with any type of CPR manikin.</li> <li>Powered by two alkaline D-cell (training device) and two AAA (remote control) batteries.</li> <li>Dual modes can be easily configured for semi-automatic and fully-automatic training.</li> </ul>
<b>SAFE</b>	<ul style="list-style-type: none"> <li>Simulated delivery of defibrillation pulse for training purposes.</li> <li>Cardiac Science AED Trainers will not generate or deliver defibrillation shocks.</li> </ul>
<b>DIMENSIONS (H x D x W)</b>	7 cm x 29 cm x 21 cm (2.8 in x 11.4 in x 8.3 in)
<b>PART NUMBERS</b>	<p>English (US), French, Portuguese (Brazil), Spanish, Italian, Greek English (UK), Czech, Hungarian, Polish, Russian, Slovene English (US), English (UK), Swedish, Danish, Norwegian, Finnish English (UK), French, Dutch, German, Portuguese (Iberian) English (US), Mandarin (Mainland), Cantonese, Mandarin (Taiwan), English (AUS) English (US), Arabic, Turkish, Croatian, Slovakian, Lithuanian English (US), Icelandic, Hebrew, Thai, Korean, Indonesian</p> <p>Each AED Trainer Package includes: (1) trainer, (1) set of training pads, (1) user manual, (1) infrared, wireless remote control, and (1) fully automatic control panel overlay</p>

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# Powerheart G3<sup>®</sup> AED Automatic/Semi-Automatic (9300A/E) External Defibrillator With Biphasic Waveform

## Bid Specifications

### 1 Operation and Use:

- 1.1 AED shall deliver a shock (if required) without requiring the operator to push a button (9300A only). 9300E will require operator to push a button to deliver a shock.
- 1.2 Electrodes shall always be installed and ready to use in AED prior to rescue.
- 1.3 Electrodes shall be non-polarized and interchangeable allowing the user to place either electrode in the proper body position.
- 1.4 AED shall have voice, visual and text prompts to guide the user through the rescue process in a simple step-by-step manner based on the 2005 AHA/ERC Guidelines for CPR and defibrillation.
- 1.5 AED shall have a backlit LCD text display, which features elapsed rescue time, number of shocks administered, and a CPR countdown.
- 1.6 AED shall have pediatric capability with the use of pediatric electrodes.
- 1.7 AED shall have 0.08mV Asystole threshold, baseline to peak.

### 2 Waveform/Algorithm:

- 2.1 AED shall utilize a single-shock sequence of “variable” escalating energy.
- 2.2 AED waveform shall deliver variable energy levels for a broad range of patient impedances (25 Ohms-180 Ohms).
- 2.3 AED shall offer multiple programmable energy settings: 200VE-300VE-300VE, 200VE-200VE-300VE, 150VE-200VE-200VE, 150VE-150VE-200VE, 200VE-200VE-200VE).
- 2.4 AED shall provide an allowable energy range of 95J-351J depending on programmed energy settings and patient impedance.
- 2.5 Waveform shall be Biphasic Truncated Exponential.
- 2.6 Waveform shall actively compensate for a patient's impedance level.
- 2.7 Waveform shall respond to patient's Cellular Response Curve by providing charge balancing, with a waveform that achieves a charge balancing index (CBI) of greater than 99% over most patient impedances<sup>1</sup>.
- 2.8 AED shall not shock patient inadvertently if the patient does not require a shock.
- 2.9 AED shall automatically synchronize delivery of a defibrillation shock with the patient's electrocardiogram R-wave. If AED is unable to synchronize, it will deliver an unsynchronized shock if necessary.
- 2.10 AED shall automatically disarm if the victim converts to a non-shockable heart rhythm after a shock decision is made (device is charged). AED shall inform the rescuer that the heart rhythm has changed and enter the CPR mode
- 2.11 AED shall automatically detect noise (artifact) with the ECG rhythm, and alert the rescuer of the condition via a voice prompt.

<sup>1</sup> STAR Biphasic Waveform—Optimized Energy Delivery for Successful Defibrillation White Paper, pp. 3-5, p/n 400781, Rev 03, 2002

# **Powerheart G3<sup>®</sup> AED Automatic/Semi-Automatic (9300A/E) External Defibrillator With Biphasic Waveform**

## **Bid Specifications**

### **3 Automated Self Tests:**

- 3.1 AED shall perform a daily automated self-test to confirm presence and function of electrodes and wires, and test the battery, electrical circuitry and software.
- 3.2 AED shall perform a weekly automated self-test to test battery, electrical circuitry and software, plus a partial charge of 25 Joules. AED shall perform a monthly automated self-test to test battery, electrical circuitry and software, plus a full load capacitor charge and discharge test to ensure device readiness for full-scale rescue attempts.
- 3.3 AED shall warn user with visual and audible alerts at minimum of 70 dBA if the system fails any of the automated self-tests and is not ready for use.
- 3.4 The audible warning tone will continue to sound every 30 seconds until the lid is opened or battery energy is low.
- 3.5 AED shall perform an automatic self-test when the lid of the device is opened.
- 3.6 The AED visual status indicator should be visible even when battery is completely discharged.

### **4 Electrodes:**

- 4.1 One pair of electrodes shall be included with each AED.
- 4.2 Electrodes shall be supplied in a ready-to-use, sealed package that contains one pair of self-adhesive electrodes with attached wires and a connector.
- 4.3 Electrodes shall be disposable.
- 4.4 Electrodes shall be shipped to the customer with a minimum shelf life of two years.
- 4.5 Electrodes shall be non-polarized and be interchangeable
- 4.6 A diagram to assist in proper electrode placement shall be available on the electrode package and on each individual electrode.
- 4.7 Each electrode shall have a minimum surface area of 114 cm<sup>2</sup>, with a combined surface area of 228 cm<sup>2</sup> for both pads.
- 4.8 Electrode wire shall have a nominal length of 1.3 m.
- 4.9 Electrodes shall be compatible when using Cardiac Science manufactured adapters, with Quik-Combo™ and Zoll Stat-Padz™ systems allowing electrodes to be used with ALS defibrillators.

### **5 Battery:**

- 5.1 AED shall use one, non-rechargeable extended life lithium battery for operation (called Cardiac Science Extended Life Intellisense® Lithium Battery).
- 5.2 Typical capacity of a new battery shall be able to provide at least 290 discharges at 20°C.
- 5.3 Expected shelf life of a new battery shall be five years from the date of manufacture.
- 5.4 AED shall incorporate a SmartGuage Battery Status Indicator notifying the end user of battery capacity during use in quarter life increments.
- 5.5 Battery shall incorporate a memory chip giving complete history of battery use (installation date and shocks provided, etc.).
- 5.6 Battery shall be “operationally” warranted for four (4) years from date of installation into a Powerheart G3 AED.



# Powerheart G3<sup>®</sup> AED Automatic/Semi-Automatic (9300A/E) External Defibrillator With Biphasic Waveform

## Bid Specifications

### 6 ECG Recording and Information Documentation:

- 6.1 AED shall provide 60 minutes of internal event documentation.
- 6.2 AED shall provide multiple rescue functionality.
- 6.3 AED shall permit ECG and event information to be downloaded via a serial cable to a Windows<sup>®</sup> based PC after a rescue.
- 6.4 AED clock shall be able to be synchronized to PC clock through direct connection to a PC.
- 6.5 Optional supporting software shall allow medical directors or their designees to program devices to meet their protocols for AED use. Adjustable parameters shall include detection rates for VF/VT & SVT, Variable energy protocol options, 2nd shock energy level, energy level after conversion, etc.
- 6.6 Data transfer, review and management software and required cables shall be included with each AED.

### 7 Physical and Environmental:

- 7.1 AED weight shall not exceed 6.6 lbs. (includes AED, battery and electrodes).
- 7.2 AED shall be water and foreign object resistant to a minimum of IEC 60529, IP24 certification levels.
- 7.3 AED shall have a molded handle formed in the case for easy portability.
- 7.4 Dimensions of AED shall not exceed 3.3 in (8.4 cm) in height, 10.6 in (26.9 cm) in width and 12.4 in (31.5 cm) in length.
- 7.5 AED shall be capable of operating and stand-by in temperatures ranging from 0°C to +50°C (32°F to +122°F), and relative humidity ranging from 5%-95% (non-condensing).
- 7.6 AED without battery and electrodes shall be able to withstand storage at -30°C to +65°C (-22°F to +149°F).
- 7.7 AED shall meet or exceed IEC 55011/CISPR 11, Group 1, Class B specifications for EM (radiated).
- 7.8 AED shall meet or exceed ANSI/AAMI DF39, <0.5mT on surface, except within 5 cm of the lid magnet and the speaker.
- 7.9 AED shall meet or exceed IEC 61000-4-3, Level X, (20V/m); IEC 60601-2-4, Section 36.202.3 (20-V/m); AAMI DF39, Section 3.3.21.2.1 immunity tests (E-M).
- 7.10 AED shall meet or exceed IEC 61000-4-8, 80A/M; IEC 60601-2-4, Section 36.202.8; AAMI DF39, Section 3.3.21.2.3 80A/m, 47.5Hz-1320Hz immunity tests (magnetic).
- 7.11 AED shall meet or exceed IEC 61000-4-2, Level 3; IEC 60601-2-4, Section 36.202.2; 6KV contact discharge, 8KV air gap discharge for immunity tests (ESD).
- 7.12 AED shall meet or exceed IEC 60068-2-32 one meter free fall drop test.
- 7.13 AED shall meet or exceed IEC 60068-2-29 bump test, 40g and 6000 bumps.
- 7.14 AED shall meet or exceed IEC 60068-2-64 vibration (random) test, 10Hz-2KHz, 0.005-0.0012 g<sup>2</sup>/Hz.
- 7.15 AED shall meet or exceed IEC 60068-2-6 vibration (sine) test, 10Hz-60Hz, 0.15 mm and 60Hz-150Hz, 2g.

## **Powerheart G3<sup>®</sup> AED Automatic/Semi-Automatic (9300A/E) External Defibrillator With Biphasic Waveform**

### **Bid Specifications**

#### **8 Program Implementation:**

- 8.1 Program will provide Medical Direction/Medical Prescription as required by State Laws
- 8.2 CPR/AED training shall be provided by trainers employed by the AED manufacturer
- 8.3 Training will consist of 4 hours of American Heart Association Heartsaver CPR/AED instruction
- 8.4 All training materials (books, certification cards and mannequins) to be provided by the AED manufacturer.
- 8.5 CPR/AED certification will be for 2 years.
- 8.6 Instructors will consist of Paramedics, EMTs or Nurses.
- 8.7 Student to CPR/AED practice mannequin shall be a 1-1 ratio.
- 8.8 Program will track AEDs by location and serial number.
- 8.9 Program will provide tracking of training roster, certification dates & recertification.
- 8.10 Program shall provide e-mail reminder notices to site contact regarding recertification scheduling, check/order battery, and re-order pads prior to expiration.
- 8.11 Program will train up to 10 students per class per location.

#### **9 Technical Service/Warranty:**

- 9.1 AED shall require no yearly planned service or calibration regardless of frequency of use.
- 9.2 AED shall have a 7-year warranty on defects in materials and workmanship.
- 9.3 IntelliSense lithium battery shall have a full replacement operating warranty for four (4) years from date of installation.
- 9.4 Technical service shall be available 24 hours per day, 7 days per week, 365 days per year.

# The Cardiac Science™ AED Program Management

We make it easy to administer an AED program

## Primary Users

- Large corporations
- Small, medium-size business
- Government agencies
- Military and law enforcement
- Community organizations
- Schools and colleges

## Primary Benefits

*Peace of mind.* Your AED program will help you meet government requirements and your AEDs will be ready to use when an emergency happens.

*Complete solution.* One program, run by one vendor, handles everything from physician oversight and staff education to maintenance and service issues. We make the equipment, we educate, we record keep, and we provide medical direction. We outsource nothing.

*Effective management.* Save administrative time with 24/7 access to customer care, maintenance and service records, training and scheduling, device status, and program reports.



## Expert program management makes AED ownership easy

You've made the commitment to buying an AED, providing life-saving protection for your organization and community. Now there are legal and administrative details to handle.

With Cardiac Science AED Program Management, experienced people are there to guide you, every step of the way. We can help you make sure your program meets all the requirements. Our comprehensive program is designed to ensure you – and your AEDs – will be ready when an emergency occurs.

## A complete solution

- + Help satisfy government requirements. Many states and jurisdictions require medical direction and oversight for AED programs. With Program Management, Cardiac Science takes care of that for you.
- + Provide education for staff and volunteers. Cardiac Science employee educators deliver certified AED/CPR courses from the American Heart Association and Emergency Care and Safety Institute (ECSI).
- + Ensure compliance over time. Our MasterTrak™ system helps you keep track of education schedules, staff records, equipment maintenance, and more.

## It pays to partner with a leader

We've been doing this a long time – longer, in fact, than anyone in the industry. To date, we've implemented more than 20,000 AED programs and our 150 educators have taught more than 350,000 students. We have customers for our products and services all over the world.

We currently manage AED programs worldwide for institutions as large as Starwood Hotels & Resorts Worldwide, Inc. and Merrill Lynch & Co. and as small as your local dentist's office.

Best of all, in AED programs managed by Cardiac Science, a greater than 50 percent survival rate has been documented – versus an average five percent survival rate in the U.S.



# The Cardiac Science™ AED Program Management

## Program Management Offerings

Number of AEDs: \_\_\_\_\_

### Medical oversight

Education requirements, response protocols and instruction on post event reporting provided by a licensed physician.

Number of Locations: \_\_\_\_\_

	Basic Response	Quick Response	Total Response	A La Carte Options	Your Solution
Physician's prescription	X	X	X		<input type="checkbox"/>
Medical direction	X	X	X		<input type="checkbox"/>

### MasterTrak™ including Eminder™

Provides meticulous record keeping of all associated AED program components. We monitor program equipment inventory, locations, serial numbers, and expiration dates of pads, batteries, as well as keep records of certification dates, employee training records, and related test scores.

	Basic Response	Quick Response	Total Response	A La Carte Options	Your Solution
<b>MASTERTRAK INCLUDES:</b>					
Sends program welcome package, medical prescription, and oversight links	X	X	X		<input type="checkbox"/>
Maintains certification records	X	X	X		<input type="checkbox"/>
Tracks device locations, serial numbers, expiration dates, and incident reports		X	X		<input type="checkbox"/>
24/7 program data access	X	X	X		<input type="checkbox"/>
Maintains test scores for Online Refresher Course (optional)	X	X	X		<input type="checkbox"/>
<b>EMINDER INCLUDES:</b>					
AED/CPR course date confirmation		X	X		<input type="checkbox"/>
Educator's introduction and profile		X	X		<input type="checkbox"/>
Monthly AED inspection reminders	X	X	X		<input type="checkbox"/>
Equipment expiration dates	X	X	X		<input type="checkbox"/>
Staff re-certification reminders	X	X	X		<input type="checkbox"/>
Contract expiration	X	X	X		<input type="checkbox"/>

### Proper Education

Cardiac Science educators deliver classes (max 10) with 1:1 student-manikin ratio. Students keep CPR barrier masks, course materials, and get an AED/CPR certification card.

	Basic Response	Quick Response	Total Response	A La Carte Options	Your Solution
AED/CPR certified course delivered on-site		X	X		<input type="checkbox"/>
Online AED refresher course –12 months after program start (optional)		X	X	X	<input type="checkbox"/>
First-Aid certified course			X	X	<input type="checkbox"/>
Emergency Oxygen certified course				X	<input type="checkbox"/>
Blood-borne Pathogen certified course			X	X	<input type="checkbox"/>

### Service Packs

A factory-certified technician will check the AED on a regularly scheduled basis to perform the manufacturer's recommended service inspection and replace any expired (or soon-to-expire) electrodes/batteries (up to two sets of adult pads, one set of pediatric pads, and one battery per year).

	Basic Response	Quick Response	Total Response	A La Carte Options	Your Solution
Annual service inspection				X	<input type="checkbox"/>
Semi-annual service inspection				X	<input type="checkbox"/>
Quarterly service inspection				X	<input type="checkbox"/>
Monthly service inspection				X	<input type="checkbox"/>
Data Management Service Pack: Tracks AEDs and sends Eminder notices for expiring equipment. Login access available to view data reports.				X	<input type="checkbox"/>

### Choose the plan that's right for you

Because AEDs are life-saving devices, federal and various state regulations require a licensed physician to oversee your program, meticulous record keeping, and AED/CPR instruction. For these tasks, our AED Program Management service is a sound investment.

You'll appreciate having one point of contact to oversee all components of your program. And, with one provider, you'll be assured a consistent result – our very best – whether you have one location or many all over the world.

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