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**The ZOLL Rectilinear Biphasic Waveform: Real Performance**

ZOLL's Rectilinear Biphasic™ waveform (RBW) was designed specifically for external defibrillation to control for variations in patient impedance. Only the ZOLL RBW has demonstrated statistical clinical superiority<sup>2</sup> to monophasic waveforms in peer reviewed randomized controlled trials. And now with supporting data from more than 11,500 patients, you can feel secure in the strength of the RBW evidence.

**RescueNet Ready**

Easily transfer data from E Series and AED Pro to ZOLL's range of RescueNet field data collection options. Look for the RescueNet logo – the key to plug-and-play compatibility on all ZOLL defibrillation and data collection products.



**Seamless Product Compatibility**

The AED Pro and E Series easily share electrodes, batteries, and data for multiple configuration possibilities.

- Rugged roll cage or lightweight carry case protects the E Series from crashes, tumbles, and bangs, and provides an unlimited lifetime warranty on the outer housing
- Slimmer, briefcase-style design enables easy carrying, storage, and use during patient transport
- GPS clock automates time synchronization across entire system
- New cable management system organizes cables for faster deployment
- EasyRead Tri-Mode Display™ always readable under any conditions
- Protocol Assist CodeMarkers™ for rapid entry of critical information
- Real CPR Help™ provides feedback on rate and depth of chest compressions
- See-Thru CPR™ allows you to see organized rhythms without pausing compressions
- SurePower Battery System



ZOLL is a resuscitation solutions pioneer, distinguished by consistency in management, ownership, and approach for nearly 30 years. As a financially strong, independent company, ZOLL has an enviable product quality and reliability record. ZOLL technologies to help advance the practice of resuscitation include pacing, defibrillation, circulation, ventilation, data management, and fluid resuscitation. These comprehensive technologies help clinicians, EMS professionals, and lay rescuers resuscitate sudden cardiac arrest and trauma victims. ZOLL's commitment is to be the dependable choice for all providers in the field of resuscitation.

**ZOLL.**

**Advancing Resuscitation. Today.™**



See-Thru CPR option available only when device is operating in manual mode

<sup>1</sup>For defibrillation of VF, data also demonstrate the superior efficacy of low-energy rectilinear biphasic shocks in patients with high transthoracic impedance at 90% confidence level. \*Kerber et al. AHA Scientific Statement, Circulation 1997;95:1677-82. For cardioversion of AF, data demonstrate the superior efficacy of low energy rectilinear biphasic shocks compared to high energy monophasic shocks for transthoracic cardioversion of atrial fibrillation.

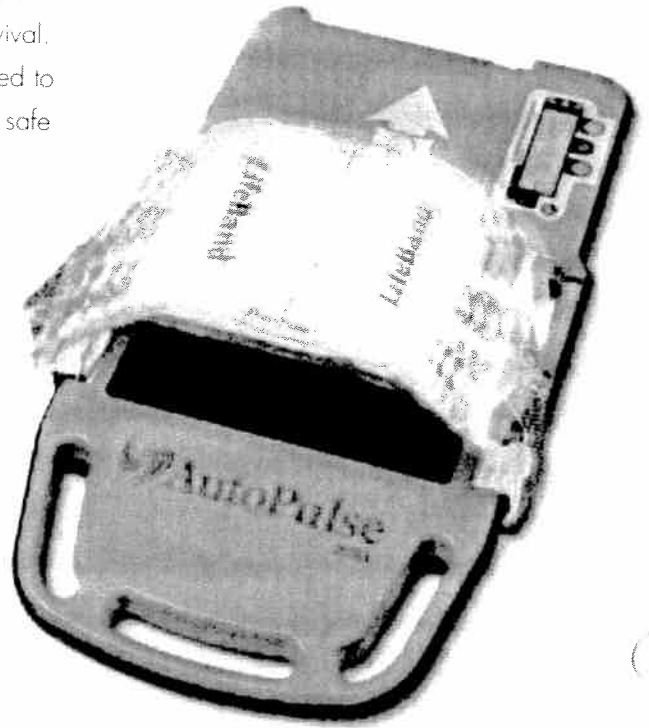
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# CPR That Never Misses a Beat

When treating patients in sudden cardiac arrest (SCA), consistent continuous, high-quality chest compressions are critical to survival. But uninterrupted CPR can be impossible for rescuers who need to navigate unpredictable obstacles – while keeping themselves safe and their patients well perfused.

The revolutionary ZOLL® AutoPulse® provides a better choice for top-quality CPR on the move. The only device of its kind, AutoPulse is a non-invasive cardiac support pump that moves more blood<sup>1,2,3</sup> more consistently than is possible with human hands.

AutoPulse sets a new standard of care for effective, easy-to-use, non-invasive cardiac support during resuscitation. Its capabilities give you more time to focus on everything that matters when saving lives.



*Unrestrained* ▶



*AutoPulse allows rescuers to be safely restrained during transport, secure in the knowledge that the patient is receiving excellent perfusion*

## ZOLL M Series

- Straightforward controls, intuitive menus, and ZOLL's Uniform Operating System make operation simple and reduce staff training requirements.
- High Contrast screen, with improved readability, and wide angle of view (60°), is superior to any LCD display.
- Error Correction minimizes problems during use by providing helpful prompts for corrective action.
- Durable Xtreme Pack™ jacket provides convenient storage for all cables, electrodes, and batteries.
- Full range of models are available from Manual to Advisory and AED to meet all needs and are fully upgradeable to keep pace with changing demands.

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## All the Capabilities You'll Ever Need

Only 11 lb (5 kg). Half the weight and a third of the size of any unit in its class. The M Series has everything you need for cardiac resuscitation: fast, easy-to-use defibrillation, external pacing, ECG with advanced monitoring, built-in AC or DC power and an integrated information management system.

### M Series Specifications

#### ECG Monitoring

**Patient Connection:** 1 Lead ECG cable, 3 Lead ECG cable, 12 Lead ECG cable, paddles or MFE Pads. Selectable by front panel switch.

**Input Protection:** Fully defibrillator protected. Special circuit prevents distortion of ECG by pacer pulse (Pacer version only).

**Implanted Pacemaker Spike Display:** Dedicated circuitry detects most implanted pacemaker spikes and provides standard display marker of spike on ECG trace.

**Bandwidth:** 0.5-40 Hz (-3 dB) or 0.5-300 Hz; 0.05-150 Hz diagnostic

**Lead Selection:** Displayed on monitor  
ECG Size: 0.5, 1, 1.5, 2, 3 cm/mV - display on monitor

**Heart Rate:** Digital display 0-100 bpm ± 5%  
**Heart Rate Alarm:** On/Off displayed on monitor. User-selectable, tachycardia 60-380 bpm, bradycardia 20-100 bpm.

**1 Volt ECG Char:** 1.0 volt/cm of deflection on strip chart recorder. < 25 ms delay from patient ECG input

**Display Format:** Non fade moving bar display.  
**SmartAlarms™:** Beeper/voice prompts indicate shockable rhythm.

#### Display

**Screen Type:** High resolution display.  
**Screen Size:** 5.6 inches (14.2 cm) diagonally  
**Sweep Speed:** 25 mm/sec  
**Viewing Time:** 4 seconds  
**Channels:** 2

**Information:** Heart Rate, Lead/Pads, Alarm On/Off, NIBP, 12-Lead ECG, SpO<sub>2</sub>, EtCO<sub>2</sub>, AED Functions and Prompts, Defibrillator Test Function, Self Test Function, Error Corrections and Faults, Pacer Functions (optional), Code Markers, Alarm Selection and Limits, Delivered Energy.

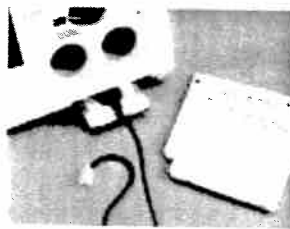
#### Defibrillator

**Waveform:** Damped sinusoid or ZOLL Rectilinear Biphasic.

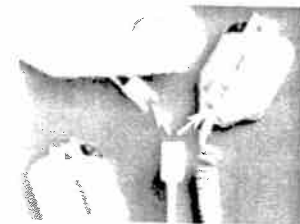
**Energy Selection:** Selectable at 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30, 50, 75, 100, 150, 200, 300, 360 joules. (Delivered into 50Ω load.) Selected using controls on sternum paddle or device front panel.  
**Rectilinear Biphasic energy selection:** up to 200 joules maximum.

**Charge Time:** Less than 7 seconds with a new fully charged battery (first 15 charges to max energy). Depleted batteries will result in a longer defibrillator charge time.

**Energy Display:** Monitor display indicates both selected and delivered energy.



**Cycle Marker System:** for all drugs and interventions makes charting easy. Information can be printed either on a Summary Report or easily downloaded to a PC using the removable PCMCIA card.



A universal connector for paddles and pads eliminates confusing adaptors and misconnections that can delay life-saving efforts.

**Synchronized Mode:** Synchronizes defibrillator pulse to patient's R wave. "SYNC" message displayed on monitor. Marker on display and recorder paper identifies R wave discharge point.

**Advisory Function:** Single analysis or programmable auto re-analyze (X) with programmable auto energy level selection, screen prompts, and voice prompts.  
**AED Function:** Auto analyze and charge (X) with programmable auto energy level selection, screen prompts, and voice prompts.

**Charge Controls:** Control on apex paddle and on device front panel.

**Paddles:** External antenna/adaptor adult and pediatric. Adult paddles slide off to expose pediatric paddles.

**Multi-Function Electrode (MFE) Pads:** Specifically designed adult anterior/posterior pre-gelled ZOLL MFE Pads, and Multi-Function "star-pads" packaged in pairs.

**Built-In Defibrillator Tester:** Tests defibrillator energy output and continuity of universal cable and paddles, documented on PCMCIA card and strip chart.

**Defibrillation Advisory:** Evaluates electrode connection and patient ECG to determine if defibrillation is required.

**Shockable Rhythms:** Ventricular fibrillation with amplitude > 100 µV and wide complex ventricular tachycardia with rates greater than 150 bpm.

**Multi-Function Electrode Impedance Measurement Range:** 0-150 ohms.

#### Pacemaker (Pacer Version Only)

**Type:** VVI demand, asynchronous (fixed rate) when used without ECG leads or in ASYNC pacing mode.

**Pulse:** Rectilinear, constant current; 40 ± 2 milli-seconds, amplitude variable 0 to 140 mA ± 5% or 5 mA, whichever is greater, digitally displayed on the monitor (increments or decrements by a value of 2 mA); rate variable from 30 to 180 ppm ± 1.5% (increments or decrements by a value of 2 ppm).

**Output Protection:** Fully defibrillator protected and isolated.

**Multi-Function Electrode (MFE) Pads:** Specifically designed pre-gelled ZOLL "star-pads" - "pre-pads" and "pedi-pads" - MFE packaged in pairs.

#### Recorder

**Paper:** 80 mm thermal (grid width) 90 mm (paper width)

**Speed:** 25 mm/sec, 5-second delay

**Annotations:** Time, date, defib energy, heart rate, pacer output (pacer version only), QRS sense marker, ECG size, lead, alarm, defib test (N/P), analyze ECG, analysis failed, noisy ECG, shock advised, no shock advised, ECG too large, ECG too small and diagnostic bandwidth.

**Printing Method:** High resolution thermal array print head.

**Patient Mode:** Manual or automatic user-configurable.

**On/Off Control:** Front panel and paddle.

**Automatic Function:** 15-second recording initiated by alarm or transition of defibrillator discharge.

#### PCMCIA Card Slots

Accepts two standard series type II Flash Cards, 1 1/2 MB. Fax modem card capability in slot 2.

#### PCMCIA Card

Records continuous ECG and device data; optionally records digitally compressed audio data; play on PC with Specified Card Reader and ZOLL Data Control™.

#### Battery Packs

**Type:** Rechargeable, sealed lead acid.

**Recharge Time:** 4 hours or less with integral charger.

**Operating Time:** For a new, fully charged battery pack at 20°C: 35 defibrillator discharges at maximum energy, or 3 hours of continuous ECG monitoring, or 2.5 hours of continuous ECG monitoring/pacing at 60 mA, 80 beats/min. Additional parameters will effect operating time. Consult your operator's guide.

#### General

**Size:** 6.8 in (17.3 cm) high x 10.3 in (26.2 cm) wide x 8.2 in (20.8 cm) deep

**Weight:** 11.5 lb (5.23 kg) with Multi-Function Cable and battery; 13.5 lb (6.14 kg) with paddles.

**Design Standards:** Meets or exceeds UL 2601, AAMI DF 39, AAMI DF-2, and IEC 601-2-3.

**Patient Safety:** All patient connections are electrically isolated.

**Environmental:** Operating Temperature 0° to 55°C, Storage and Shipping Temperature -40° to 65°C, Humidity: 5 to 95% relative humidity, non-condensing, Vibration: Mil Std 810E, Minimum Intensity Test, Shock: IEC 608-2-27, 30g rms half sine. Operating Pressure: 594 to 1060 mBar.  
**Material Ingress:** IEC 529, IP23. Electromagnetic Compatibility (EMC): CISPR, II Class B Radiated and Conducted Emissions, Electromagnetic Immunity: AAMI DF-2, IEC 601-3 to 20 V/m, Electrostatic Discharge: AAMI DF-2, IEC 1000-4-2, Conducted Susceptibility: IEC 1000-4-1, 1000-4-3, 1000-4-6.

**AC Power:** Meets all IEC, UL, and AAMI safety requirements.

**Options:** Xtreme Pack I Carry Case, Xtreme Pack II Thumbtack Carrying Case for added protection.



# ZOLL

It's about time.

Specifications subject to change without notice.

ZOLL Data Control, SmartAlarms, Xtreme Pack and star-pads are trademarks of ZOLL Medical Corporation.  
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## ZOLL Defibrillation: Clinically Superior Resuscitation Therapy

### Superior Defibrillation

Only the ZOLL Resonator Biphasic™ waveform has proven its clinical superiority for defibrillating VF in high impedance patients\* and cardioverting AF patients.\*\* It reduces the myocardium's exposure to high peak current and maintains an optimal waveform shape over a wide range of patient variability — enhancing efficacy while reducing the risks of inappropriate currents.

### Superior Pacing

Clinical studies\* have confirmed superior capture rates, lower mean capture thresholds, less muscle artifact and better patient tolerance. ZOLL's constant current, 43 msec pulse overcomes disadvantages inherent in other external pacemakers.

### Advisory Capability

The new ZOLL CCT has advisory capabilities to guide less experienced personnel safely and efficiently through defibrillation. ECG displays, optional voice prompts, auto-manage energy levels and many other features can be individually configured to adapt to all skill levels.

### References

1. Moulden, et al. "Effect of the Single-Phase Biphasic Resonator on Defibrillation Success in High Impedance Patients." *Journal of Intensive Care Medicine*, 1998; 13(4): 211-214.
2. Moulden, et al. "Effect of the Single-Phase Biphasic Resonator on Defibrillation Success in High Impedance Patients." *Journal of Intensive Care Medicine*, 1998; 13(4): 211-214.
3. Moulden, et al. "Effect of the Single-Phase Biphasic Resonator on Defibrillation Success in High Impedance Patients." *Journal of Intensive Care Medicine*, 1998; 13(4): 211-214.

## What Makes a Defibrillator Better for Transport?

### Superior Care and Portability in One Compact Unit

When you're transporting critical care patients, defibrillation is a capability you need to have on hand. But you also need to keep track of crucial vital signs along the way. The M Series CCT brings together ZOLL's superior biphasic defibrillation, external pacing, complete monitoring, a multiple application printer and a large full-color display — in a single portable unit.

### ZOLL XL Battery for Longer Transport Times

The XL Battery allows the minimum required long portable operation. Built-in AC mains power makes transportation on an ambulance or helicopter as trouble-free as easy.

### Transport-Ready Design

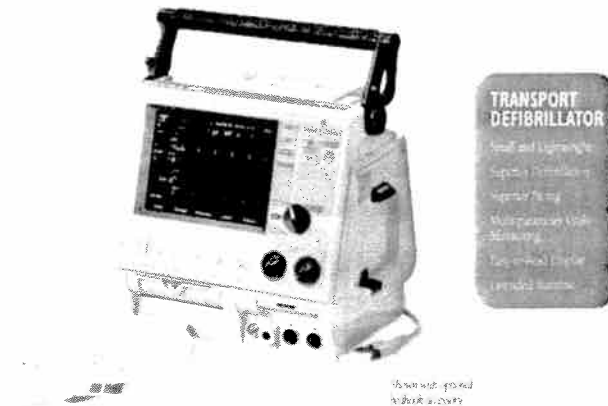
For transport needs, the M Series CCT is the most efficient, most complete solution. The M Series CCT steps out of the case and is ready to go. And at just 17 pounds (including the battery), it's smaller and 21% lighter than its nearest competitor.

### Easy-to-Read Display

The bright, 6.5" diagonal color display makes monitoring information easy to read at a glance, whether you're working down a hallway or working in a helicopter.

### M Series Technology and Simplicity

The M Series CCT is the newest member of the ZOLL family of familiar easy-to-operate defibrillators. With its straightforward controls and ZOLL UnitLink™ printing system, the M Series CCT reduces staff training and minimizes operator confusion. It is the perfect combination for critical care transport and advanced life support.



Shown with optional battery accessory.

## Vital Signs Assessment: Invasive and Non-invasive Parameters

### A Full Range of Parameters For a Full Range of Patients

The M Series CCT features a three-hand display for ECG and up to two invasive pressures with ranges covering arterial, pulmonary arterial, central venous or intra-cranial pressure as well as two temperature channels. In addition, it also provides vital all the non-invasive parameter options of the M Series including SpO<sub>2</sub>, PtcCO<sub>2</sub>, NIBP and fully responsive 12-lead ECG.

### Flexible Color Display

The color display shows multiple vital signs in different colors in three different channels — organizing information so you can quickly assess your patient's status while on the move.

### Quick, Easy Connections

A VGA output connects to the UnitLink™ or standard displays. It's also compatible with most common BIP transducers and temperature probes.

### Ready to Gather and Share Critical Data

The M Series CCT is compatible with ZOLL Data Transfer™ for seamless transfer of patient information, including code stream data, via PC and/or RS232 output.

**ZOLL**  
It's about time.

# M Series

# Tough Enough for Life

## Introducing the Lightest, Most Compact, Most Advanced Defibrillator Monitor Ever Made

Small. Rugged. Half the size of other portable units and packed with power. Everything you need for cardiac resuscitation. Fast, easy-to-use defibrillation. Manual and AED capability. Superior Biphasic waveform and ZOLL pacing. Pulse oximetry, capnography, 12-Lead ECG, and NIBP. Built-in AC or DC power. Advanced information for detailed reporting.

### The Display You Can See Anywhere

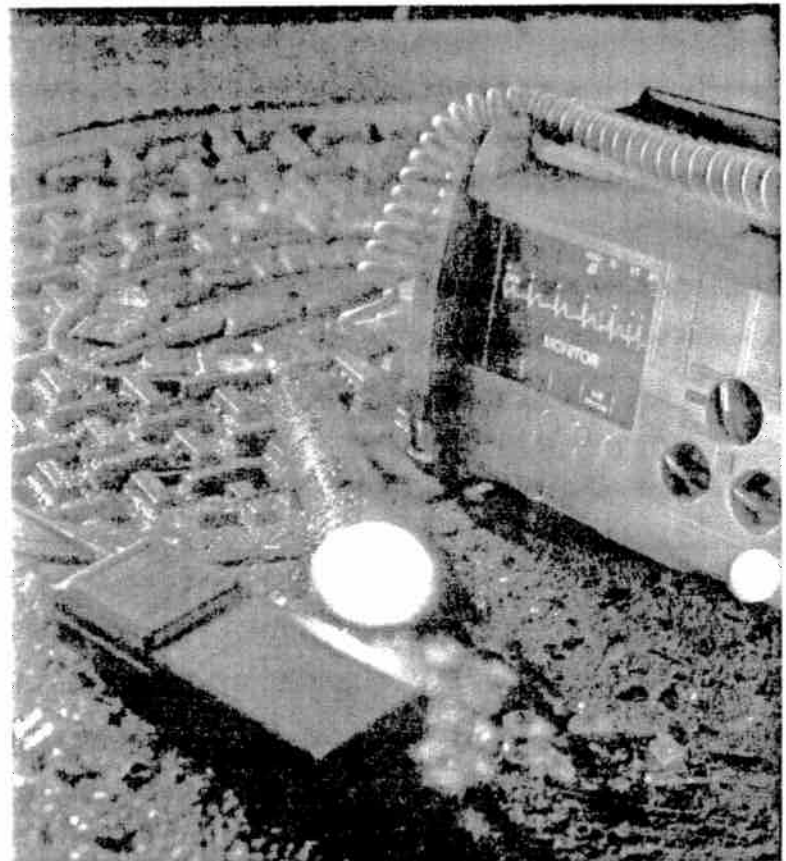
Incorporates the most technologically advanced display with a wider viewing angle than any LCD display. High contrast and visibility, even at 60°, allow you to view important information clearly and accurately.

### Built for Heavy-duty Use on the Road

Takes the rigors of the road and the roughest treatment under the harshest conditions. It meets rigorous military design standards. New ZOLL Xtreme Pack II™, a molded, durable rubber jacket, provides unmatched heavy-duty protection.

### Code Markers with Complete Data Management

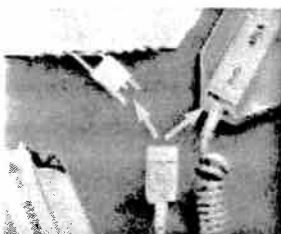
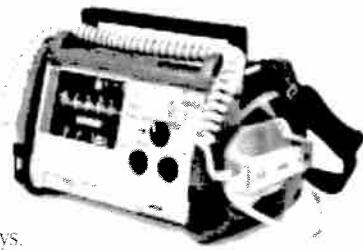
New code marker system follows AHA or programmed user treatment protocols. Complete documentation is easy with "one touch" data annotation. Records all information, including optional voice on a removable PCMCIA data card. Uses ZOLL Data Control™ software with Utstein-style templates for post-event review and analysis.



ZOLL's new screen is superior to any LCD in readability, contrast, and angle of view. It clearly displays ECG, SpO<sub>2</sub>, EtCO<sub>2</sub>, and NIBP values with or without waveforms, as well as the new "one touch" programmable code markers for drugs and events.

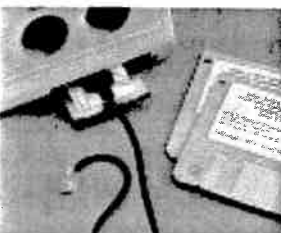
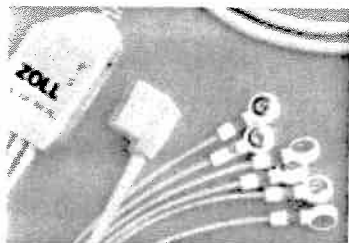
# The M Series Gives You More

**Xtreme Pack™ for Protection and Cable Management** — Durable and resilient rubber jacket provides protection and storage for all cables, electrodes, batteries, and accessories. The washable jacket surrounds the unit for unmatched protection, and immediate access to all controls, connections, and displays.



**Simple Connections for Operator Confidence** — Patient connections are simplified with a new universal connector for both pads and paddles. No adapters or multiple cables that delay life-saving efforts. Built-in pediatric paddles and a complete line of disposable electrodes meet all demands.

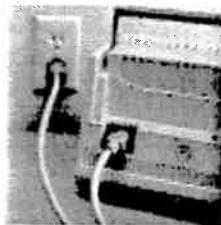
**1-Step™ Patient Cable** — ZOLL's 1-Step Patient Cable provides continuous ECG from 4 leads and rapid 12 lead acquisition without switching cables or electrodes.



**Integrated Resuscitation and Information Management** — The M Series is an integral part of ZOLL's RescueNet™ System that organizes all call information. A removable PCMCIA card provides easy downloading of patient information to a PC for storage. A comprehensive

Summary Report prints out all important ECG, device, drug, and event information.

**Always Ready with Built-in AC or DC Power and Battery Charger** — The M Series offers the advantages needed to safeguard patients during rescue and transport. When on AC or DC, an internal charger recharges the battery and powers the unit continuously.



## References

- Mittal S, Avani S, Stein KM, Knight BP, Meady E, Schwartzman D, Carlsosch D, Plana FV, Collins H, Tchou PL, Miller JM, Wharton JM, Sung RJ, Sidorower DJ, Markowitz SM, Lerman BB. Comparison of a novel rectangular biphasic waveform with a ramped sine waveform for transcutaneous ventricular defibrillation. *Journal of the American College of Cardiology*. 1996; 34:5.
- Mittal S, Avani S, Stein KM, Schwartzman D, Carlsosch D, Tchou PL, Markowitz SM, Sidorower DJ, Schegner MA, Lerman BB. Transcutaneous cardioversion of atrial fibrillation: Comparison of rectangular biphasic versus damped sine wave monophasic shocks. *Circulation*. In Press.
- Clinical studies on file.

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# ZOLL

*It's about time.*

## ZOLL E Series

- EasyRead Tri-Mode Display™ for maximum readability, whether in pitch dark or direct sunlight
- Unique GPS clock provides complete time accuracy every time the defibrillator is used
- Rapid Cable Deployment System™ helps manage your wires and eliminates the "spaghetti"
- Protocol Assist Code Markers™ for rapid event documentation
- Battery flexibility with low-cost sealed lead acid or rechargeable lithium ion means more choices to meet your needs
- One-piece or two-piece pad. Have it your way. Choose one-piece CPR-D•padz™ or two-piece CPR stat•padz™.
- Optional roll-cage design or soft pack carry case

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[www.zoll.com/contacts](http://www.zoll.com/contacts)

## Rugged design, advanced capabilities

No other full-featured defibrillator was designed specifically for the rigors of your EMS environment. Documentation is made easy when combined with data transfer options that take the "paper" away.

## realCPR help™

Chest compression rate and depth is measured in real-time, and both visual and optional audible feedback are provided. All CPR data can be recorded and reviewed using RescueNet™ Code Review software.

## see-thruCPR

ECG signal processing extracts CPR artifact from the ECG so you can see organized rhythms without interrupting compressions.

## E Series Specifications

### ECG Monitoring

**Patient Connection:** 2 lead, 5-lead or 12-lead ECG cable, paddles or MFE pads, selectable by front panel switch  
**Input Protection:** Fully defibrillator protected. Special circuit prevents distortion of ECG by pacemaker (Pacer version only)  
**Impaired Pacemaker Spike Display:** Dedicated circuitry detects most implanted pacemaker spikes and provides standard display marker of spike on ECG trace  
**Bandwidth:** 0.5-1 Hz (3 dB standard) @ 0.5-150 Hz diagnostic 1 Hz - 21 Hz user configurable  
**Lead Selection:** Displayed on monitor  
**ECG Size:** 0.5, 1, 1.5, 2, 3 cm/mV --- displayed on monitor  
**Heart Rate:** Digital display 0-300 bpm ±5%  
**Heart Rate Alarm:** Screen icon indicates activated/deactivated status. User-selectable, tachycardia 60-280 bpm, bradycardia 20-100 bpm  
**1 Volt ECG Out:** 1.0 volt/cm of deflection on strip chart recorder <25 ms delay from patient ECG input  
**Display Format:** Non-rotate moving bar display  
**SmartAlarms™:** Bleep/voice prompts indicate shockable rhythm

### Display

**Screen Type:** High resolution color liquid crystal display (LCD)  
**Screen Size:** 5.63 inches (14.3cm)  
**Sweep Speed:** 75 mm/sec  
**Viewing Time:** 4 seconds  
**Channels:** 2  
**Messages:** Heart rate, lead/pads, alarm on/off, SpO<sub>2</sub>, ETCO<sub>2</sub>, AED functions and prompts, defibrillator test function, error corrections and faults, pacer functions (optional), code markers, alarm selection and limits, delivered energy

### Defibrillator

**General:**  
**Waveform:** ZOLL Rectilinear Biphasic™  
**Charge Time:** Less than 6 seconds with a new fully charged battery (first 15 charges to max energy). Depleted batteries will result in a longer defibrillator charge time.  
**Energy Display:** Monitor display indicates both selected and delivered energy.  
**Multi-Function Electrode (MFE) Pads:** Specifically designed anterior/posterior are gelled ZOLL stat•padz™. Multi-function electrodes packaged in pairs.  
**Built In Defibrillator Tester:** Provides verification of the defibrillator charging and discharging without removing paddles from storage wells or verification of unit configured with Multi-Function cable.  
**Multi-Function Electrode Impedance Measurement:** Range 0-350 ohms ±10% or 5 ohms, whichever is greater.  
**Manual (Adult Mode):**  
**Energy Selection:** Selectable at 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30, 40, 50, 100, 150, 200 Joules. Delivered into 150 ohm load. (Selected using controls on device front panel or device front panel.)  
**Synchronous Mode:** Synchronous defibrillator pulse to patient's

R-wave "SYNC" message displayed on monitor. Marker on display and recorder paper identifies R-wave discharge point.  
**Paddles:** Standard apex/sternum adult and pediatric. Adult paddles slide off to expose pediatric paddles.  
**Charge Controls:** Control on apex paddle and on device front panel.

### Advisory:

**Advisory Function:** Single analysis or programmable auto re-analyze x3 with programmable auto energy level selection and screen prompts.  
**Shockable Rhythms:** Ventricular fibrillation with amplitude >100 µV and wide complex ventricular tachycardia with rates greater than 150 bpm.  
**Charge Controls:** Control on device front panel.  
**Energy Selection:** Automatic, pre-set stock 1, 2, 3 energy levels --- user configurable. 120, 150, 200 Joules biphasic default. Selected using controls on device front panel.

### Pacemaker (Pacer Version Only)

**Type:** VVI demand, asynchronous (fixed rate) when used without ECG leads or in ASYNCR pacing mode.  
**Pulse:** Rectilinear, constant current, 40 milliseconds ±2%, amplitude variable 0 to 140 mA ±5% or 5 mA, whichever is greater, digitally displayed on the monitor. Increments or decrements by a value of 2 mA, rate variable from 30 to 180 ppm ±1.5% (increments or decrements by a value of 2 ppm).  
**Output Protection:** Fully defibrillator protected and isolated.  
**Multi-Function Electrode (MFE) Pads:** Specifically designed pre-gelled ZOLL stat•padz™ Multi-Function Electrodes packaged in pairs.

### Recorder

**Paper:** 80 mm (thermal grid width) 90 mm (paper width)  
**Speed:** 75 mm/sec  
**Annotations:** Time, date, defib energy, heart rate, pacer output (pacer version only), QRS sync marker, ECG size, lead, alarm, defib test (OK/Fail), analyze ECG, pads off, analysis failed, noisy ECG, shock advised, no shock advised, ECG too large, ECG too small and diagnostic bandwidth.  
**Printing Method:** High resolution, thermal array print head.  
**Printout Modes:** Manual or automatic --- user configurable.  
**On/Off Control:** Front panel and paddle.  
**Automatic Function:** 15 second recording initiated by alarm activation or defibrillator discharge.

### Voice Prompts

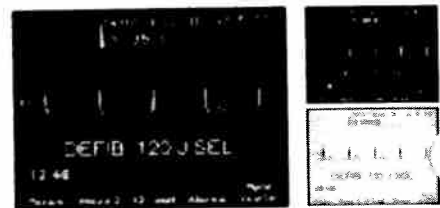
Attach pads, "Check pads", "Check patient", "Sponge ready", "Press shock", "No shock advised", "Check pulse", "Press analyze", "10 no pulse, perform CPR"

### Visual Prompts

Press analyze, "Shock adv", "No shock adv", "Pulse detected", "No charging", "Press shock", "Check patient", "No pulse to CPR"

### PCMCIA Card Slots

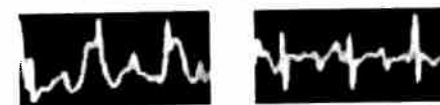
Accepts two standard series Type II Flash Cards: 7, 4, 16, and 32 MB. Fax modem card necessary in slot 1, data cards in slot 2.



The EasyRead Tri-Mode Display provides three screen options: high resolution color, black on white, or white on black.



Depth and rate versions of the Real CPR Help Screen



Unfiltered ECG signal during CPR

Signal filtered by See Thru CPR

### PCMCIA Card

Records continuous ECG and device data, optionally records digitally compressed audio data.

### Battery Packs

**Type:** Sealed lead acid, Lithium Ion.  
**Recharge Time:** Sealed lead acid: 4 hours or less with integral charger. Lithium ion: 7 hours or less with integral charger.  
**Operating Time:** Sealed lead acid: For a new fully charged battery pack at 20°C, 40 discharges at maximum energy or 2.75 hours of continuous ECG monitoring, or 7.25 hours of continuous ECG monitoring/pacing at 60mA, 80 beats/min. Lithium ion: 100 defibrillator discharges at maximum energy (200J), or 4.25 hours of continuous ECG monitoring, or 3.75 hours of continuous ECG monitoring/pacing at 60mA, 80 beats per minute. Additional parameters will effect operating time, consult your Operator's Guide.

### General

**Size:** 5.75 in (14.6 cm) high x 13.1 in (33.3 cm) wide x 10.5 in (26.7 cm) deep.  
**Weight:** 13.2 lb (6.0 kg) without roll cage or battery, 15.4 lb (7.0 kg) with sealed lead acid battery, 14.6 lb (6.6 kg) with lithium ion battery.  
**Design Standards:** Meets or exceeds UL 60601-1, AAMI DF-80, IEC 60601-2-4, EN 60601-2-25, and EN 60601-2-27.  
**Patient Safety:** All patient connections are electrically isolated.  
**Environmental Temperature:** Operating: 0°C to 55°C (32°F to 131°F). Storage: 20°C to 60°C (68°F to 141°F).  
**Note:** The E Series device may not perform to specification when stored at the upper or lower extreme limits of storage temperature and immediately put into use.

**Humidity:** 5 to 95% relative humidity, non-condensing. Vibration: MIL-STD-810F. Minimum integrity test: Shock: IEC 68-2-27, 100 g 6m/s half sine. Operating pressure: 594 to 1060 mbar. Material ingress: IP34 per EN 60601-1. Electromagnetic Compatibility (EMC): CISPR 11 Class B. Radiated and Conducted Emissions: CISPR 11 Class A. Radiated and Conducted Immunity: IEC 61000-4-3 to 10V/m. Electrostatic discharge: AAMI DF-80, IEC 61000-4-2. Conducted Susceptibility: IEC 61000-4-4, IEC 61000-4-5, IEC 6100-4-6.

**AC Power:** Meets all IEC, UL and AAMI safety requirements.

**Options:** Roll cage with cable management side pouches or soft case with side pouches.

### Communications

**Serial Communication:** RS232 port, data transfer cable to PC. Integrated Bluetooth™ (Sends 12 lead and vital signs from the E Series to fax or email via Bluetooth-enabled PDA phone or laptop using ZOLL Data Relay™ ZOLL RescueNet™ Code Review software directs 12 lead and vital signs to specified destinations).  
**Fax System:** Cost for transmission of 12-lead ECG to Group 2 fax machines.  
**Bluetooth Port:** 2 pin for sending 12-lead ECG via Bluetooth-enabled cell phone to fax or 31 Modem System.



See instructions for use for change without notice.

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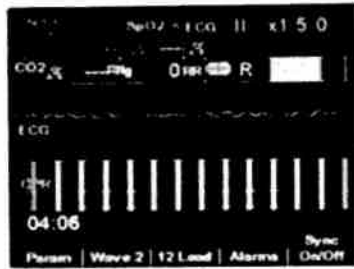
Model 1900 1-800-348-9011



Advancing Resuscitation. Today.™

## real CPR help™

Chest compression rate and depth is measured in real-time, and both visual and optional audible feedback are provided. All CPR data can be recorded and reviewed using RescueNet™ Code Review software.



## see-thruCPR™

ECG signal processing extracts CPR artifact from the ECG so you can see organized rhythms without interrupting compressions.



Unfiltered

Filtered

### One-Piece or Two-Piece Pad. Have It Your Way.

Choose one-piece **CPR-D•padz®** or two-piece **CPR stat•padz®**

*Fast, accurate placement and CPR feedback without extra steps or sensors.*

### Best-in-Class Parameters

Masimo® pulse oximetry provides accurate SpO<sub>2</sub> measurements during low perfusion and high motion – when you need it the most. GE® 12SL 12-lead ECG interpretation and communication add more diagnostic capability. Respironics® “plug and play” mainstream or sidestream EtCO<sub>2</sub> and SunTech® Non-Invasive Blood Pressure add accuracy and reliability in resuscitation monitoring.

### Right Battery. Right Place. Right Time.

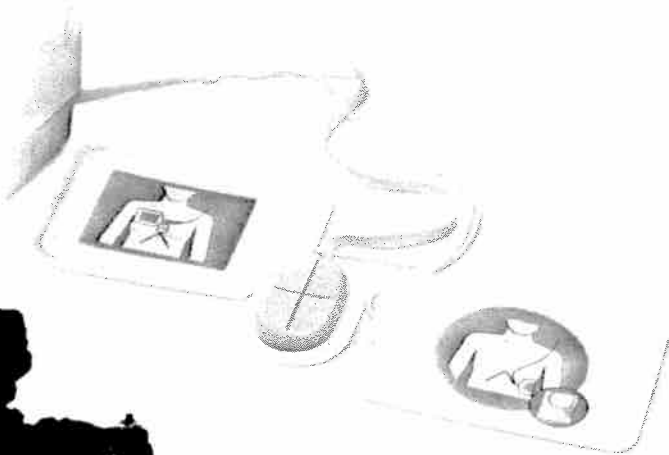
Two choices to meet your needs:

1. Sealed lead acid batteries for standardization across ZOLL M Series®, E Series®, and AED Pro®
2. Rechargeable SurePower™ lithium ion for extended capacity and longer run times.

*More choices mean better adaptation to your system.*

### Documentation Made Easy

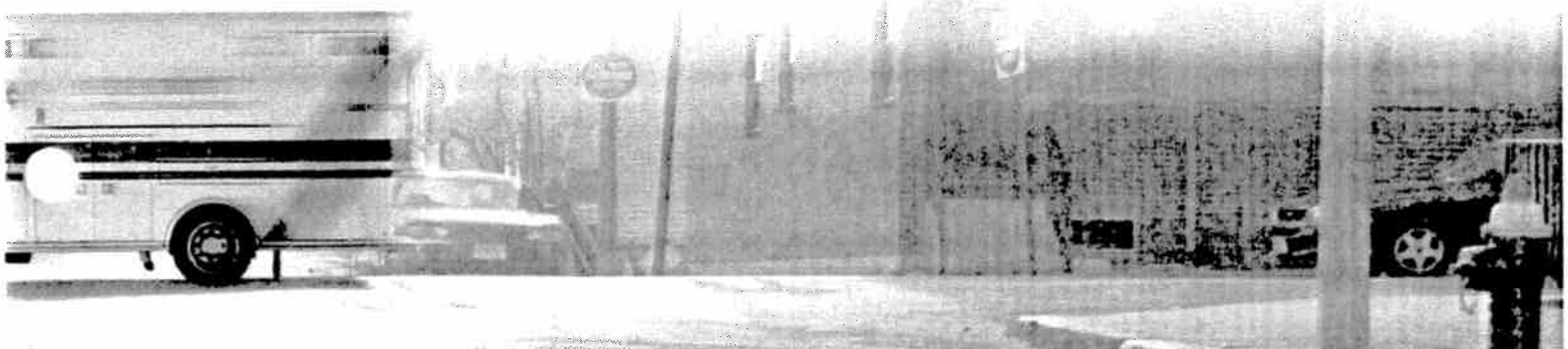
The E Series offers configurable Protocol Assist CodeMarkers™ for rapid event documentation. Dedicated data entry keys give users a simple method to enter patient name and other critical information. Spend more time working with the patient, and less time worrying about documenting interventions correctly. Optional Bluetooth® provides wireless data transfer and 12-lead transmission. Additionally, the E Series is fully compatible with ZOLL's RescueNet Data Management System.



*Optional roll cage offers even greater protection from the hazards of EMS.*



*Small, compact, and lightweight briefcase-style design.*





# Exactly what you said you needed. A street-tough defibrillator for ALS with advanced capabilities.

It's time you had equipment designed for the pounding rain, searing heat, and freezing cold. For drops and tumbles, splashes and stains. For dirt and mud. For use in fast-moving rigs while dodging traffic on busy streets. ZOLL® has built a radically new defibrillator, with you – and your world – in mind. The E Series®. Because in your line of work, you have enough to worry about. And you shouldn't have to worry about your equipment. Ever.

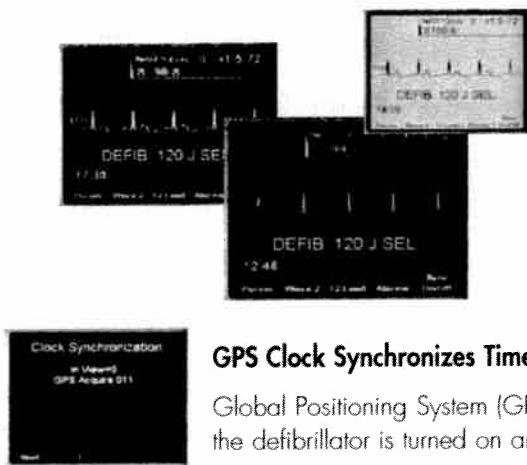


Optional softpack carry case



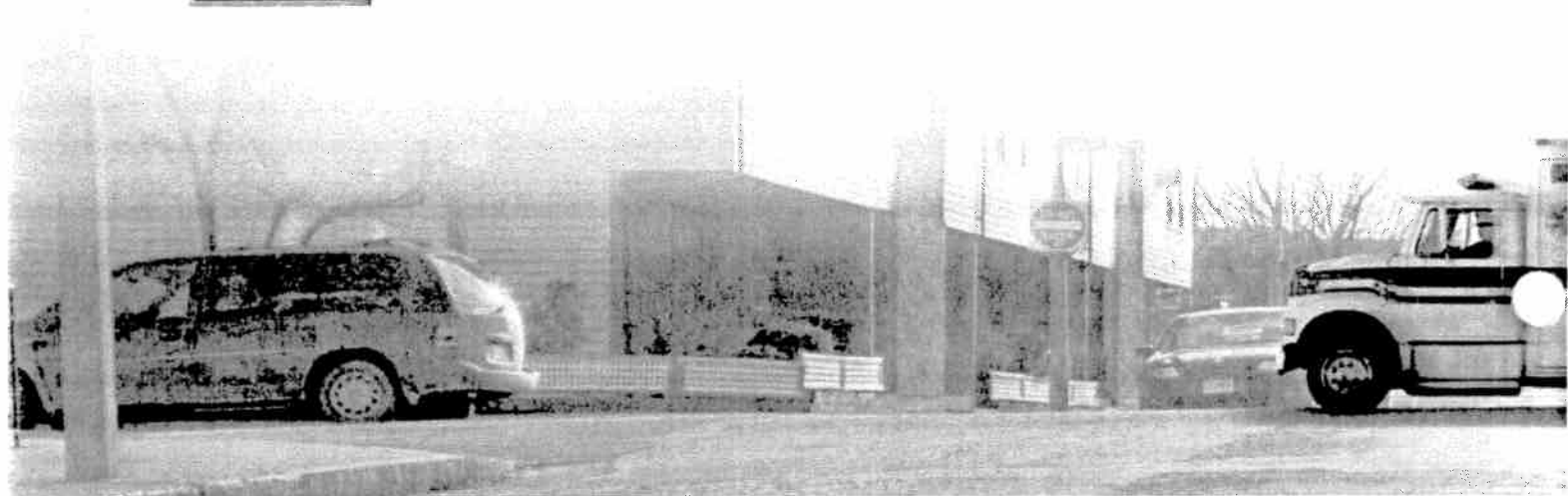
## See the Display In Any Environment

Easy-to-read Tri-Mode Display™ adjusts on the fly from color to black and white or white on black, assuring that you will never miss critical patient-assessment information.



## GPS Clock Synchronizes Times Across Your Entire System

Global Positioning System (GPS) clock automatically syncs when the defibrillator is turned on and within line of site with a satellite.



## AED Pro

Rugged construction and exceptional durability support the needs of Basic Life Support providers as well as the needs of tiered systems and the professional rescuer.

- Unrivaled battery and electrode compatibility with ZOLL's line of professional defibrillators.
- Superior Design and Construction: IP55 Dust/Water Ingress rating and passes 1.5 Meter Drop Test.
- Manual Override and See-Thru CPR option satisfies advanced life support functions.
- Internal Event Memory Storage, with external USB data stick transfer and storage capability.
- Lead II ECG monitor with 3-lead cable.
- Easily configurable to local protocols with ZOLL Administrative Software (ZAS).
- Intelligent pediatric capability with ZOLL's *pedi•pacz*<sup>®</sup> II.

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## Rugged Construction, Advanced Capabilities

Designed with advanced capabilities, the ZOLL AED Pro supports Basic Life Support as well as Advanced Life Support professionals. A high-resolution LCD display allows responders to visualize a patient's ECG.

## Real CPR Help

The AED Pro is the first defibrillator designed for professional responders with real-time feedback on CPR chest compressions. ZOLL's unique real-time feedback mechanism, Real CPR Help, includes a metronome set at the AHA recommended 100 bpm and a screen display that helps rescuers achieve optimum rate and depth of compression levels through audible and/or visual prompts.

## See-Thru CPR

When the AED Pro is in manual mode and CPR chest compressions are being performed, See-Thru CPR is activated. See-Thru CPR reduces interruptions by allowing clinicians to see organized electrical activity while CPR compressions are being performed by filtering out compression artifact ("noise"). This allows rescuers the ability to see a patient's underlying cardiac rhythm during resuscitation efforts and eliminates the need to stop compressions to see if defibrillation was successful.

## AED Pro Specifications

### ECG Monitoring

Patient Connection: 3-lead ECG cable  
Input Selection: Fully defibrillator protected  
ECG Size: Automatic Control (AGC) gain  
Heart Rate: 30-300 bpm ±5%

### Display

Screen Type: High-resolution LCD display  
Screen Size: 3.82 inches W x 2.27 inches H  
Sweep Speed: 25 mm/sec.  
Viewing Time: 3 seconds  
Displayed Information: Heart rate, ECG waveform, text prompts, CPR bar graph, battery gauge, elapsed time, number of shocks delivered

### Event Documentation

Type: Internal non-volatile memory  
Memory Capacity: With audio recording enabled, 20 minutes of ECG, operator and device actions, without audio recording, 1.45 hours each for 4 patient records or up to 5.8 hours for a single record of ECG and event data. Expanded external data storage and transfer available with optional USB memory stick  
Event Review & Reporting: RescueNet<sup>®</sup> Code Review software version 3.30 or higher  
Communications: IRDA infrared wireless for communication with personal computer or external USB memory stick transfer

### Defibrillator

Waveform: ZOLL Rectilinear Biphasic™ waveform  
Energy: 50, 70, 85 (pediatric), 120, 150, 200 joules (adult) preconfigured  
Charge Time: Less than 10 seconds with a new fully charged battery. Depleted batteries will result in a longer defibrillator charge time.  
Energy Display: Monitor display indicates selected energy in manual mode only.  
AED Function: Auto analyze and charge x3 with programmable auto energy level selection, screen prompts, and voice prompts.  
Electrodes: The best *CPR-D•pacz*<sup>®</sup>, *CPR stat•pacz*<sup>®</sup> *stat•pacz*<sup>®</sup> II, and Pediatric

*pedi•pacz*<sup>®</sup> II, *CPR-D•pacz* one-piece electrode and *CPR stat•pacz* two-piece electrodes provide Real CPR Help for rate and depth of CPR chest compressions.

Manual Energy selection user configurable, 120, 150, 200 J adult and 50, 70, 85 J pediatric

Semi-Automatic: Evaluates electrode connection and patient ECG to determine if defibrillation is required

Shockable Rhythms: Ventricular fibrillation with amplitude >100 uV and wide complex ventricular tachycardia with rates greater than 150 bpm (adult) and greater than 200 bpm (pediatric)

Defibrillation Pads Impedance Measurement Range: 10-300 ohms

Prompts: Audible voice prompts and text messages guide user through complete sequence of operation. Text prompts are always displayed. With ZAS, user can configure voice prompts on/off.

Controls: ON/OFF, Shock, Softkeys

### Configurability

ZOLL Administration Software (ZAS): Allows user to manually adjust the configuration of the AED Pro to desired medical protocol or direction

Analyze OPTIONS: User can configure the ability to analyze a patient during the CPR period by depressing a softkey

CPR Duration: User can configure CPR duration from 30 seconds to indefinite, depending on protocol. User also has the ability to configure the AED Pro to "start with CPR", which when turned on will prompt the rescuer to perform CPR prior to analyzing the patient

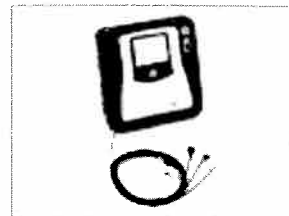
Voice Prompts: User can adjust wording (limited options) and/or turn on/off voice prompts. Note: Text prompts are always displayed

Shock Energy: Adjust shock energy level for semi-auto mode, for both adult and pediatric modes

### Battery Options

Type: SurePower™ Lithium Ion Rechargeable Battery

Recharge Time: 4 hours for fully depleted battery when charged in the SurePower Charger Station



The AED Pro uses ECG electrodes for patient monitoring and care. A 10" audible and text warnings for a shockable rhythm or low heart rate.



AED Pro LED provides clear and easily readable information for all levels of rescuers.

Operating Time: A fully charged battery pack can deliver 400 shocks at a maximum energy (200 joules) or perform 19 hours of continuous monitoring

Type: Rechargeable, sealed lead acid

Recharge Time: 4 hours or less with a ZOLL Power-Charger 4x4 or 1x1 Battery Charger

Operating Time: For a new, fully charged battery pack at 20° C, 1/0 defibrillator discharges at maximum energy or 6 hours continuous ECG monitoring

Type: Sealed, disposable lithium manganese

Operating Time: 300 defibrillator charges at maximum energy or 13 hours continuous ECG monitoring

### General

Size: 3 in (7.6 cm) x 9.2 in (23.5 cm) x 9.4 in (23.9 cm) deep

Weight: < 5.5 lbs with disposable battery and electrodes (2.9 kg) Design Standards: Meets or exceeds AAMI DF-80, IEC 60601-1, EN 60601-1-2

Patient Safety: All patient connections are electrically isolated

### Environmental

Operating Temperature: 0° C to 50° C

Storage and Shipping Temperature: -30° C to 70° C

Humidity: 10% to 95% relative humidity, non-condensing

Vibration: MIL Std. 810F, Minimum Helicopter Test

Shock: IEC 68-2-27, 100G

Drop Test: 1.5m per IEC 68-2-32

Material/Water Ingress: IEC 60529, IP55

Electromagnetic Compatibility (EMC): CISPR, 11 Class B Radiated and Conducted Emissions

Electromagnetic Immunity: AAMI DF-80, IEC 60601

Electrostatic Discharge: IEC 61000-4-2

Conducted Susceptibility: IEC 61000-4-6

Options: Vinyl Foam-Molded Carry Case for added protection, external IRDA port, wall sign



See [www.zoll.com](http://www.zoll.com) for more information.

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Model # ZOLL 122210, 12235, 01/06



# Exactly what you said you needed. A tough defibrillator with advanced, rugged design.

It's time you had equipment designed for the pounding rain, searing heat, and freezing cold. For drops and tumbles, splashes and stains. For dirt and mud. For use in fast-moving rigs while dodging traffic on busy streets. ZOLL® has built a radically new defibrillator with you – and your world – in mind. The AED Pro®. Because in your line of work, you have enough to worry about. And you shouldn't have to worry about your equipment. Ever.

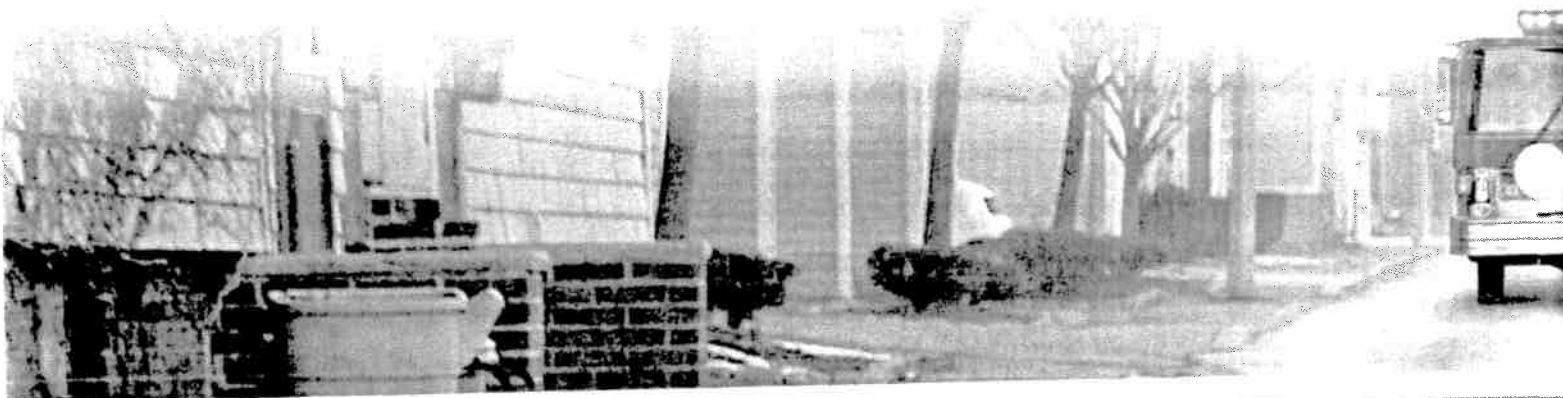


## **We Don't Recommend Running Over It, But You Could**

Superior construction, with an outer housing made from a polycarbonate siloxane resin (the same material football helmets are made of), and an incredibly durable overmold made from thermo plastic urethane, provides unequalled protection. Unlike other AEDs, the AED Pro has an IP55 rating for water resistance to high-pressure water jets, and passes a 1.5 meter drop test.

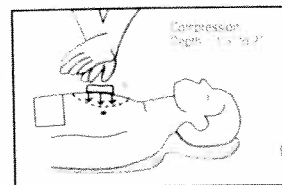
*No other defibrillator can withstand this kind of abuse.*

*Three-lead cable allows basic monitoring using ECG electrodes.*



## Measuring Chest Compression with Real CPR Help

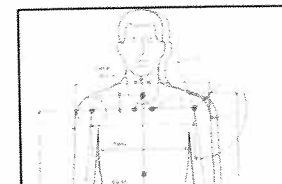
Failure to adequately compress a victim's chest is a common error during CPR.<sup>1-3</sup> The force required to properly compress a victim's chest 1 1/2 - 2 inches varies depending on the patient's build and anatomy. Until now, only force and pressure sensors have been available. Real CPR Help technology in ZOLL's **CPR-D•padz** includes a hand-placement locator, an accelerometer, electronics, and a sophisticated processing algorithm. This technology accurately measures chest compressions and converts the motion of the accelerometer over time into distance moved. Only Real CPR Help can help an infrequent rescuer correct and improve compressions in real-time as CPR is performed during the rescue.



Real CPR Help provides unique assistance to rescuers with real-time feedback on CPR compression depth and rate.

## One Electrode Size Fits All

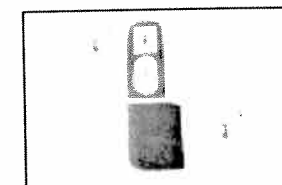
Our one-piece electrode design accounts for anatomical variations in the patient population. The design of ZOLL's **CPR-D•padz** is based on extensive human anthropometric data and studies designed to accommodate the wide range of patient sizes and shapes, to ensure that this one-piece electrode meets the needs of emergency AED use. The design developed for the **CPR-D•padz** meets the anthropometric characteristics of 99% of human chest anatomy. A special feature lets the rescuer separate the apex (lower) electrode to cover the other 1% of the population whose anatomical variations require special adaptation.



ZOLL's one-piece **CPR-D•padz** is designed to fit 99% of the population's chest anatomy.

## Simplified Electrode Placement

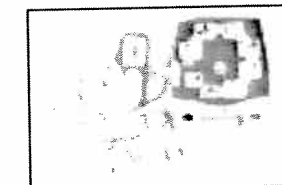
Simplifying electrode placement is critical to widespread use of AEDs. Labeling helps but is often overlooked or discarded in an emergency that is sudden and unanticipated. The infrequent rescuer is easily confused when looking at a victim as to "left," "right," "up," and "down." Two separate electrodes cause concern over incorrect placement and technical complications if electrodes stick together before being placed correctly on the patient. The unique one-piece design of ZOLL's **CPR-D•padz** addresses these problems by orienting the design to the head while using the easily remembered CPR landmark (the sternum) as the key placement cue. The backing of the electrode is then removed by a simple pull after positioning. Because this is the same placement taught for CPR hand position, AED users benefit from having to remember only one easy landmark for both interventions.



**CPR-D•padz** offer clear anatomical placement instructions and a CPR hand positioning landmark.

## Five-Year Shelf Life

Infrequently used AEDs need electrodes that do not require frequent replacement. Most AED electrodes will expire before they are used. Corrosion of the electrode element due to long-term contact with ionic gel is the main limitation of electrode shelf life. ZOLL's **CPR-D•padz** protect the electrode elements with a novel design that sacrifices a non-critical element in the electrode to control the corrosion process and allow an unmatched five-year AED electrode life. ZOLL's **CPR-D•padz** reduce electrode replacement costs, facilitate AED readiness and maintenance, and decrease the probability of an AED's failure due to electrode expiration.



**CPR-D•padz** come complete with rescue essentials including a barrier mask, razor, scissors, disposable gloves, and a towelette.

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[www.zoll.com/contacts](http://www.zoll.com/contacts).

## Specifications

### DEFIBRILLATOR

**Waveform:** Rectilinear Biphasic  
**Defibrillator Charge Hold Time:** 30 seconds  
**Energy Selection:** Automatic pre-programmed selection (Adult Mode: 120J, 150J, 200J; Pediatric Mode: 50J, 70J, 85J)  
**Patient Safety:** All patient connections are electrically isolated.  
**Charge Time:** Less than 10 seconds with new batteries  
**Electrodes:** ZOLL **CPR-D•padz**, **pedi•padz** II or **stat•padz** II  
**Built-in Defibrillator Self Test:** Included  
**CPR Metronome Rate:** Variable 60 to 100 CPM  
**Depth:** 3 1/4" to 3 1/8" to 7/8 cm  
**Defibrillation Advisory:** Evaluates electrode connection and patient ECG to determine if defibrillation is required  
**Shockable Rhythms:** Ventricular fibrillation with average amplitude >100 microvolts and wide complex ventricular tachycardia with rates greater than 100 BPM for adults, 200 BPM for pediatrics. For ECG Analysis Algorithm sensitivity and specificity, refer to AED Plus Administrator's Guide  
**Patient Impedance Measurement Range:** 0 to 300 ohms  
**Defibrillator Protected ECG Circuitry**  
**Display Format:** Optional LCD with Moving Bar  
**Size:** 2.6" x 1.3" x 6.6 cm x 3.3 cm

**Display Sweep Speed:** 25 mm/sec, 1"/sec  
**Battery Capacity:** Typical new (20°C) = stand-by life with batteries installed: 5 years (300 ±5 continuous shocks 250 ±5 shocks before "change battery" indicator and 50 ±5 shocks after "change battery" indicator) or 13 hours of continuous monitoring time  
**PC Minimum Requirements for Configuration and Patient Data Recovery:** Windows® 98, Windows® 2000, Windows® NT, Windows® XP, IBM compatible PC with 16550 UART (or higher) computer, 64MB RAM, VGA monitor or better, CD-ROM drive, K&A port, 20MB disk space

### DEVICE

**Size:** 1H x W x D: 5.25" x 9.50" x 11.50"  
13.3 cm x 24.1 cm x 29.2 cm  
**Weight:** 6.7 lbs, 3.1 kg  
**Power:** User Replaceable Batteries: 10, Type 123A Photo Flash Lithium manganese dioxide batteries  
**Device Classification:** Class II and internally powered per EN60601-1  
**Design Standards:** Meets applicable requirements of UL 2601, AAMI DF 39, IEC 601-2-4, EN60601-1, EN60601-1-2

### ENVIRONMENT

**Operating temperature:** 32° to 122°F, 0° to 50°C  
**Storage temperature:** 22° to 158°F, -20° to 60°C

**Humidity:** 10 to 95% relative humidity, non-condensing  
**Vibration:** MIL Std 810F, Min. Helicopter Test  
**Shock:** IEC 68-2 27, 100G  
**Altitude:** 300 to 15,000 ft., 91m to 4573m  
**Particle and Water Ingress:** IP 55

### CPR-D•padz

**Shelf Life:** 5 years  
**Conductive Gel:** Polymer Hydrogel  
**Conductive Element:** Tin  
**Packaging:** Multilayer foil laminate pouch  
**Impedance:** Class I low  
**Cable Length:** 43 in (11.1 m)  
**Standard Length:** 6.1 in (15.5 cm), Width: 5.0 in (12.7 cm), Length conductive gel: 3.5 in (8.9 cm), Width conductive gel: 3.5 in (8.9 cm), Area conductive gel: 12.3 sq in (79.0 sq cm)  
**Apex Length:** 6.1 in (15.5 cm), Width: 5.6 in (14.1 cm), Length conductive gel: 3.5 in (8.9 cm), Width conductive gel: 3.5 in (8.9 cm), Area conductive gel: 12.3 sq in (79.0 sq cm)  
**Complete assembly:** Folded length: 7.6 in (19.4 cm), Unfolded length: 17.0 in (43.0 cm), Folded height: 1.5 in (3.8 cm)  
**Design Standards:** Meets applicable requirements of ANSI/AAMI ISO DF 39:1993

**CE** 0197

Specifications subject to change without notice.

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AED Pro® (above right) provides advanced  
capabilities for BLS and ALS users, including  
EKG monitoring and manual defibrillation.

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With more than 25 years of experience in  
defibrillation, ZOLL is a pioneer in resuscitation  
solutions. ZOLL develops technologies to help  
advance the practice of resuscitation. With  
products for pacing, defibrillation, circulation,  
ventilation, data management, and fluid  
resuscitation, ZOLL provides a comprehensive  
set of technologies that can help clinicians, EMS  
professionals, and infrequent rescuers resuscitate  
sudden cardiac arrest and trauma victims.

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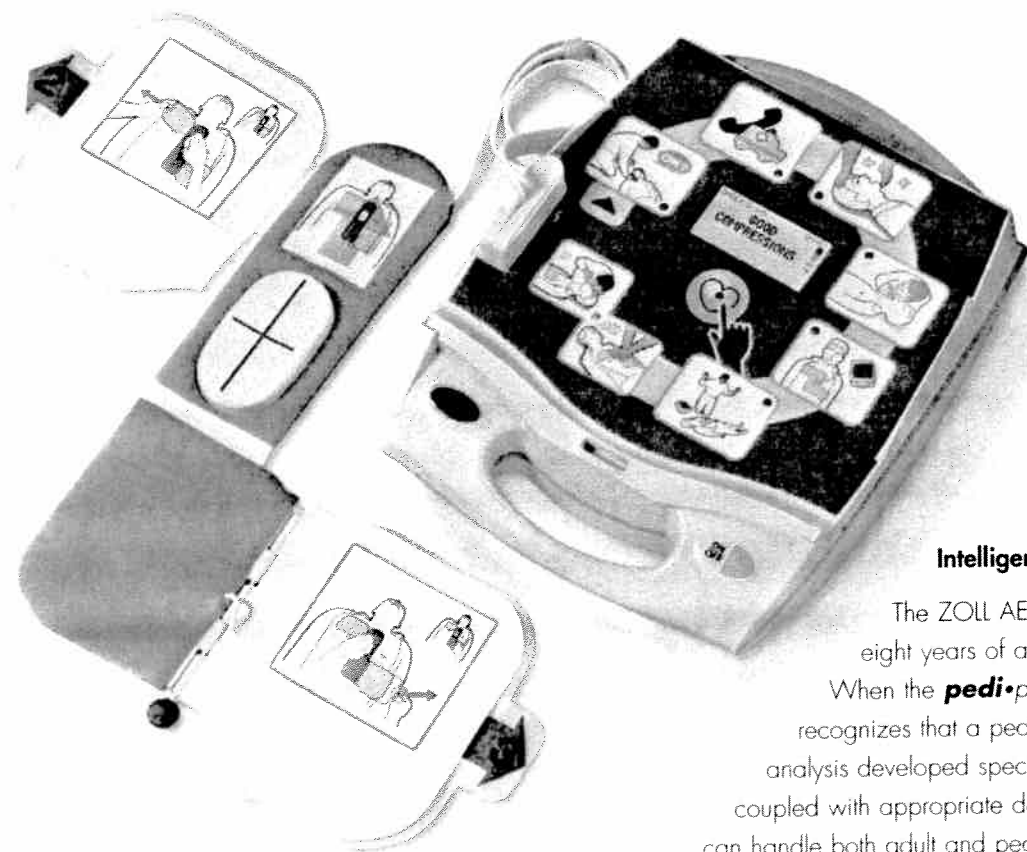
## Real CPR Help for Infrequent Rescuers When They Need it Most

### A Complete Road Map for Resuscitation

A picture is worth a thousand words. The AED Plus' unique graphical interface – pictures combined with text displays and voice prompts – helps rescuers every step of the way. Lights on the pictures draw the rescuer's attention to actions in the proper sequence. Text and voice prompts correspond to the pictures and help the rescuer perform every important life-saving action. These pictures and prompts assure that everything is done in order, and that shocks, if required, are delivered rapidly.

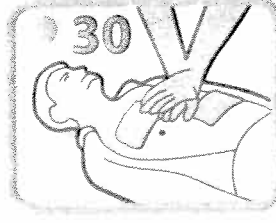
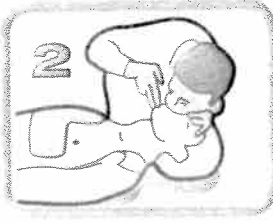
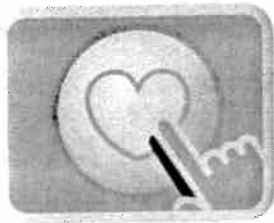
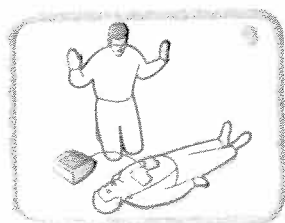
### One Electrode is Easier than Two

Ordinary AEDs require that the rescuer use two confusing electrodes. ZOLL's Full-Rescue AED features **CPR-D•padz™**, a one-piece, pre-connected pair of electrodes with Real CPR Help. By using CPR hand placement as the landmark, it is easy to place the **CPR-D•padz** on the victim quickly. The **CPR-D•padz** also last five years – the longest shelf life of any electrodes sold today.



### Intelligent Pediatric Capability

The ZOLL AED Plus can defibrillate children up to eight years of age, using the **pedi•padz® II** electrodes. When the **pedi•padz II** are connected, the AED Plus recognizes that a pediatric rescue is in progress. With ECG analysis developed specifically for a pediatric heart rate, coupled with appropriate defibrillation energy levels, the AED Plus can handle both adult and pediatric rescues.



## Lifesaving Technology

The patented load-distributing LifeBand squeezes a wide area of the chest, spreading out the force of the compressions and helping to maximize blood flow. In contrast, manual CPR and piston-driven devices concentrate the force on a very small surface area. The LifeBand also allows full decompression for maximum coronary perfusion.

## Simple and Smart

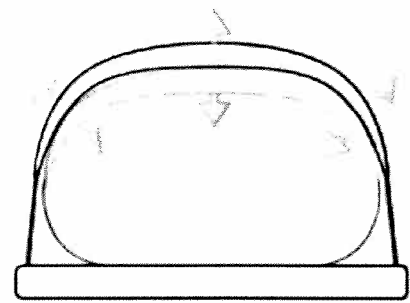
Deploying the AutoPulse takes only seconds by properly trained professionals. The AutoPulse automatically determines the size, shape, and resistance of each individual, then adjusts the force required to result in a true 20% anterior-posterior displacement.

## Integrated Data Management

After resuscitation, AutoPulse data can be easily uploaded to ZOLL's RescueNet® Code Review and seamlessly integrated with defibrillator and other critical event data to provide the most comprehensive pre-hospital patient record possible.

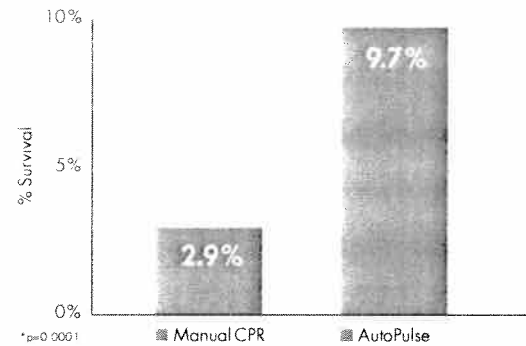
## Clinical Studies

A number of studies document the impact of AutoPulse on clinical outcomes, the efficacy of AutoPulse, including its ability to triple survival rates to hospital discharge.<sup>7</sup>



Load-distributing band (LDB) technology<sup>5</sup>

## AutoPulse Tripled Survival to Discharge<sup>7</sup>



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