

# Fully Automatic AED Plus®

## Technical Specifications



### Shock Delivered Automatically

When the Fully Automatic AED Plus detects a shockable heart rhythm, it delivers the shock on its own, with no rescuer interaction required. No one needs to push a button. Once the heart analysis begins and the Fully Automatic AED Plus prompts, "DON'T TOUCH PATIENT," if a shock is needed, it will be delivered automatically after a brief verbal countdown. Research shows that safety is not compromised when rescuers use a fully automatic rather than a semiautomatic AED.<sup>1</sup>

### Measuring Chest Compression with Real CPR Help

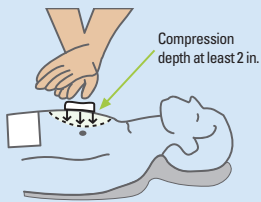
The force required to depress the chest during CPR varies with the patient's size and build. The standard measure of chest compression quality, however, is not force but depth. The Real CPR Help® technology in ZOLL's CPR-D-padz® includes a hand-placement locator, an accelerometer, electronics, and a processing algorithm that work together to measure vertical displacement in space as each compression occurs.

### Simplified Placement

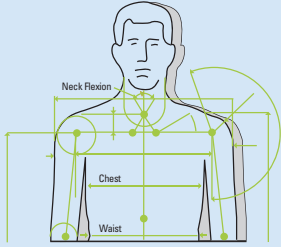
Affixing two separate electrode pads to the patient's bare chest can be confusing to a lay rescuer. ZOLL's one-piece CPR-D-padz Electrode simplifies this step by guiding placement of the red crosshairs at the center of the imaginary line connecting the patient's nipples. Once in place, the hand-locator and the two electrode pads fall naturally into optimal position for both defibrillation and CPR.

### Five-Year Shelf Life

All AED electrodes transmit defibrillating electricity into the patient via metal in close contact with a salt-infused gel that is positioned between the metal and the skin. Over time, however, the salt in the gel will corrode the metal and eventually compromise electrode functionality. ZOLL's novel electrode design includes a sacrificial element that prevents significant corrosion for five years, which is unmatched in the market today.



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



ZOLL's one-piece CPR-D-padz Electrode is easy to place.



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



Fully automatic shock delivery means there is no need to push the Shock button.

## Fully Automatic AED Plus Specifications

### Defibrillator

**Protocol:** Automatic

**Waveform:** Rectilinear Biphasic

**Energy Selection:** Automatic preprogrammed selection (120J, 150J, 200J)

**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

**Self-Test:** Configurable automatic self-test from 1 to 7 days. Default = every 7 days. Monthly full-energy test (200J).

**Automatic Self-Test Checks:** Battery capacity, electrode connection, electrocardiogram and charge/discharge circuits, microprocessor hardware and software, CPR circuitry and CPR-D sensor, and audio circuitry

**CPR: Metronome Rate:** Variable 60 to 100 CPM

**Depth:** 0.75 in. to 3.5 in.; 1.9 to 8.9 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 150 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

**ECG Circuitry:** Defibrillator protected

**Defibrillator:** Protected ECG circuitry

**Display Format:** Optional LCD with moving bar

**Size:** 2.6 in. x 1.3 in.; 6.6 cm x 3.3 cm

**Optional ECG Viewing Window:** 2.6 seconds

**Optional ECG Display Sweep Speed:** 25 mm/sec; 1 in./sec

**Battery Capacity:** Typical new (20°C) = 5 years (225 shocks) or 13 hours continuous monitoring. End of life designated by red X (typical remaining shocks = 9)

**Data Recording and Storage:** 50 minutes of ECG and CPR data. If audio recording option is installed and enabled, 20 minutes of audio recording, ECG, and CPR data. If audio recording option is installed and disabled, 7 hours of ECG and CPR data.

**PC Minimum Requirements For Configuration and Patient Data Recovery:** Windows® 98, Windows® 2000, Windows® NT, Windows® XP, Windows® 7, IBM-compatible PII with 16550 UART (or higher) computer. 64MB RAM. VGA monitor or better. CD-ROM drive. IrDA port. 2MB disk space.

### Device

**Size:** (H x W x D) 5.25 in. x 9.50 in. x 11.50 in.; 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, IEC60601-1-2

### Environmental

**Operating Temperature:** 32° to 122°F; 0° to 50°C

**Storage Temperature:** -22° to 140°F; -30° 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.; -91 m to 4573 m

**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:** Low

**Cable Length:** 48 in (1.2 m)

**Sternum:** 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); Folded width: 7.0 in (17.8 cm); Folded height: 1.5 in (3.8 cm)

**Design Standards:** Meets applicable requirements of ANSI/AAMI/ISO DF-39-1993

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<sup>1</sup>Hosmans T, et al. *Resuscitation*. 2008 May;77(2):216-19.

Specifications subject to change without notice.

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