

# LIFEPAK<sup>®</sup> 1000 DEFIBRILLATOR



Works like you work.™

There's no such thing as a typical day





## Respond quickly—with confidence

First on the scene in an emergency, users equipped with a LIFEPAK 1000 defibrillator can make the lifesaving difference for victims of cardiac arrest.





## LIFEPAK<sup>®</sup> 1000 DEFIBRILLATOR



**Flexibility**  
**Power**  
**Durability**  
**Easy to use**

As an upgradeable platform, the LIFEPAK 1000 defibrillator is a powerful and compact device designed to treat cardiac arrest patients and provide continuous cardiac monitoring capabilities. Built-in flexibility allows the 1000 to be programmed for use by first responders or professionals. The 1000 has the features you expect from a LIFEPAK defibrillator, including:

**Flexibility** — With two display options, the 1000 is easy to configure to your patient care protocols, or make changes as recommended by the American Heart Association and European Resuscitation Council.

**Power** — Escalating energy up to 360J provides the options you need for maximum defibrillation success. For patients who need more than one shock, increasing the dose of subsequent shocks has been shown to be a better strategy for terminating shockable heart rhythms.<sup>1,2,3</sup>

**Durability** — The most rugged defibrillator ever built by Physio-Control, you can carry the 1000 with confidence into the harshest of environments.

**Easy to use** — The simple, intuitive user interface and clear, comprehensive prompts empower trained users to respond quickly with confidence.

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## Built-in flexibility for first responders...

### First Responder

Quick response by the first person on the scene



Simple to use at a cardiac arrest scene, the LIFEPAK 1000 defibrillator features:

- Loud voice prompts and lighted buttons to guide you.
- Large LCD screen displaying graphics and text for quick reference can be seen from any angle and in bright sunlight.
- Pre-connected electrodes that help speed your response when every second counts. Pediatric therapy can be easily provided using the Infant/Child Reduced Energy Defibrillation Electrodes.

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Device management is easy with automated self-tests, viewable readiness display, and battery gauge on the device and on the battery itself.

# BLS

There's nothing basic about BLS



Because there's no such thing as a typical day on your job, we build the LIFEPAK 1000 defibrillator to adapt to your protocols and your patients.

Designed for and tested by emergency professionals, BLS users like the 1000 for its:

- Built-in flexibility to program the unit to your CPR and resuscitation protocols.
- High capacity battery to provide the power for up to 440 shocks or approximately 17 hours of monitoring time.
- Digitally recorded ECG rhythm and delivered shocks, which can be wirelessly transferred via IrDA port to a PC for post-event quality review.\*

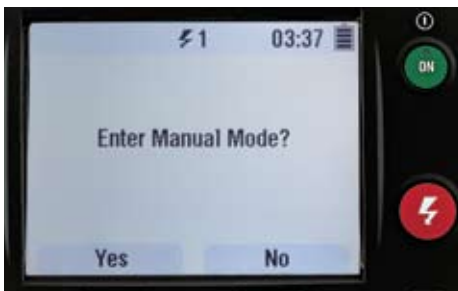
\*Using DT EXPRESS data transfer software and CODE-STAT data review software.

**Our cprMAX technology gives you a resuscitation platform that can increase CPR hands-on time and minimize delays between CPR and the defibrillation shock.**

...through advanced care professionals.

# ALS

Advanced capabilities  
when you need them



Packed with powerful features, the LIFEPAK 1000 defibrillator helps you deliver advanced care when every second counts.

The 1000 makes it easy for BLS and ALS teams to work in sync:

- From the streets to the emergency room, the 1000 is compatible with the full suite of lifesaving tools from Physio-Control, including our line of manual defibrillator/monitors.
- With the touch of a button, the 1000 operates in manual override,\*\* so you can decide when to analyze and shock.
- Lead II ECG patient monitoring\*\* on large display via 3-wire cable provides flexibility for ECG-trained users and enables ALS teams to quickly assess patient rhythm.

\*\* optional feature

## Complemented by a rich range of services and options

### Technical Service

Physio-Control proudly takes the lead in offering customers best-in-class technical support. We have the largest and best-trained network of field technical service representatives in the industry. On call 24 hours a day, 7 days a week (North America), our goal is to return your phone call within two hours, to work with you to quickly assess the problem and find the best solution. Our Redmond, Washington-based technical support center is also available to troubleshoot problems by phone.

### Training

Whether you are taking delivery of your first LIFEPAK 1000 defibrillator, or adding new options, your Physio-Control representative will provide training to help you get the most from your products. The 1000 also has a training solution available for purchase, complete with patient simulator and connector cable, training electrodes, lithium non-rechargeable battery and LIFEPAK 1000 product CD.

### Accessories

We offer a full catalog of accessories and disposable products to suit your needs.

### Quality Assurance/Quality Improvement Support

Our data management solutions make it easy to transfer patient information from the 1000 to your PC, consolidate patient data, and analyze outcomes across your system.

### Grant Consultation

This complimentary program helps Physio-Control customers streamline the grant research and writing process in order to upgrade equipment, implement new programs, and provide training. Customers receive guidance on identifying funding sources, timing grant applications, and crafting a grant proposal to improve the likelihood of success.





## DEFIBRILLATOR

All specifications are at 20° C unless otherwise specified.

**Waveform:** Biphasic truncated exponential with voltage and duration compensation for patient impedance\*

**Energy Sequence:** User configurable, 150 joules–360 joules. Default energy output settings are 200, 300, 360 joules. 360 joules for every shock thereafter.

**Charge Time:** With new, nonrechargeable battery pack; 200 joules in less than 7 seconds (360 joules in less than 12 seconds)

**3-wire (Lead II) monitoring capability:** (if ECG display option purchased) Requires purchase of 3-wire (Lead II) monitoring cable and LIFE-PATCH® electrodes

**Device Software:** Field upgradeable

**Infant/Child Reduced Energy Defibrillation Electrodes:** Reduces selected energy by a factor of 4. Intended for use only with children up to 8 years of age or 25kg (55 lbs).

**Safety Classification:** Internally powered equipment IEC 60601-1

**Electrical Protection:** Input protected against high voltage defibrillator pulses per IEC 60601-1



\*Voltage compensation is limited to the voltage that would result in delivery of 360 joules into 50 ohms.

## DEVICE SETTINGS

**Modes:**

- **AED** – Provides operating capability for basic users
- **Manual** – Provides operating capability for advanced users
- **ECG** – Provides ECG display capability with 3-wire ECG cable
- **Setup** – Allows user to configure the device
- **Data Transfer** – Allows user to transfer patient data
- **Auto Test** – Provides daily automatic tests of hardware and software

**Controls:** On/Off, Shock, Menu, Two (2) configurable soft keys

**User Defined Options:**

- **Device ID** – Assigns unique identifier to particular device
- **Energy Sequence** – User configurable from 150 to 360 joules
- **Flexible Energy** – Increases only after a lower energy was unsuccessful
- **Auto Analyze** – User can configure device to auto analyze, auto analyze after first shock, or prompt user to push analyze key before each analysis period
- **CPR Time** (post shock or after no shock advised) – User configurable - 15, 30, 45, 60, 90, 120, 180 seconds
- **Device Date/Time**
- **Voice Prompt Volume** – Allows user to change speaker volume
- **ECG Display** (if option purchased) – Turns display on/off for AED mode
- **Motion Detection** – User defined On/Off (default On)
- **Service Alert** – Audio alarm if the device needs servicing. Configurable on/off

- **Manual Access** (if ECG display option purchased) – Devices configured with an ECG display may be set up to allow user to initiate a charge and shock without analysis

**cprMAX Technology Settings:**

- **Initial CPR** – User defined time for CPR after first analysis regardless of analysis decision. Can be set to OFF, 15, 30, 45, 60, 90, 120 and 180 seconds.
- **Pre-shock CPR** – Allows for CPR while device is charging. Can be set to OFF, 15 or 30 seconds.
- **Confirmation Analysis** – Confirms shockable rhythm after completion of Initial CPR or Pre-shock CPR periods and prior to Push to Shock prompt (default Off)
- **Stacked Shocks** – (ON/OFF) When Off, allows for provision of CPR after each shock
- **Pulse Check** – (Always, After Every NSA, Never) Allows device to prompt for a pulse check either after each shock, after every NSA, or never prompt for a pulse check (default Never)

## DISPLAY

Backlit LCD displays number of shocks delivered, elapsed time, text and graphics of heart rhythm and optional ECG

**Size:** 120 mm (4.7 in) x 89 mm (3.5 in)

**Frequency Response:** 0.55 Hz to 21 Hz (-3 dB), nominal

**ECG option:**

- **Waveform Sweep Speed** – 25 mm/sec for ECG, nominal
- **Waveform Viewing Time** – Minimum 4 seconds
- **Waveform Amplitude** – 1 cm/mV, nominal
- **Heart Rate** – 20 to 300 BPM digital display. Display “---” if heart rate is less than 20 bpm. Heart symbol flashes for each QRS detection.

ECG information is received from the adult and Infant/Child electrodes in anterior-lateral or anterior-posterior positions. A 3-wire cable can be used for ECG monitoring (Lead II).

## ENVIRONMENTAL

One Hour Operating Temperature (from room temperature to temperature extreme, one hour duration): -20 to 60°C (-4 to +140°F)

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

**Storage Temperature:** -30 to 60°C (-22 to +144°F) with battery and electrodes (maximum exposure limited to 7 days)

**Atmospheric Pressure:** 575 hPa to 1060 hPa (4572 to -382 meters; 15,000 to -1253 feet)

**Relative Humidity:** 5 to 95% (non-condensing)

**Dust/Water Resistance:** IP55 with battery and REDI-PAK™ electrodes installed (IEC 60529/EN 60529)

**Bump:** 15 g, 1000 bumps (IEC 600-68-2-29)

**Shock:** 40 g peak, 15 - 23 ms, 45 Hz cross over frequency

**Drop:** 1 meter drop on each corner, edge and surface (MIL-STD-810F, 516.5, Procedure IV)

**Vibration:** Random vibration test - MIL-STD-810F, Method 514.5, Category 20; Ground vehicle 3.15 g rms 1 hour per axis

**EMI:**

- **Radiated** - IEC 60601-2-4, IEC60601-1-2, CISPR 11 Class B Group 1
- **Immunity** - IEC 60601-2-4, IEC 60601-1-2; IEC 61000-4-2 (Level 4), IEC 61000-4-3, IEC 61000-4-6, IEC 61000-4-8

## EVENT DOCUMENTATION AND COMMUNICATION

**Memory Capacity:** Dual patient storage. Minimum 40 minutes ECG for current patient. Summarized data for previous patient.

**Report Types:** Continuous ECG, summary (critical resuscitation events and associated ECG waveforms), event log report (report of time stamped entries reflecting operator and device activity), test log report (self test activity report)

**Capacity:** Minimum 100 time stamped event log entries

**Data Review:** CODE-STAT™ Suite 6.1 Medical Informatics System, LIFENET® DT Express 2.1 Information Management System or higher

**Communications:** Infrared wireless transfer to personal computer

## BATTERY AND READINESS DISPLAY

Note: See operating instructions for information on battery care

**Primary Battery** (nonrechargeable battery with status indicator):

- **Type** – Lithium Manganese Dioxide (Li/MnO<sub>2</sub>), 12.0V, 4.5 amp-hours
- **Capacity** – Typically will provide 440 200 joule shocks or 1030 minutes of operating time with a new battery (370 200 joule shocks or 900 minutes of operating time at 0°C)
- **Weight** – 0.45 Kg (1.0 lb)
- **Shelf Life** – After the battery is stored for 5 years at 20°C to 30°C, the device will provide 48 months of standby life
- **Standby life** (assuming daily tests only) – A new battery provides device power for 5 years
- **Low battery indication** – At least 30 shocks or 75 minutes of operating time remain when low battery is first indicated

## PHYSICAL CHARACTERISTICS

**Height:** 8.7 cm (3.4 in)

**Width:** 23.4 cm (9.2 in)

**Depth:** 27.7 cm (10.9 in)

**Weight:** 3.2 kg (7.1 lbs) with one set of REDI-PAK electrodes and one nonrechargeable battery



Experience the legendary quality that has made LIFEPAK products and services the clear favorite around the world.

As your trusted partner in saving lives, we offer a full suite of solutions from field to hospital, whether your need is emergency response or quality control analysis. The gold standard, LIFEPAK products are continually evolving to keep pace with the changing nature of patient care.

#### Defibrillators/Monitors

##### LIFEPAK 12 Defibrillator/Monitor

Over 80,000 LIFEPAK 12 defibrillator/monitors are in use today—on rescue rigs and in hospitals worldwide. Feedback from this global community keeps us innovating—adding features to help you in your lifesaving work. The LIFEPAK 12 defibrillator/monitor packs multi-parameter therapeutic and diagnostic functions into a rugged, portable device. Use a tool that can tackle today's patient care needs and adapt to tomorrow's challenges.

##### LIFEPAK 20 Defibrillator/Monitor

The LIFEPAK 20 defibrillator/monitor extends and enhances the LIFEPAK family of products, providing a flexible, compatible and standardized solution for patients across a range of hospital settings. It is highly intuitive to use and adapts to various patient environments. It skillfully combines an AED function for the infrequent, BLS trained responder, with manual capability so that ALS trained clinicians can quickly and easily deliver advanced diagnostic and therapeutic patient care.

##### LIFEPAK CR® Plus Automated External Defibrillator

Designed for minimally trained rescuers in commercial and public settings, the *CR Plus* guides the rescuer step by step with calm, clear voice prompts. Simple to use, it is built with the same advanced defibrillation technology used by EMS and hospital personnel.



### **CPR Assistance**

#### **LUCAS™ Chest Compression System**

Designed to provide effective, consistent and uninterrupted compressions according to AHA Guidelines, the device is used on adult patients in out-of-hospital and hospital settings. Maintaining high quality hands-free compressions frees responders to focus on other lifesaving therapies and enables them to wear seat belts during transport.

### **Data Management and Connectivity Tools**

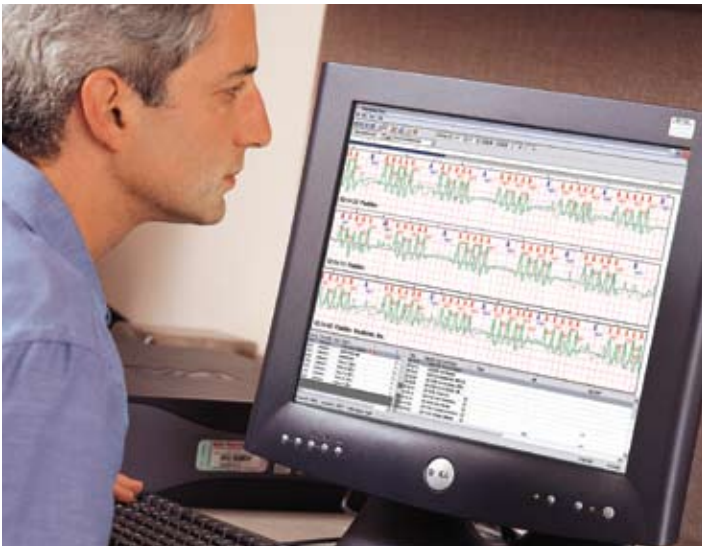
#### **LIFENET® STEMI Management Solution**

Enabling a seamless, secure and flexible flow of ECG data among prehospital, emergency room, and PCI treatment centers helps you quickly identify STEMI patients, improve door-to-balloon times and reduce false positive cath lab activations. With the touch of a button, EMS responders send 12-lead ECG data from the LIFEPAK 12 defibrillator/monitor to multiple endpoints.



#### **CODE-STAT™ Data Review Software with Advanced CPR Analytics**

This post-event review tool annotates chest compressions onto the patient's continuous ECG report and calculates CPR statistics, helping you assess your compliance to the current guidelines. The software simplifies data collection and reporting by consolidating all dispatch, treatment and outcome data into a single e-file. Download, review, manage, and analyze emergency medical data from multiple LIFEPAK defibrillators. The application also facilitates quality analysis and business decisions, allowing creation of benchmarking and trending reports to review your system's performance.



#### **DT EXPRESS™ Data Transfer Software**

This simple Windows-based software application manages data from LIFEPAK devices. The software makes it easy to download critical event and waveform data to your PC, add supplemental patient data, print out a hardcopy report, and store records on a disk. For storage and on-screen viewing of reports, export files to CODE-STAT data review software.

For more than 50 years, Physio-Control, maker of the renowned LIFEPAK defibrillators, has been developing technologies and designing devices that are legendary among first response professionals, clinical care providers and the community.

#### REFERENCES

- 1 Stiel IG, Walker RG, Nesbitt LP, et al. Biphasic Trial: A randomized comparison of fixed lower versus escalating higher energy levels for defibrillation in out-of-hospital cardiac arrest. *Circulation*. 2007;115:1511-1517.
- 2 Chapman FW, Walker RG, Koster RW. Use of 360 joule biphasic shocks for initial and recurrent ventricular fibrillation in prehospital cardiac arrest [ERC abstract O-33]. *Resuscitation*. 2006;69:49-50.
- 3 Walsh SJ, McClelland AJJ, Owen CG, et al. Efficacy of distinct energy delivery protocols comparing two biphasic defibrillators for cardiac arrest. *AM J Cardiol*. 2004;94:378-380.

For further information please contact your local Physio-Control representative or visit [www.physio-control.com](http://www.physio-control.com)



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