Medtronic
PHYSIO-CONTROL

LIFEPAK® 500

Automated External Defibrillator

ADAPTIV™ Biphasic Technology

Always visible readiness display

Simple 2- or 3-button operation

Low maintenance

Portable, lightweight

Rugged, durable

Powerful, user-friendly data management

Compatible with Medtronic Physio-Control electrodes and LIFENET® data management system

The LIFEPAK 500 automated external defibrillator is designed to be used by first responders to cardiac emergencies. This affordable, rugged device is extremely portable at only seven pounds (3.2kg). Low maintenance requirements and intuitive operation make it the ideal product for infrequent AED users.

The *500* offers a choice of ADAPTIV Biphasic Technology or industry standard Edmark defibrillation waveforms, both with the capability to deliver shocks at energy levels recommended by current American Heart Association and international guidelines. Both monophasic and biphasic devices utilize the same field-proven Shock Advisory System™ used in thousands of LIFEPAK AEDs since 1986.

Features include pre-connected QUIK-COMBO™ electrodes that save valuable time on-scene and are compatible with other LIFEPAK defibrillators; clear, concise voice prompting for defibrillation and CPR; LCD for text messages, shock count, CPR time, and real-time clock. Choice of simple 2- or 3-button operation allows the *500* to meet the needs of responders with a variety of training and experience levels. Automatic self-testing saves time and improves testing consistency. Always visible readiness display (available on devices with ADAPTIV biphasic technology only) provides SERVICE REQUIRED or LOW BATTERY alert. Battery options include a rechargeable sealed lead-acid battery and high capacity extended shelf-life lithium batteries that require no recharging and no maintenance.

ECG data and on-scene audio (optional) are stored digitally within the device for maximum durability and simplicity. Incident data can be conveniently transmitted from the *500* to medical control via modem. CODE SUMMARY™ reports can be printed directly to a standard printer for rapid access to information. User-friendly PC-based software allows complete, efficient review of both ECG and audio data. *500* data can be stored in a CODE-STAT™ database with other Medtronic Physio-Control defibrillator and 12-lead data for comprehensive system-wide review and reporting.

DEFIBRILLATOR

Input: ECG via QUIK-COMBO or FAST-PATCH® disposable electrodes. Standard placement (anterior-lateral).

Electrical Protection: Input protected against high voltage defibrillator pulses per IEC 60601/EN 60601.

Safety Classification: Internally powered equipment IEC 60601-1/EN 60601-1, 5.1.

Waveform: Monophasic pulse (Edmark) per AAMI DF2 1989, 3.2.1.5.1.

Biphasic truncated exponential, with voltage and duration compensation for patient impedance.*

Output Energy Sequence: Monophasic: 200, 200, 360 joules (360 joules thereafter) or 200, 300, 360 joules (360 joules thereafter).

Biphasic: Three levels, user configurable from 200 to 360 joules, delivered (Level 1, Level 2, Level 3, Level 3...).

Charge Time: With a new, nonrechargeable battery pak, or a new, fully charged rechargeable battery pak:
200 joules in less than 9 seconds
360 joules in less than 15 seconds

Controls:

ON/OFF	Turns device power on or off.
ANALYZE (optional)	Starts ECG analysis.
SHOCK	Delivers defibrillation energy. Active only when Shock Advisory System advises defibrillation.

Clock Set: Two switches ▲ and ▶ are provided to set the clock.

Display: Two-line, 20-character per line dot matrix Liquid Crystal Display.

Low Battery Indicator: Low battery icon:
At least 11 discharges remaining with nonrechargeable battery pak.
At least 6 discharges remaining with rechargeable battery pak.

Service Indicator: Service icon.

Displayed Messages: Messages prompt user through complete operating sequence.

Audible Tones: Coded tones assist user through device operation and alert operator of display messages.

Voice Prompts: Prompt user through complete operation sequence.

***Note:** Specifications apply from 25 to 200 ohms. Voltage compensation is limited to the voltage that would result in delivery of 360 joules into 50 ohms.

EVENT DOCUMENTATION

Type: Internal digital memory.

Memory Capacity: 20 minutes audio recording (optional). ECG and event log of operator/device actions:
At least 20 minutes if unit is configured with audio recording and audio recording setup option is ON.
At least 80 minutes if configured with audio recording and audio recording setup option is OFF.
At least 60 minutes if not configured with audio recording.

Report Types: CODE SUMMARY report, Event Log report, Test Log report.

Capacity: 300 Event Log events. 30 Test Log device tests (assuming no fault codes).

Communications: Options:
- Direct connection to personal computer.
- Modem connection to personal computer using Hayes AT-Compatible modem.
- Print direct with EPSON® ESC/P protocol for printers with 9-pin printheads.

Data Review: LIFENET system compatible. Options:
- DATA TRANSFER™ 500 information management program.
- QUIK-VIEW™ 500 data review program.
- CODE-STAT SUITE data management system, v2.0 or above.

ENVIRONMENTAL

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

Storage Temperature: -30° to +65°C (-22° to +149°F) without battery and electrodes.

-30° to +65°C (-22° to +149°F) with battery and electrodes, maximum exposure time limited to one week.

Atmospheric Pressure: 760 to 429mmHg (0 to +15,000 ft above sea level).

Relative Humidity: 10 to 95% (non-condensing).

Water Resistance: IEC 60529/EN 60529 IPX4 "Splash-proof" with electrodes or connector cover installed.

Shock: MIL-STD-810E, Method 516.4, Procedure 1 (40g, 6–9ms pulse, 1/2 sine each axis).

Vibration: Monophasic version: MIL STD 810E, Method 514.4, Category 10.
Biphasic version: MIL-STD-810E, Method 514.4, Helicopter—Category 6 (3.75 Grms) and Ground Mobile—Category 8 (3.15 Grms). RTCA D0 160C, Table 8–2 Fixed Wing—Turbojet Engine Classification C' (Fuselage). Test level per Figure 8–5 C'. One hour in each of three axes.

Aircraft: Tested to RTCA/DO-160C, "Environmental Conditions and Test Procedures for Airborne Equipment." (Details available upon request.)

BATTERIES

Note: See Operating Instructions for information on caring for batteries.

Rechargeable SLA Battery Pak

Type: Sealed lead-acid, 8V, 2.5 amp hours.

Capacity: Typical: 59 full discharges or 3 hours of "ON" time with a new, fully charged battery. Minimum: 43 full discharges with a new, fully charged battery.

Battery Charge Time: 10±1 hours. Battery charging limited to +15° to +35°C (+59° to +95°F).

Recommended Replacement Interval: 2 years or 200 battery charge/discharge cycles, whichever comes first using recommended battery maintenance procedures.

Weight: 0.9kg (1.9 lb).

Nonrechargeable Lithium Sulphur Dioxide ($LiSO_2$) Battery Pak

Type: Sealed lithium, 12V, 7.5 amp-hours.

Certification: FAA: TSO-C97 or CAA: BS2G237.

Capacity: Typical: 312 full discharges or 14 hours of "ON" time. Minimum: 230 full discharges with a new battery.

Shelf-Life: 5 years** (4 years for aircraft use.)

Weight: 0.5kg (1.2 lb).

Nonrechargeable Manganese Dioxide ($LiMnO_2$) Battery Pak

Type: Sealed lithium, 12V, 10.0 amp-hours.

Capacity: Typical: 416 full discharges or 18 hours of "ON" time. Minimum: 230 full discharges with a new battery.

Shelf-Life: 5 years.

Weight: 0.5kg (1.2 lb).

****Note:** See Operating Instructions for information on caring for batteries.

GENERAL

Physical Characteristics

Height: 10.2cm (4.0 in).

Width: 26.7cm (10.5 in).

Depth: 29.5cm (11.6 in) including handle.

Weight: Monophasic version: 6.2 lbs (without battery or electrodes). Biphasic version: 5.3 lbs (without battery or electrodes).

Defibrillation protected, type BF patient connection.

All specifications are at 20°C unless otherwise specified. All performance specifications assume the device has been stored (two hours minimum) at the operating temperature prior to operation.

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When Life Depends on Medical Technology

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