

# CardioAid 200B

## Biphasic Defibrillator

5-second charge



CE  
0120

STAR™ Biphasic technology  
Extremely short charging time  
2-hour monitoring time or 100 shocks  
Manual, Synchronous, Semi-automatic mode  
16 languages  
External pacemaker



100 shocks

A faded background image showing a medical professional in a white protective suit and mask using the CardioAid 200B defibrillator on a patient lying on a gurney. The professional is holding the device's handles over the patient's chest.

## Semi-automatic

The user is guided through the semi-automatic procedure with clear screen and voice prompts. This ensures safe and intuitive use and minimizes the chances for operator confusion. The easy-to-use interface also reduces staff training requirements.

## Flexible features

The Cardio-Aid® 200B is the ideal defibrillator for the hospital environment. The Cardio-Aid® 200B user interface and advanced features enable both experienced and infrequent users to provide fast and precise defibrillation at all times.



## User friendly

Open the flap and access manual defibrillation, external pacing, and synchronized cardioversion features. This hidden keyboard allows experienced users to access manual operation while eliminating confusion for infrequent users.



## Automatic self test

The Cardio-Aid® 200B wake up self check automatically starts every 24 hours advising of operational status and ensuring the unit is ready at all times.

## Battery and mains operation

The built-in battery provides at least 2 hours of monitoring or 100 shocks at maximum energy level. Connected to the mains the battery can be charged in 1 hour.

5 SEC  
FOR



## Extremely short charging time

The typical charging time is 5 seconds (7 seconds at first shock), which ensures the shortest possible time to shock.

It is possible to discharge into the built-in tester in order to verify energy discharge accuracy.



# ONDS LIFE



## STAR™ Biphasic Technology

The STAR™ (Self-Tracking Active Response) biphasic waveform was designed with one principle in mind: optimized energy delivery. The STAR™ biphasic waveform technology provides optimized energy delivery by measuring the patient's impedance (body's opposition to the flow of electrical current) and customizing a waveform to deliver the most effective therapy possible.

In clinical trials STAR™ biphasic waveform was successful in 100% of defibrillation attempts, even though pre-hospital data has shown defibrillation success rates of 89% with an average patient.

## All-in-Hand™ Simple Operation

Users can choose from pre-gelled pads -"- semi-automatic mode, hand-free defibrillation - or ergonomic paddles with controls. During operation the paddles allow the setting of energy levels, the start of charge and shock, so the user only controls the paddles and does not have to touch the device. Internal electrodes are available for defibrillation during open-heart surgery.

## OPTIONS



MEMORY CARD SLOT



STRIP-CHART PRINTOUT



PULSEOXYMETER

## ACCESSORIES



DEFIBRILLATION / PACER  
ELECTRODES



INTERNAL ELECTRODES  
FOR CARDIAC SURGERY



BED HOOK FOR RAIL  
AND BED MOUNTING



COMBINED PEDIATRIC /  
ADULT PADDLES



CODELOG DATA STORAGE  
(SOFTWARE)



ACCESSORY BAG FOR  
RESUSCITATION ITEMS

## GENERAL

- Size: 31 x 36 x 25cm
- › Weight: 7.6kg incl. defibrillator electrodes and battery
- › 9kg incl. paddles, battery, pacer and recorder
- › Power: 100-240VAC, 50/60Hz, max. 270W
- › Temperature: Operating: 0 - 40°C / Storage: -10°C - 60°C (<168h)
- › Humidity: 30 - 95% relative, non-condensing
- › Classification: Class I / Internally powered equipment
- › Water protection: Drip-proof equipment (IP22)
- › Mode of operation: Continuous operation

## LCD

- › Type: Black and white LCD with CCFL backlight
- › Size: 120 x 90mm
- › Resolution: 320 x 240 pixel
- › ECG window: 4.0s
- › ECG speed: 25mm/s

## DEFIBRILLATOR

STAR™ BIPHASIC TECHNOLOGY WITH MAX. 270 - 360 JOULE PATIENT IMPEDANCE COMPENSATED OUTPUT ENERGY

- › Energy recharge time to max. energy: typically < 5s
- › Energy settings:
  - AED: #1=200J, #2=200J, #3=270J or according to configuration menu settings
- › Selectable energies:
  - With external defibrillation electrode: 2 - 360J in 15 steps
  - With internal defibrillation electrode: 1 - 50J in 15 steps
- › Energy availability: Auto disarm after 30s
- › Synchronous defibrillation with internal QRS synchron generation
- › Synchronization shock delay: Typically 40ms (<60ms) from QRS peak
- › Synchronization marker: "S" with a vertical line
- › Classification:
  - External defibrillation: BF
  - Internal defibrillation: CF

## ECG

- › Lead selection:
  - P (defibrillator electrodes)
  - Ext (external signal source)
  - I, II, III (3-lead cable)
  - I, II, III, aVR, aVL, aVF, VX (5-lead cable)
- › QRS volume: Selectable 0 - 5
- › Gain: x0.25, x0.5, x1, x2, x4, auto (default)
- › CMRR: Typically 110dB (50 / 60Hz) (with notch filter)
- › Differential input: +/- 5mV
- › Overload recovery time: Typically < 4s
- › Differential dynamic range: +/- 360mV
- › Classification: CF, defibrillator-proof
- › QRS detection trigger level: 200µV
- › Heart rate alarm limits (manual / pace mode, adjustable in 1 b / min steps)
  - ECG manual alarm upper limit: max. 300 b / min
  - ECG manual alarm lower limit: min. 30 b / min
  - Heart rate alarm delay: lower and upper limit: < 10s
  - Heart rate display: 1 b / min steps

## ECG VIA DEFIBRILLATOR ELECTRODES

- Mode: Differential
- › Frequency response (-3dB):
  - Display: 2 - 25Hz
  - Printer (option): 2 - 30Hz
- › Impedance range: 20 - 1000Ohm measured at 70kHz
- › Pace pulse handling: Slew rate limitation without marker

## ECG VIA ECG ELECTRODES

- › Mode: Differential
- › Frequency response (-3dB without filter):
  - Display: 0.05 - 25Hz
  - Printer: 0.25 - 105Hz
- › Pace pulse handling: Pace detector with marker. Max. pace rhythm 180 b / min

## ECG FROM MONITOR

- › Dynamic range: +/- 5V (1V/mV signal)
- › Max. ECG signal delay in monitor: 5ms

## MEMORY CARD

- › Capacity: 256KByte - 16MByte
- › Data storage time: min. 1 year
- › Type: SRAM 68-pin
- › Conforming to JEIDA 4.0
- › Card standard PCMCIA 1.0
- › Storage capacity (approximate number of sequences of 28s):
  - 256k=35; 512k=70; 1M=140; 2M=280; 4M=570; 8M=1140; 16M=2280

## BATTERY

- › Type: Built-in, quick-charge NiCd, 12V 2.4Ah
- › Operating time at 20°C: 2 hours or 100 shocks at 360J
- › Charging time for fully depleted battery: 1 hour
- › Lifetime: Min. 18 months at normal use (i.e. up to 1 charge cycle per day)

## PACER (OPTION)

- › Mode: VVI demand or VVO fixed
- › Pulse type: Rectangular, constant current
- › Pulse duration: 40ms +/- 10%
- › Pulse amplitude: Variable 20 - 200mA +/- 10% (default 0mA)
- › Pulse adjust step size: +/- 1mA (+/- 5mA after 1s)
- › Pace rate: Variable 30 - 180 p / min +/- 5% (default 50 p/min)
- › Pace rate adjust step size: +/- 1 p / min (+ 5 - 20 p / min after 1s)
- › Output voltage: Max. 350V

## PRINTER (OPTION)

- › Print modes: Manual or automatic (selectable)
- › Print time: Selectable - 15, 20, 30s, continuous
- › Speed: 25mm/s or 50mm/s
- › Paper: Heat sensitive, 58mm x approx. 25m
- › Mode: ECG delayed by 8s
- › Weight: 370g

## PULSEOXYMETER (OPTION)

- › Sensor: Reusable finger sensor
- › Saturation: 1 - 100% SpO2
- › Accuracy (70 - 100%) +/- 3%
- › Pulse rhythm: 20 - 300 b / min
- › Accuracy: (20 - 250) +/- 3 b / min

## REMOTE CONTROL (OPTION)

- › External interface via PCMCIA port: PCMCIA to RS232 adaptor card 2 port
- › Parity: none
- › Data bits: 8
- › Stop bit: 1
- › Flow control: XON/XOFF
- › Baud rate: 9600

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