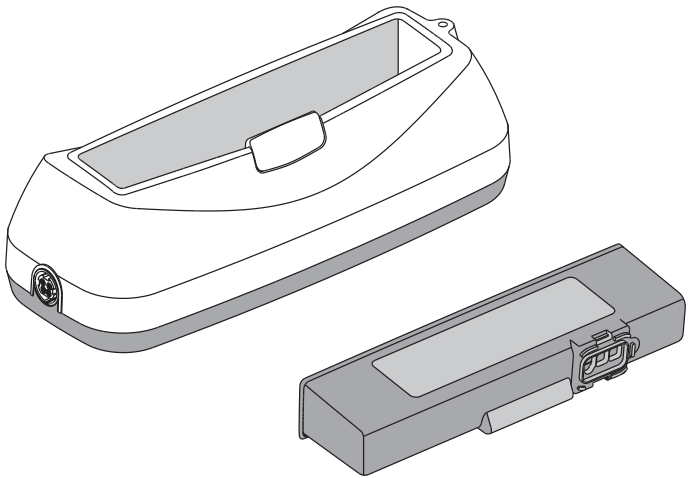


Defibtech DBP-2009 Automated External Defibrillator (AED) Rechargeable Battery Pack and Charging Stand



User Manual

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1 Introduction

This User Manual provides information to guide administrators and users in the operation and maintenance of the Defibtech DBP-2009 Rechargeable Automated External Defibrillator (AED) Battery Pack and its associated Charging Stand.

1.1 Overview

The Defibtech DBP-2009 Rechargeable AED Battery Pack is an optional accessory that can be used to power Defibtech Lifeline DDU-2000 series AEDs.* The Rechargeable Battery Pack is compatible with all current Defibtech DDU-2000 series AEDs, there are no changes needed to the AEDs to use rechargeable Battery Pack and the AED's performance specifications are not compromised in any way by using the Rechargeable Battery Pack. The Battery Pack must be removed from the AED to be charged and is charged by the Defibtech AED Rechargeable Battery Pack Charging Stand.

The Rechargeable Battery Pack is intended and designed for defibrillation programs that have the personnel and commitment to routine AED maintenance and/or situations where the AED is used frequently. Like all rechargeable batteries, the Rechargeable Battery Pack naturally discharges its capacity over time, and, therefore, must be actively attended to in order to be ready for use. Those programs with dedicated maintenance practices or high volume use environments are better suited and equipped to deal with the constraints of periodically removing the rechargeable battery pack from the AED and charging it, as compared to others that prefer the longer life battery of a non-rechargeable battery pack. When installed in the AED, the battery capacity is automatically assessed by the AED self-testing and because the Battery Pack must be removed from the AED for charging, it is recommended that other batteries be readily available in the event of a rescue situation when the Battery Pack is being charged.

The Charging Stand is used in conjunction with a Wall Charger that has an integrated AC outlet connection for use with interchangeable plug adapters. The Wall Charger's cable inserts in the Charger Port on the Charging Stand. The Charging Stand is a stand-alone item, intended for indoor use only. Refer to the appropriate Defibtech DDU-2000 series AED User Manual for AED specifications.

2 Safety Information

This chapter includes a list of danger, warning, and caution messages that relate to the Defibtech Rechargeable Battery Pack and Charging Stand.

Many of these messages are repeated elsewhere in this User Manual and in the Defibtech AED User Manuals.

- | | |
|-----------------|---|
| DANGER: | Immediate hazards that will result in serious personal injury or death. |
| WARNING: | Conditions, hazards, or unsafe practices that may result in serious personal injury or death. |
| CAUTION: | Conditions, hazards, or unsafe practices that may result in minor personal injury, damage to the Rechargeable Battery Pack and Charging Stand, or loss of data. |

* Essential performance.

2.1 Warnings



All users must read these instructions for use before using the Rechargeable Battery Pack and Charging Stand.



Do not use the Charging Stand in the presence of flammable gases or anesthetics. When using the Rechargeable Battery Pack installed in an AED or with Charger, use care when operating close to oxygen sources (such as bag-valve-mask devices or ventilator tubing). Turn off gas source or move away from patient, if necessary.



Do not use the Charging Stand in a hyperbaric oxygen chamber. Failure to follow this warning may cause explosion or fire.



Use only the Wall Charger supplied with the Rechargeable Battery Pack. Using other chargers or cables may cause unsafe conditions.



Do not charge a Battery Pack which is damaged, discolored or has leakage. It may cause overheating, explosion or fire.



Select a location where the Wall Charger can easily be removed from the power source and where the Wall Charger and Charging Stand are not blocked by other items.



Do not cover up the Battery Pack or Charging Stand when it is in use.



If the Battery Pack and/or any part of the Charging Stand becomes too hot to touch or otherwise appears faulty, immediately disconnect the Wall Charger from the AC outlet, attach a "Do not use" or "To be repaired" label on the Battery Pack or Charging Stand and contact your local distributor or Defibtech representative.



Care should be taken to maintain the condition of the Wall Charger cable. Do not forcibly bend or place heavy objects on the cable. If the cable is damaged, do not use it.

2.2 Cautions



Only charge a Defibtech-specified Rechargeable Battery Pack in the Charging Stand. If an unspecified battery pack or a non-rechargeable battery is charged, it may cause overheating, explosion, fire or leakage.



Do not disassemble or modify the Battery Pack or Charging Stand. It may cause overheating, fire, electrical shock, or injury.



The Charging Stand is made for indoor use and is not water/dust proof or resistant. Do not place the Charging Stand in locations that are extremely hot or cold, dusty or dirty, very humid, or vibrating. If the Charging Stand is exposed to any of these conditions, it may cause fire or injury.



Do not drop the Battery Pack or Charging Stand or apply a mechanical shock to it.



Do not store or use the Battery Pack or Charging Stand outside of the specified conditions.



Before cleaning or disinfecting the Battery Pack or Charging Stand, disconnect the Wall Charger connector from the AC outlet. Failure to follow this instruction may result in electrical shock and Charging Stand malfunction.

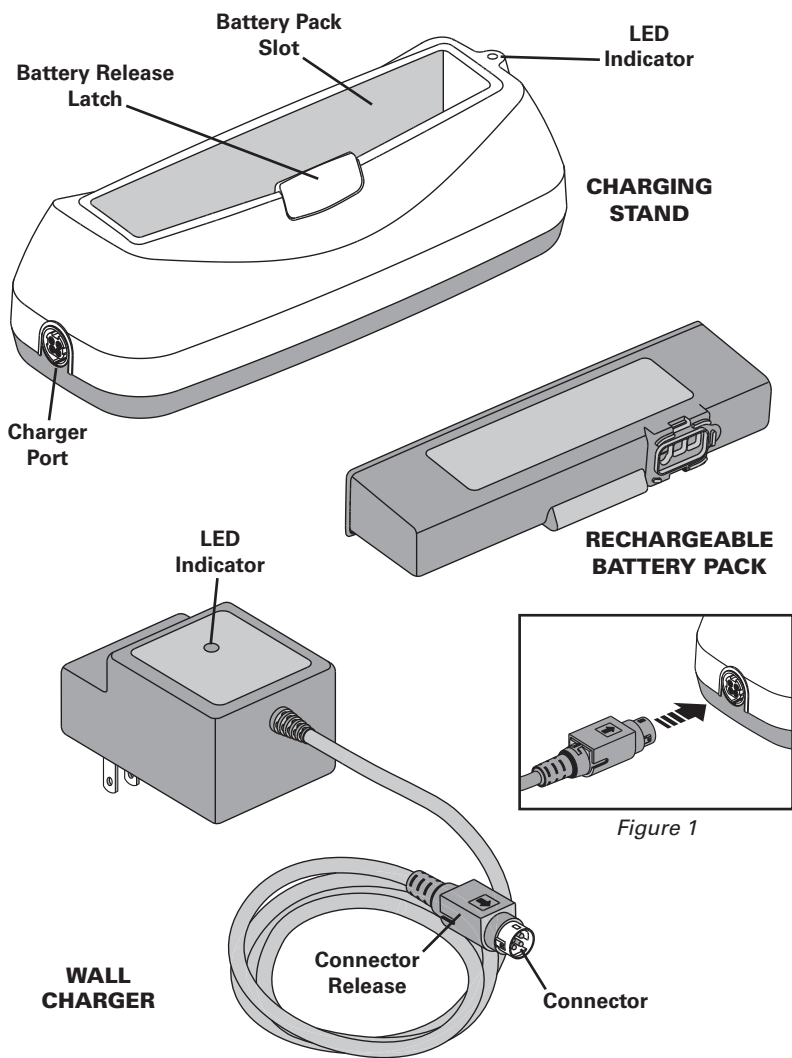


Dispose of the Rechargeable Battery Pack and Charging Stand according to your local laws and your facility's guidelines for waste disposal. Otherwise, it may affect the environment.



If there is a possibility that the Rechargeable Battery Pack and Charging Stand may have been contaminated with bodily fluids, dispose of it as medical waste according to your local laws and your facility's guidelines for medical waste. Otherwise, it may cause infection.

3 The Battery Pack and Charging Stand



<i>Component</i>	<i>Description</i>
DBC-2001	Charging Stand
DBP-2009	Rechargeable Battery Pack
DPM-2001	Wall Charger

4 Setup Instructions

4.1 Assembly



WARNING

Use only the Wall Charger supplied with the Charging Stand. Using other chargers or cables may cause unsafe conditions.

1. Place the Charging Stand near an accessible AC power outlet on a level surface.
2. Ensure that the Wall Charger plug adapter (if supplied) is correct for your AC power outlet.
3. Connect the Wall Charger cable to the Charging Stand by inserting the Connector Jack into the Charger Port until it clicks into place and locks (see *Figure 1* at left).
4. Plug the Wall Charger into an AC outlet. The LED on the Wall Charger and the Charging Stand will momentarily light green.

4.2 Charging the Battery Pack

It takes about 3 hours to charge a new fully-depleted Battery Pack. The charging time differs depending on operating environment.

1. Before inserting any Battery Pack into the Charging Stand, ensure that the date is within the Battery Pack's useful life specifications.
2. Insert the Battery Pack into the Battery Pack Slot, pushing firmly until the Battery Pack clicks into place.
3. Upon initial insertion, the charging process begins immediately as indicated by a blinking green LED on the Charging Stand and the Wall Charger. Throughout the charging process, these LEDs will continue to blink green. **Note:** If the LED indicator does not light, check all cables and connections.
4. When charging is complete, the LED on the Charging Stand and the Wall Charger will be steady green.

Note: Refer to the Troubleshooting section of this document should other indicators be present or if all connections are good but the LED indicators do not illuminate.

4.3 Removing the Battery Pack After Charging

For ease of maintenance, it is recommended that the Battery Pack should be fully charged before putting it back into use unless it is required for emergency use.

1. Press the release latch on the Charging Stand to release the Battery Pack from the Charging Stand.
2. Confirm that the Battery Pack is sufficiently charged by inserting it into the AED. See the appropriate AED User Manual for additional details.
3. If the Battery Pack does not have sufficient capacity, ensure that another battery is available or see Section 5, "Troubleshooting."

Note: Leaving a Battery Pack in the Charging Stand after it has reached a fully-charged state will not damage the Battery Pack or the Charging Stand.

4.4 Post-Charging and Storage

When the Battery Pack is fully charged, the Charging Stand LED will be steady green.

1. To cut off the power to the Charging Stand, disconnect the Wall Charger from the wall AC outlet.
2. To disconnect the Wall Charger from the Charging Stand, grasp the Connector Release and pull so that its housing slides back, allowing the Connector to unlock from the Charger Stand's Charger Port.
3. While not using the Charging Stand, store it in a clean and dry environment.
4. When not using the Wall Charger and Wall Charger connector, refer to the storage instructions and specifications contained in this User Manual.

Note: When the Charging Stand is not in use for prolonged periods of time, it is recommended that the Wall Charger be removed from the AC outlet in order to extend the useful life of the Charging Stand and the Wall Charger.

4.5 After Each Use

Follow the Defibtech AED User Manual instructions on the recommended steps after each use or as otherwise indicated, including performing a battery insertion test (which assesses battery capacity). Your maintenance program should consider how frequently the AED is used, the elapsed time for charging the Battery Pack, the personnel responsible for performing the maintenance and availability of other equipment (i.e. spare AEDs or batteries).

Note: Since all rechargeable battery packs discharge their capacity regardless of use, Defibtech does not recommend storing the DBP-2009 Rechargeable Battery Pack with any DDU-2000 Series AED as an inactive spare or in situations where storage duration is less than the battery pack stand-by life.

5 Troubleshooting

5.1 LED Indications

The following table lists the indications displayed by both the Charging Stand LED and the Wall Charger LED when powered and connected:

LED Indication	Description
Single Green Flash	Power up
Green Flashing	Fast charging
Green Solid	Fully-charged
Off	See troubleshooting table (Section 5.2)

5.2 Troubleshooting Table

Note: If the actions in the following table do not solve the problem, attach a “Do not use” or “To be repaired” label or similar on the affected item and contact your local distributor or Defibtech representative.

<i>Symptom/Observation</i>	<i>Possible Cause/Criteria</i>	<i>Action</i>
The LED indicators on the Charging Stand and the Wall Charger are not lit	No power or Wall Charger and/or cable malfunction	Confirm that power is being supplied to the Charging Stand from the AC source. Check that the Wall Charger and Charging Stand are firmly connected. Make sure a Battery Pack is installed in the Charging Stand.
	Battery Pack and Charging Stand connection not established	Clean the Battery Pack contacts. Clean the Charging Stand contacts. Replace the Battery Pack with a new one. Replace the Wall Charger with a new one.
	The Battery Pack temperature is out of range	Put the Charging Stand (including Wall Charger) and Battery Pack in a place within environmental specifications. Charging automatically starts when the Battery Pack is within the specified temperature range.
	The Battery Pack has reached the end of its useful life	Replace the Battery Pack with a new one.
	There is a malfunction with the Battery Pack, Charging Stand, and/or Wall Charger	Contact your local distributor or Defibtech representative.
Wall Charger LED is lit but Charging Stand LED is not or vice-versa	No power or Wall Charger and/or cable malfunction	Confirm that power is being supplied to the Charging Stand from the AC source. Check that the Wall Charger and Charging Stand are firmly connected. Make sure a Battery Pack is installed in the Charging Stand.

6 Disposal



Dispose of the Rechargeable Battery Pack and Charging Stand according to your local laws and your facility's guidelines for waste disposal. Otherwise, it may affect the environment.



If there is a possibility that the Rechargeable Battery Pack and Charging Stand may have been contaminated with bodily fluids, dispose of it as medical waste according to your local laws and your facility's guidelines for medical waste. Otherwise, it may cause infection.

Refer to the appropriate Defibtech AED User Manual for disposal of other items.

6.1 Notice to European Union Customers

The crossed-out wheeled bin symbol  on this product indicates that this equipment has been put on the market after 13 August 2005, and is included in the scope of the directive 2002/96/EEC on Waste Electrical and Electronic Equipment (WEEE) and of the national decree(s) which transpose provisions of such directive.

At the end of its lifetime, this product can only be disposed of in compliance with the provisions of the above-mentioned European directive (and following possible revisions) as well as with the corresponding national regulation. Severe penalties are possible for unauthorized disposal.

Electrical and Electronic Equipment (EEE) may contain polluting components and hazardous substances the accumulation of which could pose serious risk for the environment and human health. It is for this reason that local Administrations provide regulations, which encourage reuse and recycling, and prohibit the disposal of WEEE as unsorted municipal waste and require the collection of such WEEE separately (at specifically authorized treatment facilities). Manufacturer and authorized distributors are required to supply information about a safe treatment and disposition of the specific product.

You may also return this equipment to your distributor when purchasing a new one. As for reuse and recycling, notwithstanding the limits imposed by the nature and the use of this product, the manufacturer will do his best to develop recovery processes. Please contact the local distributor for information.

7 Cleaning and Disinfecting



Before cleaning or disinfecting the Battery Pack or Charging Stand, disconnect the Wall Charger connector from the AC outlet. Failure to follow this instruction may result in electrical shock and Charging Stand malfunction.

The following are important guidelines must be adhered to when cleaning the Battery Pack and Charging Stand:

Use a soft cloth dampened with one of the following recommended cleaning agents:

- Soapy water
- Ammonia-based cleaners
- Hydrogen peroxide
- Isopropyl alcohol (70 percent solution)
- 3 percent chlorine bleach/water mixture

Do not immerse the Battery Pack, Charging Stand, or Wall Charger in fluids or allow fluids to enter the items.

Do not spray cleaning solutions directly on the Battery Pack, Charging Stand, or Wall Charger or in any connectors.

8 Maintenance

The Charging Stand and Wall Charger are designed for minimal maintenance. When the Charging Stand and Wall Charger have not been recently used, dropped or otherwise as required by local protocol, it is recommended that periodically:

- The Charging Stand and Wall Charger be visually inspected to ensure that (1) they are clean and dry, (2) no parts are damaged or rattling, and (3) the Wall Charger cable jacket is not dirty, damaged, or torn.
- The power-on and charging functionality of the Charging Stand and Wall Charger be checked by removing the Battery Pack from the Charging Stand, connecting the Wall Charger cable and verifying that the LED indicator on the Charging Stand and Wall Charger briefly flashes green.

See Section 4.5 of this User Manual for recommended maintenance of the Battery Pack when installed in a Defibtech AED.

8.1 Repair Parts Availability Policy

The Battery Pack, Charging Stand, Wall Charger, Wall Charger connector and cable contain no user serviceable parts.

9 Specifications

9.1 Battery Pack Specifications

Type

Lithium Ion (Li-ON), Rechargeable, Recyclable
11.1 VDC, 2.0 Ah, 22.2 Wh

Battery Pack Charging Time*

Less than 3 hours

Stand-by Life (installed in Defibtech AED)*

3 months

Battery Pack Useful Life

Recommended to replace Battery Pack every 3 years
(~300 charge/discharge cycles).

Capacity*

12 hours of operation in ECG monitoring mode or minimum 250 shocks

Low Battery Indicators (when installed in AED)

Visual
Audible

Environment (Operating Conditions)

Temperature: 0 to 50°C (32 to 122°F)**
Humidity: 5 to 95% (non-condensing)

Environment (Storage and Transport Conditions)

Temperature: 0 to 50°C (32 to 122°F)
Humidity: 5 to 95% (non-condensing)

Electromagnetic Compatibility

IEC 60601-1-2: 2010

The Charging Stand and the Rechargeable Battery Pack (when installed in the AED) has the same EMC performance specifications as the Defibtech AED powered by a non-rechargeable battery. Refer to the appropriate Defibtech AED User Manual for details.

Physical

Weight: 3.2 ounces (90.7 g)

*Typical, fully-charged, new Battery Pack at 20°C.

**Maximum while charging: 40°C (104°F).

9.2 Charging Stand Specifications (including Wall Charger)

Power Requirements for Wall Charger

Line voltage: 100 to 240 V (nominal)

Line frequency: 50/60 Hz

Power input: 0.6A

Environment (Operating Conditions)

Temperature: 0 to 40°C (32 to 104°F)

Humidity: 15 to 95% (non-condensing)

Environment (Storage and Transport Conditions)

Temperature: -20 to 80°C (-4 to 176°F)

Humidity: 15 to 95% (non-condensing)

Safety Standard

IEC 60601-1:2012

Type of protection against electrical shock: CLASS II EQUIPMENT













Degree of protection against harmful ingress of water: IPX0 (non-protected)










Physical

Dimensions (stand): 7.3 x 3.0 x 2.3 inches (18.5 x 7.6 x 5.8 cm)

Weight (stand and charger): 9.6 ounces (272.2 g)

10 Glossary of Symbols

Symbol	Meaning
	Caution, consult accompanying documents.
	Consult operating instructions.
	Handle with care.
	Transportation and storage requirements. See environmental requirements.
	Keep dry.
	Do not damage or crush.
	Do not expose to high heat or open flame. Do not incinerate.
	Operational temperature limitation.
	This way up.
	Meets the requirements of the European Medical Device Directive.
	Meets the requirements for battery accumulators.
	Conformity to product safety testing requirements.

Symbol	Meaning
	For USA users only.
Rx ONLY	Federal Law (USA) restricts this device to sale by or on the order of a physician.
	Follow proper disposal procedures.
	Manufacturer.
	Serial number.
	Lot number (yy-ww).
	Catalogue number.
	Lithium-ion battery.
	Use by (yyyy-mm).
IPX0	No special protection. Refer to IEC 60529 for further information.
	Authorized European Representative: Emergo Europe Molenstraat 15 2513 BH The Hague The Netherlands

11 Contacts



Defibtech, L.L.C.
741 Boston Post Road, Suite 201
Guilford, CT 06437 USA

Tel.: 1-(866) 333-4241 (Toll-free within North America)

1-(203) 453-4507

Fax: 1-(203) 453-6657

Email:

sales@defibtech.com

reporting@defibtech.com

service@defibtech.com

(Sales)

(Medical Device Reporting)

(Service and Repair)

