

# Generator Footswitch

## USER'S MANUAL

# BTX<sup>®</sup>

HARVARD APPARATUS

The Electroporation Experts



### INTRODUCTION

The BTX Generator Footswitch is designed to allow hands-free operation of the ECM<sup>®</sup> 830 electroporator. The footswitch function is identical to the Start button on the front panel of the instrument. Once all the parameters are dialed in, simply press and release the footswitch or Start button to activate pulse delivery or abort a pulse sequence. The BTX Generator Footswitch is designed for use with BTX ECM<sup>®</sup> 830 Square Wave Electroporator. Versions 1.08 and beyond have software that supports the footswitch operation, so no further modification of the electroporator is required. If you have a version prior to V1.08, please contact:

BTX Customer Service at **1-800-272-2775**

Please have the instrument serial number (on the back panel) ready to expedite the process.

**IMPORTANT:** Read all Instructions, Warnings and Precautions prior to use.

FOR RESEARCH PURPOSES ONLY

Order No.	Model	Description
45-0211	1250 FS	Footswitch for Hands-Free Remote Control

# Generator Footswitch

## GENERAL INFORMATION

### Warranty

BTX/Harvard Apparatus warrants this BTX Generator Footswitch for a period of 90 days from date of purchase. At its option, BTX/Harvard Apparatus will repair or replace the item if it is found to be defective as to workmanship or material. This warranty does not extend to damage resulting from misuse, neglect, or abuse, normal wear and tear, or accident. This warranty extends only to the original customer purchase.

**IN NO EVENT SHALL HARVARD APPARATUS BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.** Some states do not allow exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you. **THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, OR OF ANY OTHER NATURE.**

Some states do not allow this limitation on an implied warranty, so the above limitation may not apply to you. If a defect arises within the 90 day warranty period, promptly contact: **BTX/Harvard Apparatus, 84 October Hill Road, Holliston, Massachusetts 01746-1388** using our toll free number **1-800-272-2775 (Outside the U.S. call 1-508-893-8999)**. Goods will not be accepted for return unless an RMA (Return Materials Authorization) number has been issued by our customer service department. The customer is responsible for shipping charges. Please allow a reasonable period of time for completion of repairs or replacement and return. If the unit is replaced, the replacement unit is covered only for the remainder of the original warranty period dating from the purchase of the original device. This warranty gives you specific rights, and you may also have other rights which vary from state to state.

**Note:** BTX electrodes are not recommended for use with power supplies or cables from other manufacturers. Such use is completely at the customer's own risk as it may result in damage, create unsafe conditions and will immediately void the 90 day warranty.

**IMPORTANT:** Read all Instructions, Warnings and Precautions prior to use.

### Technical & Customer Service

BTX® is the ultimate resource for technical information on the use of high voltage bacterial transformation and general electroporation of molecules and drugs into cells. We constantly track and monitor scientific publications in this area. Our Technical Service group extracts and enters pertinent information, such as results and parameters from these papers into a Protocol database. This database is available via the BTX website. Please visit [www.btxonline.com](http://www.btxonline.com). For technical assistance, additional information or an inquiry/request for repair service, contact BTX/Harvard Apparatus Technical Support/Customer Service Group at:

**BTX®**

**A Division of Harvard Apparatus**

**84 October Hill Road**

**Holliston, MA 01746-1388 U.S.A.**

**Toll Free: 1-800-272-2775** (U.S. only)

**Phone: 1-508-893-8999**

**Fax: 1-508-429-5732**

**E-mail: [techsupport.btx@harvardapparatus.com](mailto:techsupport.btx@harvardapparatus.com)**

**Internet: [www.btxonline.com](http://www.btxonline.com)** (click on customer service)

If outside the United States and Canada: call **1-508-893-8999** or contact your nearest BTX Distributor. A complete list of distributors is on our website.

## GENERAL SAFETY INFORMATION

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazard, use this product only as specified. Only qualified BTX personnel should perform service procedures.

### To Prevent Hazard or Injury:

**DO NOT USE WITH FRAYED OR DAMAGED CORD/CONNECTOR**  
**DO NOT USE FOOTSWITCH ON ANY EQUIPMENT OTHER THAN THE ECM® 830CE**

**AVOID WATER ON THE FLOOR WHEN USING THE FOOTSWITCH**  
**KEEP HANDS CLEAR OF FOOTSWITCH DURING OPERATION**  
**DO NOT OPERATE IN WET/DAMP CONDITIONS**

### Safety Terms and Symbols:

Terms that appear in this manual:



**WARNING.** Warning statements identify conditions or practices that could result in injury or loss of life.



**CAUTION.** Caution statements identify conditions or practices that could result in damage to these products or other property.

Symbols that may appear on the products:



Danger  
High  
Voltage



Attention  
Refer to  
Manual



Protective  
(Earth)  
Terminal



Functional  
Ground  
Terminal

# Generator Footswitch

## OPERATION: GETTING STARTED

### WARNING HIGH VOLTAGE

1. Connect the footswitch to the SmartLink™ port on the front panel of the ECM® 830. Make sure the orientation of the connector on the footswitch cable matches that of the SmartLink™ orientation (The flat side of the connector head should face left).
2. Lay the footswitch flat on the floor close to where the operator will stand.
3. The footswitch function is identical to the Start button on the front panel of the instrument. Once all the parameters are set, simply press the footswitch or Start button to activate pulse delivery or abort a pulse sequence.

**Note:** The BTX Generator Footswitch is designed to allow hands-free operation of the generator.

## APPENDIX A: SPECIFICATIONS

### Generator Footswitch Electrical & Technical Specifications

#### Environmental Capabilities:

Operating Temperature	0° to 40°C
Storage Temperature	-25° to 60°C
Intended Use	Indoor use only
Relative Humidity	30 to 75%
Storage Humidity	10 to 100% (non-condensing)
Maximum Altitude	2,000 m (6,562 ft)
Pollution Degree	II
Insulation Category	CAT I

#### Physical Characteristics:

Footprint, L x D x H	11.4 x 8.9 x 5.1 cm (4.5 x 3.5 x 2 in)
Weight	< 0.9 kg (< 2 lbs)
Cord Length	3.1 m (10 ft)

#### Compatibility:

Generators*	ECM® 830 with Software Version 1.08 and beyond
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#### \*Note: Compatible ECM® 830 Generators

The footswitch is not compatible with all early model ECM® 830 generators. Please see the list of serial numbers that identify compatibility.

S/N# 8300-83100	Not compatible
S/N# 83100-8310249	Can be upgraded to be compatible
S/N# 8310249-to date	Are compatible with Footswitch

## APPENDIX B: REPLACEMENT PARTS

Order No.	Model	Description
45-0211	1250FS	Footswitch for Hands-Free Remote Control

*\*The BTX Generator Footswitch complies with EC Safety Directive, EN61010-1:1993+A2:1995*

## APPENDIX C: TROUBLESHOOTING

Please contact BTX Technical Service at any of the numbers listed below in the event of any failure.

### BTX®

A Division of Harvard Apparatus  
84 October Hill Road

Holliston, MA 01746-1388 U.S.A.

Toll Free: 1-800-272-2775 (US only)

Phone: 1-508-893-8999

Fax: 1-508-429-5732

E-mail: techsupport.btx@harvardapparatus.com

Internet: www.btxonline.com (click on customer service)



ECM™ 830 Footswitch

**CAUTION**  
FOR RESEARCH USE ONLY  
NOT FOR CLINICAL  
USE ON PATIENTS

# WEEE/RoHS Compliance Statement

## EU Directives WEEE and RoHS

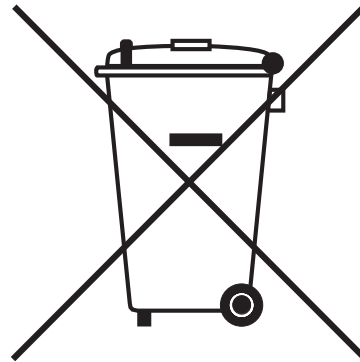
To Our Valued Customers:

We are committed to being a good corporate citizen. As part of that commitment, we strive to maintain an environmentally conscious manufacturing operation.

The European Union (EU) has enacted two Directives, the first on product recycling (Waste Electrical and Electronic Equipment, WEEE) and the second limiting the use of certain substances (Restriction on the use of Hazardous Substances, RoHS). Over time, these Directives will be implemented in the national laws of each EU Member State.

Once the final national regulations have been put into place, recycling will be offered for our products which are within the scope of the WEEE Directive. Products falling under the scope of the WEEE Directive available for sale after August 13, 2005 will be identified with a "wheelie bin" symbol.

Two Categories of products covered by the WEEE Directive are currently exempt from the RoHS Directive – Category 8, medical devices (with the exception of implanted or infected products) and Category 9, monitoring and control instruments. Most of our products fall into either Category 8 or 9 and are currently exempt from the RoHS Directive. We will continue to monitor the application of the RoHS Directive to its products and will comply with any changes as they apply.



- **Do Not Dispose Product with Municipal Waste**
- **Special Collection/Disposal Required**

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