

# For those who **get there first**

With access to the right equipment and support, everyone can help save a life. Philips HeartStart FRx defibrillator with Life Guidance acts as your personal coach to guide you through a cardiac emergency with a simple, step-by-step process. Adaptive instructions keep you on track and intelligent sensors automatically deliver the right therapy, helping give you the confidence to lead the way to save a life.



The HeartStart FRx defibrillator includes advanced Life Guidance features to help guide the treatment of sudden cardiac arrest. With easy set-up, clear voice prompts, and rugged design, HeartStart FRx is designed for all on-the-spot responders.



## Power to save a life



In the United States, it is estimated that SCA outpaces deaths from prostate cancer, house fires, traffic accidents, and HIV combined.<sup>1-4</sup> Yet there is hope. Over half the victims of the most common cause of SCA can survive when treated early with CPR and shock from a defibrillator.<sup>5</sup>

When treating an infant or a child, simply insert the Infant/Child Key, and the FRx defibrillator adjusts instruction and shock energy. Pre-connected SMART Pads II can be used for both adults and children, so you don't waste a single second changing pads.

# Ready to act. Ready to go.

The FRx defibrillator features Life Guidance intuitive, step-by-step voice instructions, including CPR coaching, to help give responders the confidence that's needed when treating a cardiac arrest. A clear, calm voice and descriptive visual icons guide you through every step, from pad placement to cardiopulmonary resuscitation (CPR) and shock delivery. The voice prompts are paced to your actions, so that you don't need to worry about feeling rushed, overwhelmed, or slowed down.

#### **CPR** assistance

Just press the blue i-button for assistance with CPR, and Life Guidance provides instructions and audio cues for the appropriate number, rate, and depth of chest compressions, as well as for each breath. If the Infant/Child Key is inserted, the instructions adapt to CPR instructions that are appropriate for an infant or child.

#### **Defibrillation guidance**

To deliver a shock, simply place the pads on bare skin where indicated by the placement diagram, and press the orange

Shock button when prompted. Flashing icons and a quick reference guide augment the voice instructions, so you'll know what to do even in a noisy setting.

#### **EMS** hand-off

The FRx even reminds you to be sure that emergency medical services (EMS) has been called. And once EMS arrives, hand-off is fast and easy because the FRx pads are compatible with advanced defibrillators from Philips and other manufacturers. Special adapters allow our pads to be plugged into advanced care devices to provide continuity of care.



#### Ready the moment it arrives

The HeartStart FRx Ready-Pack configuration arrives virtually ready to rescue. Just pull the green tab to initiate the FRx self-test that confirms its readiness for use, and put the device into service. The FRx Ready-Pack comes with the FRx already inside its carry case, with pads connected, battery inserted, and a set of spare pads in place. Set-up is easy, and you have the peace of mind of knowing the device is deployed correctly.



#### Ready the moment you need it

The FRx is designed as one of the most comprehensive self-testing devices on the market. It performs more than 85 automated daily, weekly, and monthly self-tests to check pad readiness and verify functionality and calibration of circuits and systems, and it can go up to four years between battery replacements.



#### Ready for any environment

On the scene with law enforcement, on the field with student-athletes or on the job with employees, the FRx is the solution for treating SCA in environments and conditions too demanding for other defibrillators. Lightweight, rugged, and reliable, it can withstand rough handling, extreme temperatures, or dusty or wet environments. Rigorous testing includes jetting water and withstanding loads up to 225 kg (500 lbs.).

### Save time. Save lives.

The FRx is ready for you when you arrive on the scene. Pre-connected SMART Pads II can be used for both adults and children, helping deliver therapy more quickly.



Patented Quick Shock typically administers a shock just eight seconds after CPR, making the FRx among the fastest in its class at delivering shock treatment after CPR. Studies show that minimizing time to shock after CPR may improve survival. 6-9 As American Heart Association Guidelines 2010 notes, "Reduction in the interval from compression to shock delivery by even a few seconds can increase the probability of shock success." 10

## Easy as 1–2–3 in an emergency



1

Press the green On/Off button, which activates voice instruction and visual icons.



2

Place the pads on the patient as directed.



3

When advised by the device, press the orange Shock button.



# **Personalized** therapy. **Enhanced** care.

The FRx contains remarkable technology that adapts to the situation at hand.



- Integrated SMART Pads II placed on the victim's bare skin sense and adapt the defibrillator's instructions to your actions every step of the way.
- SMART Analysis automatically assesses heart rhythm and will only deliver a shock if the rhythm is determined to be shockable – even if the Shock button is pressed.
- Sensors in the pad also immediately measure the resistance of the patient's body and adjust shock attributes accordingly, so that the right current is delivered to the heart on every needed shock.
- Artifact detection allows ECG analysis even in the presence of most pacemaker artifacts and many other electrical noise sources. When more challenging sources of artifact are detected, the voice prompts suggest corrective action.

#### For infants, children, and adults

SMART Pads II can be used for both adults and children. Simply insert the Infant/Child Key into the FRx to signal to the device that you're treating an infant or a child. The defibrillator adjusts its Life Guidance to provide special pads placement and CPR instructions. The pads icons also flash to show you the optimized pads placement, and the device reduces defibrillation therapy to a level more appropriate for an infant or a child.

Because you don't have to switch pads based on the person's age, you can deliver therapy quickly, and you don't have the extra expense of purchasing separate pads for adults and children.

#### **Proven therapy**

At the core of all HeartStart defibrillators are SMART Analysis and SMART Biphasic technologies. SMART Analysis determines if a shock is needed. And the SMART Biphasic shock waveform is highly effective at treating cardiac arrest, yet reduces side effects. Effectiveness of these technologies is proven by more than 40 published, peer-reviewed studies. Effectiveness

### HeartStart FRx defibrillator specifications

Defibrillator		Patient analy		
Defibrillator family HeartStart FRx Ready-Pack configuration	Order 861304. Defibrillator, battery, SMART Pads II (1 set), Setup and Maintenance Guides, Owner's Manual, Quick Reference Guide, date sticker Order Option R01. Defibrillator, battery, carry case, SMART Pads II (1 pre-connected set, 1 spare set), Setup and Maintenance Guides, Owner's Manual,	Patient analysis	Evaluates patient ECG to determine if a rhythm is shockable. Rhythms considered shockable are ventricular fibrillation (VF) and certain ventricular tachycardias (VT) associated with lack of circulation For safety reasons, some VT rhythms associated with circulation will not be interpreted as shockable	
Waveform	Quick Reference Guide, date sticker  Truncated Exponential Biphasic; waveform		and some very low-amplitude or low-frequency rhythms will not be interpreted as shockable VF.	
	parameters adjusted as a function of each patient's impedance	Sensitivity/ specificity	Meets AAMI DF80 guidelines and AHA recommendations for adult defibrillation	
Therapy	Adult defibrillation: peak current 32 A (150 J nominal into a 50-ohm load) Pediatric defibrillation with optional FRx Infant/Child Key installed: peak current 19 A (50 J nominal into 50-ohm load)	Shock advised	Able to deliver a shock as soon as the device indicates a shock is advised	
		Quick Shock	Able to deliver a shock after the end of a CPR interval, typically in 8 seconds	
Protocol	Device follows preconfigured settings; defibrillation	Shock-to-shock cycle time	Typically less than 20 seconds between shocks in a series	
User interface	and CPR protocol can be customized using HeartStart Event Review software	Artifact detection	Allows ECG analysis even in the presence of most pacemaker artifact and electrical noise sources; other artifacts are detected and corrective voice	
Instructions	Detailed voice prompts and visual icons guide		prompts issued	
mstractions	responder through use of the defibrillator	Battery (M5070A)		
CPR coaching	Voice coaching for adult and infant/child CPR provides instructions and audio cues for the	Item number(s)	Standard: M5070A Aviation: 989803139301 (TSO C-142-U.S. only)	
	appropriate number, rate, and depth of chest compressions, as well as for each breath	Type	9 Volt DC, 4.2 Ah, lithium manganese dioxide, disposable long-life primary cell	
Controls	Green On/Off button, blue i-button, orange Shock button, optional Infant/Child Key	Capacity	Minimum 200 shocks or 4 hours of operating time (EN 60601-2-4:2003)	
Indicators	Ready light, blue i-button, caution light, illuminated pads, icons, Shock button lights up when shock is advised	Install-by date	Battery is labeled with an install-by date of at least 5 years from date of manufacture	
Physical	when shock is advised	Standby life	Four years typical when battery is installed by the install-by date (will power the AED in standby	
Size	6 cm x 18 cm x 22 cm (2.4" x 7.1" x 8.9") D x H x W		state within the specified standby temperature range, assuming 1 battery insertion test and no defibrillation uses)	
Weight	With battery and pads case: 1.5 kg (3.5 lbs.)	SMART Pads II		
	al/physical requirements	Item number	989803139261	
Sealing	Waterjet-proof IPX5 per IEC60529 Dust-protected IP5X per IEC60529	Active surface area	80 cm <sup>2</sup> (12.4" <sup>2</sup> ) each 85 cm <sup>2</sup> (13.2" <sup>2</sup> ) each	
Temperature	Operating/Standby: 32° – 122° F (0° – 50° C)	Cable length	121.9 cm (48")	
Altitude Aircraft	0 to 15,000 feet  Device: RTCA/DO-160D;1997	Use-by date	Pads case is labeled with a use-by date of at least	
Crush	500 pounds	Infant/Child Key	2 years from date of manufacture  Item # 989803139311	
Vibration	Operating: meets MILSTD 810F Fig.514.5C-17, random Standby: meets MILSTD 810F Fig.514.5C-18, swept sine	,	Training SMART Pads II	
EMI (radiated/	CISPR II Group I Class B, IEC 61000-4-3,	Item number	989803139271	
immunity)	and IEC 61000-4-8	Function	Special pads place HeartStart FRx into training mode and disable its energy delivery capability;	
	g and transmission		features eight real-world training scenarios	
Infrared	Wireless transmission of event data to a Smartphone or PC, using the IrDA protocol		nd user-activated self-tests  Tests internal circuitry, waveform delivery system,	
HeartStart Event Review	Data management software (optional) for download and review of data retrieved through	self-tests	pads, and battery capacity	
software Data stored	defibrillator's infrared data port  First 15 minutes of ECG and the entire incident's	Pads integrity test	Specifically tests readiness-for-use of pads (gel moisture)	
	events and analysis decisions	Battery insertion test	Upon battery insertion, extensive automatic self-test and user-interactive test check device readiness	
		Status	Blinking green "Ready" light indicates ready for use;	

indicators

audible "chirp" indicates need for maintenance

<sup>\*</sup> Refer to the HeartStart FRx Defibrillator Owner's Manual for detailed product instructions. All specifications based on 25° C unless otherwise noted. The defibrillator and its accessories are made of latex-free materials.

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