

HeartStart Data Messenger User Guide

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Table of Contents

Using this guide	7
User guide	8
Typographical conventions	8
1 Introducing HeartStart Data Messenger	11
New in this release	11
Intended use of HeartStart Data Messenger	11
Overview	12
About the Data Messenger software	12
Limited-feature version	13
How Data Messenger is used	13
Data Messenger tasks	14
Monitoring the transfer of event-summary data	14
Configuring Data Messenger workflow	14
Monitoring system activities	15
2 Installation of HeartStart Data Messenger	17
System requirements	17
Downloading Data Messenger	19
Installing Data Messenger	20
Starting Data Messenger	20
Activating Data Messenger	20
Activate over the Internet	21
Activate by email	21
Activate later	22
Downloading an update	22
Uninstalling Data Messenger	23
Uninstalling Data Messenger when using Windows 7	23
Uninstalling Data Messenger when using Windows XP	23
3 HeartStart Data Messenger features	25
Understanding Data Messenger transmissions	25
Planning your workflow	26
Typical uses of Data Messenger	27
Uses with HeartStart HS1 and HeartStart FRx	27
Uses with HeartStart FR2 and HeartStart XL	28
Uses with HeartStart MRx	29
4 Configuring HeartStart Data Messenger	31
Using the Data Messenger Configuration window	31
Opening the Data Messenger Configuration window	33
Closing the Data Messenger Configuration window	33
Setting up Data Messenger preferences	34
Configuring Data Messenger to process cases in the Automatic mode	34
Adding default case identifiers	35
Storing system log messages	36
Controlling feedback messages	36

Modifying the workflow for case processing	37
Specifying reports	39
Setting up to email case data	40
Specifying inboxes for HeartStart MRx data	41
Setting up a <i>Bluetooth</i> inbox for the HeartStart MRx	41
Setting up batch LAN data transfer for the HeartStart MRx	41
Specifying advanced workflow for the HeartStart MRx	42
Managing configurations in Data Messenger	43
Saving configurations	43
5 Processing cases manually	45
Using the Data Messenger Manual Process window	45
Opening the Data Messenger Manual Process window	46
Closing the Data Messenger Manual Process window	46
Receiving cases	47
Viewing cases	47
Selecting cases	47
Editing cases	48
Viewing and printing a case report	49
Opening previously saved cases	49
Processing cases	50
Deleting cases from Data Messenger	50
Deleting cases from defibrillators or their data sources	50
6 Processing cases automatically	53
Using the Automatic mode	53
Using the Data Messenger icon in the notification area	54
7 Working with the system log	57
Displaying the system log	57
Monitoring system activities	57
Working with columns	58
Sorting entries in a column	58
Grouping entries	58
Clearing system log entries	59
Troubleshooting system activities	59
A Working with defibrillators	61
Supported defibrillators	61
Reading HeartStart FR2 data	62
Downloading HeartStart FRx and HeartStart HS1 data	63
Setting up an infrared adapter	64
Downloading HeartStart FRx data	64
Downloading HeartStart HS1 data	65
Determining the case date and time	66
Deleting cases from HeartStart FRx or HeartStart HS1 defibrillators	66
Working with HeartStart MRx data	67
Downloading HeartStart MRx data using <i>Bluetooth</i>	68
Understanding <i>Bluetooth</i> for HeartStart MRx	68
Prerequisites for using <i>Bluetooth</i> for HeartStart MRx	69
Setting up <i>Bluetooth</i> for HeartStart MRx	69
Pairing and testing the HeartStart MRx <i>Bluetooth</i> option	70
Sending HeartStart MRx <i>Bluetooth</i> transmissions	71
Downloading HeartStart MRx data using batch LAN data transfer	71
Understanding the batch LAN data-transfer process	71

Prerequisites for using batch LAN data transfer	72
Reading HeartStart XL data	72
Selecting accessories for data transfer	73
Selecting data transfer adapters and readers	73
Selecting <i>Bluetooth</i> accessories	74
B System log messages	75
<hr/>	
C Using HeartStart Data Messenger Mobile Edition	87
<hr/>	
Mobile Edition prerequisites	87
System requirements for the Mobile Edition	88
Guidelines for using the Mobile Edition	88
Installing Data Messenger Mobile Edition	89
Installing the Mobile Edition using a Windows 7 computer	89
Installing the Mobile Edition using a Windows XP computer	90
Understanding synchronization	91
Synchronizing Data Messenger with the Mobile Edition	91
Starting the Mobile Edition	91
Using the Mobile Edition	92
Waking the mobile device before transmissions	92
Monitoring activity on the mobile device	92
Uninstalling the Mobile Edition	93
Removing the Mobile Edition using Windows 7	93
Removing the Mobile Edition using Windows XP	94
D Implementation references	95
<hr/>	
E Customer support	97
<hr/>	
Sales support contacts	97
Philips Response Center telephone numbers	98
Supported help	99
Helping us help you	99
F Glossary	101
<hr/>	
Index	109
<hr/>	

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Using this guide

Philips HeartStart Data Messenger (Data Messenger) provides the following sources of help.

Tooltips

Throughout the Data Messenger user interface, when you point to a toolbar button, text appears in a pop-up window that identifies the button. When you point to a toolbar button, text describing the toolbar button appears in a pop-up window.

Online Help

The online Help system describes how to use Data Messenger. In the Help window, the table of contents is on the left and the topic information is on the right. The table of contents in Help is very similar to the table of contents in the user guide.

To view the Help table of contents

- 1 To expand the list of topics in the Help table of contents, right-click in the table of contents area. In the menu that appears, click **Open all**.
- 2 To collapse the list of topics in the Help table of contents, right-click in the table of contents area. In the menu that appears, click **Close all**.

To print an entire section of Help

- 1 In the Help Contents area, right-click the top-level topic of the section you want to print. The Print Topics window opens.
- 2 In the Print Topics window, click **Print the selected heading and all subtopics**, and then click **OK**. The Windows Print window opens.
- 3 In the Print Window, on the General tab, click your printing choices, then click the **Print** button. Your print is sent to the printer you selected.

To print a specific topic in Help

- 1 Place the cursor in the topic and right-click. In the menu that appears, click **Print**. The Print window opens.
- 2 In the Print Window, on the General tab, click your printing choices, then click the **Print** button. Your print is sent to the printer you selected.

To follow a link in Help

- ◆ When the cursor changes from an arrow to a small hand in Help, the mouse is over a link to another location. Click the link to jump to the location. The topic that is referenced in the link opens.

To return to your original position in Help after following a link

- ◆ When you are ready to return to your original location in Help after following a link that took you to another topic, press ALT+LEFT ARROW on the keyboard to return to your original topic.

To get context-sensitive Help

- ◆ To get help with the current area in the Data Messenger software window, press F1. The Help topic that best matches that area of the software opens.

User guide


The user guide is a Portable Document Format (PDF) file. You can view it, print sections, or print the whole guide using a PDF reader such as Adobe Acrobat or Adobe Reader.

- **Section 1** provides a quick start to Data Messenger.
- **Sections 2 and 3** provide general and installation information about Data Messenger.
- **Section 4** explains how to configure Data Messenger and how to set up the Automatic mode.
- **Section 5** provides information on how to monitor and forward cases in the Manual Process mode.
- **Section 6** provides information on how to operate Data Messenger in the Automatic mode.
- **Section 7** provides information on the system log activities performed by Data Messenger.
- **Appendixes** provide information about working with defibrillators, understanding the system log messages, and setting up the mobile edition of Data Messenger. Also, look in the appendixes for references to related documentation, customer support information, a glossary, and an index.

Typographical conventions

The Data Messenger documentation uses the following conventions to help identify the type of information.

Convention	Used for	Example
1, 2, 3 and a, b, c	A numbered list that identifies the sequence of multiple steps or events. A list of lettered steps identifies the sequence of steps or events for a numbered step. A paragraph at the end of a step provides feedback about the result of the step, if necessary.	<ol style="list-style-type: none"> 1 Save your settings. 2 To exit Data Messenger, complete the following: <ol style="list-style-type: none"> a Click the File menu. b Click Exit. <p>The Data Messenger window closes.</p>

Convention	Used for	Example
◆	A procedure that has one step.	◆ To the left of the group that you want to view, click Expand  .
Bold	Menu options, buttons, field names, and list box names. References to field and list box names and sections in general discussions.	On the File menu, click Import .
Bulleted lists	A list that identifies information, features, or concepts that do not depend on a specific order.	The earth includes the following oceans: <ul style="list-style-type: none"> • Pacific • Atlantic • Indian • Southern • Arctic
Input	To show the exact words needed for input, this guide displays the text in this type style. To avoid confusion, these sentences may not include end punctuation.	Type HeartStart
<i>Italic</i>	File extensions.	Navigate to the directory where you saved the installation file with the <i>exe</i> extension.
Screen messages	To help you distinguish voice prompts and screen messages from the general text. This guide displays these messages in this type style.	The HeartStart HS1 voice prompt announces Admi ni strati on . When you click the Close button, the screen displays the following message: Are you sure you want to exi t?

CAUTION A caution alerts you to circumstances that can result in damage to Data Messenger, incorrect information, or loss of information.

NOTE A note calls your attention to additional information.

TIP A tip has information that can help complete a task.

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Introducing HeartStart Data Messenger

Philips HeartStart Data Messenger (Data Messenger) streamlines the process of transferring patient data from Philips defibrillators. You can use Data Messenger to view, print, email, and save patient data. Data Messenger can also forward the data for retrospective quality review and to make care decisions before the patient arrives to the hospital. This section introduces you to some of the most common tasks.

New in this release

This release of Data Messenger is updated with the following features:

- Support for running Data Messenger automatically, in the background
- Exported .hic files, for third-party software applications, include reference ID data

In addition:

- Data Messenger user-interface tabs have changed to better separate AED tasks from advanced life-support tasks.
- Data Messenger, coupled with the sitewide license, can now be deployed as part of a disk image that contains an already-activated HeartStart Data Messenger (for those organizations that employ disk-imaging software).

Intended use of HeartStart Data Messenger

HeartStart Data Messenger forwards, monitors, and manages the transfer of patient case data from defibrillators and AEDs to HeartStart Event Review Pro, folders (local and network), printers, or email. Data Messenger also forwards Periodic Clinical Data Transmission (PCDT) and 12-lead ECG data to a hospital Telemedicine System before patient arrival. Data Messenger operates as an on-screen or background application in either the Automatic mode or the Manual Process mode.

Overview

In Data Messenger, you can download defibrillator patient event-summary data and print reports. You can also forward the patient event-summary data to a shared network folder, an email address, and to Philips HeartStart Event Review Pro (HeartStart Event Review Pro). The patient event-summary data includes information recorded by the supported defibrillators as well as patient information entered by a Data Messenger user. This use model helps you to accurately download patient event-summary data for retrospective reviews.

Emergency Medical Services (EMS) systems can use Data Messenger to transfer HeartStart MRx Monitor/Defibrillator (HeartStart MRx) 12-lead ECGs (12-lead reports) or periodic clinical data to the hospital. This allows hospital clinical staff to prepare before the patient arrives. In this use model, Data Messenger transfers the data to Philips HeartStart Telemedicine System (HeartStart Telemedicine).

Data Messenger supports the following Philips defibrillator models:

- HeartStart FR2 Defibrillator (HeartStart FR2)
- HeartStart FRx Defibrillator (HeartStart FRx)
- HeartStart HS1 Defibrillator, also known as the OnSite Defibrillator and the Home Defibrillator (HeartStart HS1)
- HeartStart MRx
- HeartStart XL defibrillator

For the most part, HeartStart Data Messenger is implemented in one of two ways:

- To operate openly on a computer in the Manual Process mode – Users interact with the data in HeartStart Data Messenger to process the files. For more information, see [Processing cases manually](#) on page 45.
- To operate in the background in the Automatic mode – HeartStart Data Messenger processes files automatically without your intervention. For more information, see [Processing cases automatically](#) on page 53.

About the Data Messenger software

You can use the Data Messenger software on a personal computer, laptop, or tablet PC. For supported computer platforms, see [System requirements](#) on page 17.

When you download Data Messenger software, you are downloading the complete software, with access to all capabilities.

You can use the Data Messenger Configuration window to configure additional data-identification information, to set up HeartStart Data Messenger in either the Manual Process or the Automatic mode, and to configure your workflow and the destinations that receive the patient data.

In the Manual Process mode, you can use the Data Messenger Manual Process window to receive case data from your defibrillator, and to monitor patient data and HeartStart Data Messenger system activity. You can edit patient-identification information, print a case report, and prepare and forward (process) the data files manually. You can also prepare the defibrillator for the next use.

In the Automatic mode, you see status messages as HeartStart Data Messenger processes patient data without your intervention. HeartStart Data Messenger receives defibrillator data, such as patient event summaries, 12-lead reports, or periodic clinical data. The software then processes the data according to the preconfigured workflow.

You can use all of the Data Messenger capabilities on a trial basis for 60 days before purchasing an activation license. Philips recommends that you purchase a license and activate the software before the 60 days has expired. See [Activating Data Messenger](#) on page 20.

Limited-feature version

If your Data Messenger software has been installed for 60 days, and you have not yet purchased an activation license, your software will revert to a limited-feature version.

When using the limited-feature version, you will no longer be able to perform some processes on your data. The Automatic mode is not supported, and you will be unable to transfer cases to another destination.

You will be able to download the data from a defibrillator, and view and print the case report. You can also prepare the defibrillator for the next patient by removing the current patient data from Data Messenger and its data source, either the defibrillator, a data card, the *Bluetooth*[®] inbox, or the FTP folder.

Contact customer support if your software has reverted to the limited-feature version, and you want to activate it. See [Sales support contacts](#) on page 97

NOTE A Mobile Edition of Data Messenger is available (only in English), for use in special circumstances. It is supported on a limited number of mobile devices. The Mobile Edition software is included in the initial download of Data Messenger software. However, the Data Messenger license must be activated before the Mobile Edition can be set up. For details, see [Mobile Edition prerequisites](#) on page 87.

How Data Messenger is used

HeartStart Data Messenger is a data-download and forwarding tool that helps you get data off the defibrillator and forward it to the place that it ultimately needs to go.

Users in different healthcare situations use HeartStart Data Messenger in a number of different ways, based on their unique workflows and existing infrastructure. For example, you can use HeartStart Data Messenger in the following ways:

- Download (to a computer) and print cases manually or automatically.
- Transfer case data to HeartStart Event Review Pro for retrospective review by your Medical Director.
- Transfer 12-lead reports or periodic clinical data to a receiving hospital through the Internet before the patient arrives.
- Use HeartStart Data Messenger on a tablet PC in the back of an ambulance to automatically transfer patient event-summary data to a shared network drive for use in a third-party application, or to automatically transfer patient data to HeartStart Telemedicine.
- Automatically transfer the patient event summaries from HeartStart MRx at the end of the work shift.

Data Messenger tasks

This topic introduces activities that you can do in HeartStart Data Messenger to receive and transfer defibrillator data.

The default HeartStart Data Messenger configuration allows you to receive patient event-summary data once you connect to the defibrillator or its data source, such as a data card. You can print a case report, delete the patient data from HeartStart Data Messenger and its data source, or back up the data for future use. You can also monitor the HeartStart Data Messenger activity.

At any time, you can change the default configuration to meet your organization's workflow. For example, after you customize the configuration, you can use HeartStart Data Messenger in the following ways:

- Download patient event-summary data, 12-lead reports, and periodic clinical data from supported defibrillators
- View and print the case report about the patient event-summary data
- Edit and forward (process) patient event-summary data manually
- Save patient event-summary data to an external file (export)
- Edit patient-identification information, and then forward and print reports
- Forward 12-lead reports and periodic clinical data automatically
- Monitor Data Messenger activity
- Change the configuration for your organization's workflow

Monitoring the transfer of event-summary data

Use the Cases tab on the Data Messenger Manual Process window to complete the following tasks on a case-by-case basis:

- View the processing of cases
- Open (import) a previously saved case
- Forward selected cases manually to the preconfigured destinations
- Edit patient identification information for the selected case
- View the case report
- Print the preconfigured report
- Delete selected cases from Data Messenger and its data sources (either the defibrillator, a data card, the *Bluetooth* Inbox, or the FTP folder)
- Group and sort the data

Configuring Data Messenger workflow

You can use the Data Messenger Configuration window to configure Data Messenger to meet your organization's workflow. Configuration involves completing the tabs on the window.

For more information, see [Configuring HeartStart Data Messenger](#) on page 31.

Monitoring system activities

You can use the **System Log** tab on the Data Messenger Manual Process window to monitor system activity and troubleshoot issues. The system log includes a description of each action that Data Messenger completes.

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Installation of HeartStart Data Messenger

This section contains system requirements, installation, updating, and activation procedures for Data Messenger. Also included is information about uninstalling Data Messenger.

System requirements

This topic describes the minimum requirements to run Data Messenger. You should choose hardware that is certified as Microsoft-compatible.

The software and hardware listed in the following table are provided by the customer, unless noted. The table includes a few components that are not required, but that may be useful.

This table has the following sections:

- Software requirements
- Hardware requirements
- Accessories

System requirements

Component	Requirements
Software requirements	
Operating system	These operating systems are supported: Microsoft Windows XP Professional SP 3 (32-bit) Microsoft Windows XP Tablet Edition (32-bit) Microsoft Windows 7 (32-bit and 64-bit)
Browser	To access the Internet Microsoft Internet Explorer 7.0 or later

System requirements

Component	Requirements
Hardware requirements	
Processor speed	1 GHZ or higher
Display	1280 x 768 resolution or higher
Memory	Minimum: 1 GB
Disk storage space	Minimum: 40 GB
Internet or Intranet connection	To download and activate the software, and to transfer a case to HeartStart Event Review Pro and HeartStart Telemedicine destinations Any type of Internet connection
Ethernet connection	To receive HeartStart MRx data through batch LAN data transfers Any type of Ethernet connection
Accessories	
PDF Reader	To view <i>HeartStart Data Messenger User Guide</i> , and to view HeartStart Data Messenger reports Adobe Reader is recommended
Back up and restore tool	To prevent data loss Philips recommends that you store backup information at a separate location on the backup device of your organization's choice. You should have a plan for recovering information in the event of a software or hardware failure. Microsoft-compatible backup solution
Email application	To send cases using email, and as an alternate method to activate the software Microsoft-compatible MAPI email client

System requirements

Component	Requirements
Printer	To print Full Disclosure and Pre- and Post-shock reports Postscript printer
<i>Bluetooth</i> [®] adapter	To transfer patient data using <i>Bluetooth</i> wireless technology Use a <i>Bluetooth</i> adapter that supports these <i>Bluetooth</i> stacks: Windows XP or Windows 7: Microsoft <i>Bluetooth</i> stack (for MRx)
FTP server	To support HeartStart MRx batch LAN data transfers Required configuration: login and password Consult IT personnel for further information.
Infrared Data Associates (IrDA) adapter	To retrieve and send data from HeartStart FRx and HeartStart HS1 defibrillators Your computer must support IrDA functionality and an infrared adapter. You can purchase an ACT-IR infrared adapter from Philips.
Data cards, card readers, and card adapters	To receive data from defibrillators Requirements are specific to the defibrillator types: HeartStart FR2 and MRx defibrillators use the CompactFlash cards with the CompactFlash card reader, or an ATA flash-card reader with an adapter. You can order the M3854A data card and tray from Philips, for use with these defibrillators. The HeartStart XL defibrillators use the ATA flash cards, Philips part number 98980314771, with the ATA flash-card reader.

NOTE For system requirements for Data Messenger Mobile Edition, see [System requirements for the Mobile Edition](#) on page 88.

Downloading Data Messenger

To download the current version of Data Messenger, use the instructions that you received from Philips or your sales representative to download the software from the Internet.

To download Data Messenger

- 1 Use your Internet browser to navigate to the following URL, which is also provided on your Proof of Purchase Certificate: <http://www.philips.com/DataMessengerDownload>
- 2 Save the software on your preferred media.

Installing Data Messenger

You can install the software from the file that is saved on your computer, or from a file that is saved on your preferred media.

NOTE To install Data Messenger, you must have Windows Administrator privileges on the Data Messenger computer.

To install Data Messenger

- 1 Navigate to the directory where you saved the downloaded installation file.
- 2 Double-click the setup file.
A message might display. The message states that the Data Messenger installation will make changes to the computer.
- 3 Click **Yes** to continue with the installation.
- 4 Follow the on-screen instructions.

Starting Data Messenger

Data Messenger does not place an icon on the desktop. To start Data Messenger, use the shortcut on the Start menu or All Programs menu.

To start Data Messenger

- 1 Click the Windows **Start** button.
- 2 Click **All Programs**.
- 3 Click **Philips HeartStart Data Messenger 4.2**.
- 4 Click **Data Messenger Manual Process**.
- 5 Follow the on-screen instructions for the Philips HeartStart Activation Wizard.
Data Messenger keeps track of the number of days before the trial period expires. If you do not activate the software after the 60-day trial period, Data Messenger reverts to the limited-feature version.

Activating Data Messenger

After you install the software, activate Data Messenger. Activation is designed to verify that software products are licensed correctly.

Activation within 60 days is required to continue using the complete version of Data Messenger. See your proof of purchase booklet for activation information, or consult your Philips Account Manager for information on purchasing the activation license. If the license is not activated within 60 days, Data Messenger reverts to a limited-feature version. See [Limited-feature version](#) on page 13

When you activate the software, you need the product serial number on the Proof of Purchase Certificate that you received. Save the product serial number in a safe place that you can access in case you need to re-install the software.

You can use the Internet or email to activate the software after you install Data Messenger. Until you complete the activation, you will see the Philips HeartStart Activation Wizard window when the software starts.

NOTE To successfully activate Data Messenger in Windows 7, the person who activates the software should use the Administrator account.

Activate over the Internet

Internet activation is faster than activating by email, and is the preferred activation method.

The activation wizard sends encrypted information to Philips to validate the product serial number.

To activate the software by the Internet

- 1 Start the software.
The software displays HeartStart Activation Wizard.
- 2 In **Serial number**, type the product serial number. A product serial number looks like:
Z0410X99999879
- 3 Click **I want to activate the software over the Internet**.
- 4 Click **Activate**.
The wizard validates your entry. When the activation is successful, the wizard displays a congratulations message.
- 5 Click **OK**.
The wizard starts Data Messenger.

Activate by email

Email activation is slower than activation by Internet, and is not the preferred activation method. It might take several business days to complete the activation.

Email activation involves exchanging emails with Philips Customer Support.

You can click the **Help** button in the Activation Wizard to print the steps on how to activate the software by email.

To activate the software by email

- 1 Start the software.
The software displays HeartStart Activation Wizard.
- 2 In **Serial number**, type the product serial number. A product serial number looks like:
Z0410X99999879
- 3 Click **I want to activate the software by email**.
- 4 Click **Next**.

- 5 Click **Request Activation Code**.

The wizard sends your email request to Customer Support and starts the software.

When you receive an email from Customer Support, complete the following

- 1 Start the software.

The software displays the HeartStart Activation Wizard with the product serial number that you entered.

- 2 Click **I want to activate the software by email**.

- 3 Click **Next** to access the Activate by Email page.

- 4 In **Enter your activation code here**, type the activation code.

- 5 Click **Activate**.

The wizard validates your entry and displays a congratulations message.

- 6 Click **OK**.

The wizard starts the software.

Activate later

If you do not want to activate your copy of the software when you start it, click the **Skip** button.

Until you activate the software, you will see the HeartStart Activation Wizard window each time that you start the software.

During the 60-day trial period, you can use the software and save your work.

Downloading an update

At any time, you can use the **Check for Updates** option on the Help menu to look for and download an updated version of the software.

Before you install the software update, make sure that you have Windows Administrator privileges on the computer.

To download the update

- 1 Open the Data Messenger software that you want to update.

- 2 On the Help menu, click **Check For Updates**.

The software connects to the Internet.

- 3 A wizard window appears.

The wizard searches for updates and displays a list of updates.

- 4 Click **Data Messenger**.

- 5 Click **Download**.

Note the name and location of the download that you want to save.

- 6 When the file finishes downloading, click **Finish**.

- 7 Close the Data Messenger window.

- 8 Navigate to the directory where you saved the downloaded installation file with the `.exe` extension.

- 9 Double-click the installation file.

- 10 Follow the on-screen instructions.

Uninstalling Data Messenger

You can remove the Data Messenger from the computer to reuse the license on another computer at any time. For example, you might want to do this if you no longer need to use Data Messenger, or if you want to install the software on another computer.

Because the configuration files are written separately from the program files, they are not deleted when the application is uninstalled, so the Data Messenger configuration remains intact on the current computer. The configuration remains so that you can reinstall DM or upgrade at a later time.

NOTE In order to deactivate the software license and reuse it on another computer, you must connect the computer to the Internet. If you do not deactivate the license, you cannot use the software after the 60-day trial period. Contact customer support if you do not have access to the Internet.

If you use Mobile Edition, you can also remove Data Messenger Mobile Edition from the mobile device without removing the software on the current computer. See [Uninstalling the Mobile Edition](#) on page 93

The following topics discuss how to remove the software from the Data Messenger computer.

Uninstalling Data Messenger when using Windows 7

Complete the following procedure from the computer that runs Data Messenger.

To remove the software from the Data Messenger computer running Windows 7

- 1 From the Data Messenger computer Start menu, click **Control Panel**.
- 2 Click **Program and Features**.
- 3 Double-click **Philips HeartStart Data Messenger 4.2**.
A message asks you to confirm that you want to uninstall the software.
- 4 Click **Yes**.
A message displays stating that uninstalling the software will make changes to the computer.
- 5 Click **Yes**.
The removal process begins to release your product serial number for installation on another computer.

Uninstalling Data Messenger when using Windows XP

Complete the following procedure from the computer that runs Data Messenger.

To remove the software from the Data Messenger computer running Windows XP

- 1 From the Data Messenger computer Start menu, click **Control Panel**.
- 2 On the Control Panel window, double-click **Add or Remove Programs**.
- 3 On the Add/Remove Programs window, click **Philips HeartStart Data Messenger 4.2**.

4 Click Remove.

The removal process releases your product serial number for installation on another computer.

HeartStart Data Messenger features

HeartStart Data Messenger builds on the functionality of its predecessors HeartStart Review Express and HeartStart Review Express Connect.

Data Messenger supports Microsoft Windows XP running on x86 (32-bit), and Microsoft Windows 7 running on x86 (32-bit) and x64 (64-bit) computers.

Patient data includes patient cases from HeartStart AEDs and monitor/defibrillators, as well as periodic clinical data, 12-lead reports, vital signs, and trigger events from Philips advanced deribrillator/monitors.

Understanding Data Messenger transmissions

Data Messenger processes two types of data:

- Case data from a cardiac emergency that was collected by a monitor defibrillator or an automated external defibrillator (AED)
- Periodic clinical data that was recorded while a patient was transported to a medical facility

Data moves to Data Messenger using different methods for each defibrillator product. Those methods include infrared connections, card readers, *Bluetooth* connections, and batch LAN data transfer FTP.

- The HeartStart FRx and HeartStart HS1 defibrillators transfer patient information to your computer over an infrared connection.
- The HeartStart 4000, FR2, XL, and XLT defibrillators store patient information on data cards. You need a card reader to read this information.

For information about a specific defibrillator, see [Working with defibrillators](#) on page 61.

HeartStart MRx Monitor/Defibrillator (HeartStart MRx) can transfer patient information several ways. You can use a data card to transfer the information to Data Messenger. HeartStart MRx, version 9.0 or later, can use a *Bluetooth* connection to transfer the information.

HeartStart MRx, version F.0 or later, can also use an Ethernet cable to transfer patient data directly to Data Messenger. For more information, see the following topics:

- [Downloading HeartStart MRx data using Bluetooth](#) on page 68
- [Downloading HeartStart MRx data using batch LAN data transfer](#) on page 71

The following table summarizes how Data Messenger receives patient data from the supported HeartStart defibrillators and forwards the data to the supported destinations.

Supported defibrillators	Transfers patient data	Data transfer methods	HeartStart destinations that can receive Data Messenger data
HeartStart HS1	Patient event summary	IrDA (Infrared)	HeartStart Event Review Pro Printer Email application Export to a folder
HeartStart FRx	Patient event summary	IrDA (Infrared)	HeartStart Event Review Pro Printer Email application Export to a shared folder
HeartStart FR2	Patient event summary	Data card	HeartStart Event Review Pro Printer Email application Export to a shared folder
HeartStart XL	Patient event summary	Data card	HeartStart Event Review Pro Printer Email application Export to a shared folder
HeartStart MRx Monitor/Defibrillator	Patient event summary	<i>Bluetooth</i> Data card Ethernet cable	HeartStart Event Review Pro Printer Email application Export to a shared folder
	12-lead reports	<i>Bluetooth</i> Data card	HeartStart Telemedicine
	Periodic clinical data	<i>Bluetooth</i>	HeartStart Telemedicine

Planning your workflow

Philips recommends that you plan your data flow and requirements with your IT department and data managers. During this time, determine how you want to use Data Messenger in your workflow.

Use the *Data Management Solutions Implementation Guide* to help set up Data Messenger, the network connections, and the environment.

For example:

- Do you want to simply print a case report?

- Do you want to transfer patient data from the Philips defibrillator to a computer with Data Messenger installed?
- Do you want to transfer the cases manually or automatically?
- Do you want to transfer patient data to HeartStart Event Review Pro?
- Do you want to use a mobile device to monitor the transfer of patient data to a destination?

Typical uses of Data Messenger

Data Messenger acts as a point of communication to transfer the patient data from a defibrillator to a destination. Data Messenger can receive patient data through an infrared connection, a data card, or a *Bluetooth* wireless connection.

Data Messenger can forward defibrillator data in two types of files:

- Original defibrillator data in a file with the *.hic* extension
- Original defibrillator data with patient and demographic data in a file with the *.mic* extension

Data Messenger can forward patient data to the following destinations:

- Folder for exported files
- Email address
- Printer
- HeartStart Event Review Pro
- HeartStart Telemedicine
- Third-party application

When you forward a file to an email address, you can attach files with the *.hic*, *.mic*, and *.pdf* file extensions. You can also password-protect files with the *.mic* and *.pdf* extensions.

NOTE When Data Messenger receives the event-summary data on the Cases list, and processes it according to the configured workflow, the event-summary data becomes a case.

A “case” is all the information relating to a specific patient emergency. This includes information recorded by the supported defibrillators as well as information entered by a user.

This section introduces sample workflows to help you understand how to use Data Messenger.

For information about setting up Data Messenger in combination with other products, see *Data Management Solutions Implementation Guide*.

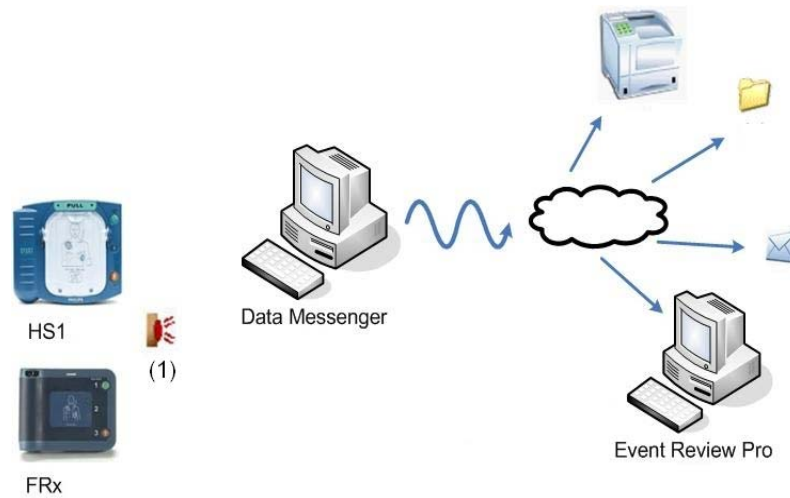
Uses with HeartStart HS1 and HeartStart FRx

HeartStart HS1 and HeartStart FRx defibrillators forward cases through an infrared (1) transmission to Data Messenger.

Data Messenger can forward data to many destinations, including the following:

- Send the data to a printer
- Save the data to a folder
- Email the data as a file with the *.hic*, *.mic*, or *.pdf* extension
- Forward the data to Event Review Pro

The following illustration shows an example configuration.



For instructions on performing the HeartStart HS1 data transfer, see [Downloading HeartStart HS1 data](#) on page 65.

For instructions on performing the HeartStart FR2 data transfer, see [Reading HeartStart FR2 data](#) on page 62.

Uses with HeartStart FR2 and HeartStart XL

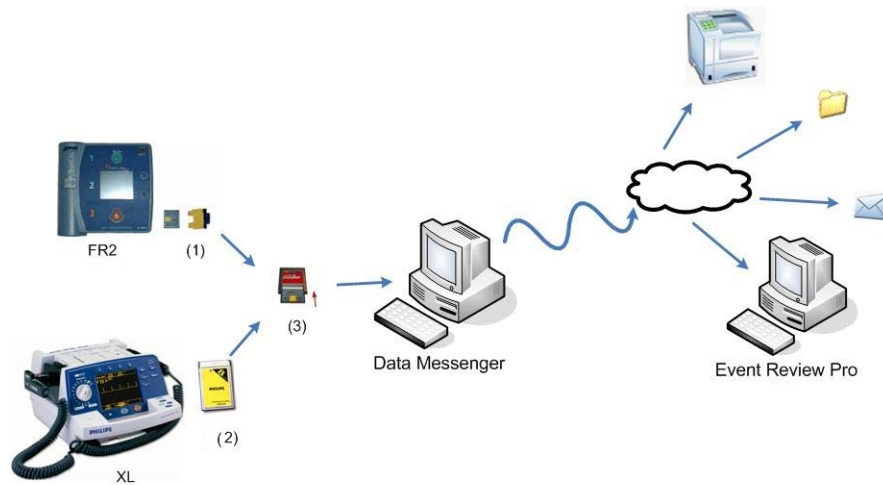
HeartStart FR2 and HeartStart XL defibrillators use data cards to transfer data to Data Messenger, as shown in the following figure.

The HeartStart FR2 defibrillators, and the HeartStart XL defibrillators forward cases through data cards (1 and 2) using the appropriate card adapter (3) to Data Messenger.

Data Messenger can forward that data to many destinations, including the following:

- Send the data to a printer
- Save the data to a folder
- Email the data as a file with the *.hic*, *.mic*, or *.pdf* extension
- Forward the data to Event Review Pro

The following illustration shows an example configuration.



For instructions on performing the HeartStart FR2 data transfer, see [Reading HeartStart FR2 data](#) on page 62.

For instructions on performing the HeartStart XL data transfer, see [Reading HeartStart XL data](#) on page 72.

Uses with HeartStart MRx

HeartStart MRx defibrillators can forward two types of data to Data Messenger: event-summary data and periodic clinical data.

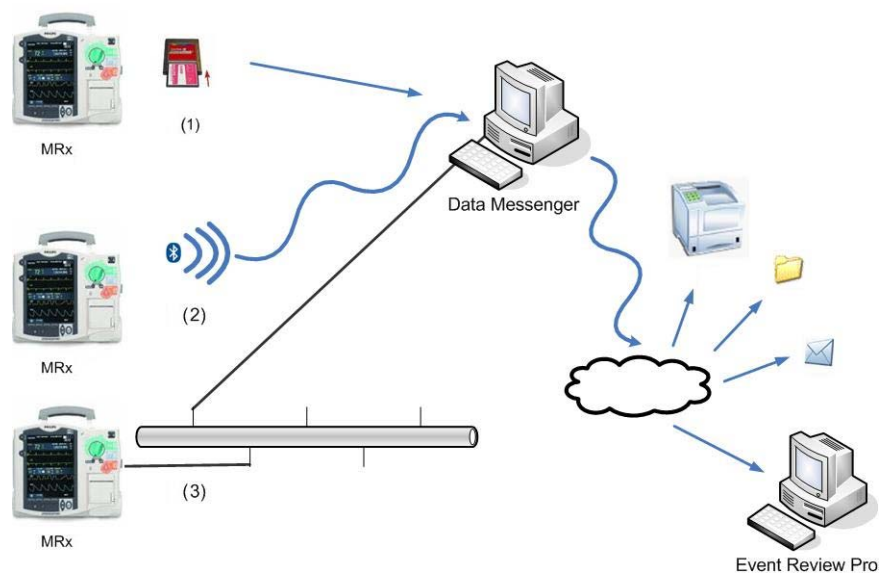
HeartStart MRx can use the following methods to forward event-summary data:

- Forward event-summary data between HeartStart MRx and Data Messenger using a data card (1), a *Bluetooth* FTP connection (2), or an Ethernet cable (3).

Data Messenger can forward that data to many destinations, including the following:

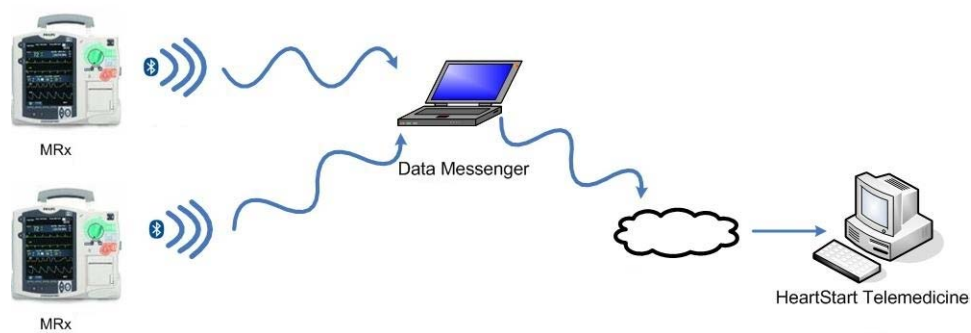
- Send the data to a printer
- Save the data to a folder
- Email the data as a file with the *.hic*, *.mic*, or *.pdf* extension
- Forward the data to Event Review Pro

The following illustrations shows examples of possible configurations.



HeartStart MRx defibrillators can use the following methods to forward periodic clinical data to HeartStart Telemedicine.

- Forward 12-lead reports and periodic clinical data using *Bluetooth* FTP to Data Messenger, which forwards the data to HeartStart Telemedicine.



For instructions on performing the HeartStart MRx data transfer, see [Working with HeartStart MRx data](#) on page 67.

Configuring HeartStart Data Messenger

You can customize the HeartStart Data Messenger workflow for your organization. The workflow specifies how Data Messenger receives, manages, prints, and saves cases (called “processing” cases).

When you start Data Messenger and click Data Messenger Configuration, the Data Messenger Configuration window appears. Use this window to set up the Data Messenger workflow. Philips recommends that you review the default configuration settings on the Data Messenger Configuration window before you customize the settings.

On the Data Messenger Configuration window, you can specify how Data Messenger transfers patient data from the supported defibrillators to destinations such as a printer, a folder, an email address, HeartStart Event Review Pro, or HeartStart Telemedicine. You can also set up Data Messenger to operate automatically without your intervention.

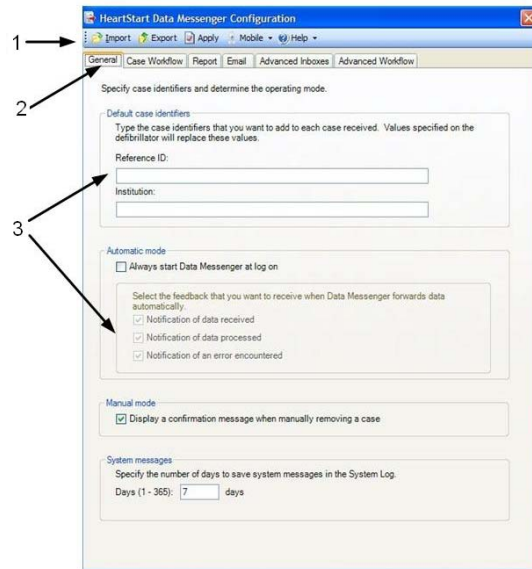
This section describes how to manage your workflow, and edit and transfer cases. It also includes information for advanced life-support users who forward 12-lead reports, vitals, and trigger events. The configuration settings determine how Data Messenger operates in both the Automatic and Manual Process modes.

Using the Data Messenger Configuration window

You can use the Data Messenger Configuration window to change the Data Messenger settings at any time to meet your organization’s workflow.

CAUTION When performing configurations involving connection to a destination using a URL, be sure to verify the URL before working with actual cases. Incorrect connection information may result in delay of data transfer.

The following illustration describes the Data Messenger Configuration window.



Number	Description
1	The toolbar displays the actions that you can complete manually.
2	The tabs display settings for configuration parameters. Complete the appropriate settings on each tab to customize the configuration for your organization. Data Messenger uses these settings when it operates in both the Automatic and Manual Process modes.
3	In this area, you type entries in text fields, select checkboxes, or click option buttons that specify a setting.

The Data Messenger Configuration window includes the following tabs that you can use to customize the Data Messenger configuration:

- Use the General tab to specify your settings for the following actions:
 - Specify the case identifiers to add to patient event-summary data.
 - Set the Automatic mode to start when you log on.
 - When data is forwarded in the Automatic mode, set the notifications that are sent.
 - When in the Manual Process mode, send a confirmation message when a case is manually removed.
 - Set the number of days that Data Messenger stores system log messages.
- Use the Case Workflow tab to specify each action that you want Data Messenger to perform.
 - If you choose to print reports on the Case Workflow tab, use the Report tab to specify the Full Disclosure or the Pre- and Post-shock report.
 - If you choose to email patient event-summary data on the Case Workflow tab, use the Email tab to specify how to forward emails with patient event-summary data attachments.

- Use the Advanced Inboxes tab to specify the Data Messenger inbox where HeartStart MRx downloads data.

Use the Advanced Workflow tab to specify each action that you want Data Messenger to perform for each 12-lead report or periodic clinical data received from HeartStart MRx.

Opening the Data Messenger Configuration window

Use the Data Messenger Configuration window to change the default configuration settings.

In the default workflow, Data Messenger operates in the Manual Process mode.


CAUTION When you open the Data Messenger Configuration window with Data Messenger in the Automatic mode, the software interrupts the processing of incoming data until you close the Configuration window. If Data Messenger is processing a case when you open the Configuration window, it might not complete the workflow.

To open the Data Messenger Configuration window

- 1 On the Windows Start menu, click **All Programs**.
- 2 Click **Philips HeartStart Data Messenger 4.2**.
- 3 Click **Data Messenger Configuration**.

Data Messenger displays the **General** tab on the Data Messenger Configuration window.

Data Messenger interrupts the processing of all patient data: cases, 12-lead reports, and periodic clinical data.


- 4 When you finish using the window, click the **Close**  button.

Data Messenger closes the window and resumes processing cases.


Closing the Data Messenger Configuration window

Click the **Close**  button on the Data Messenger Configuration window to end the configuration session.

Depending on the operating mode that you set up, Data Messenger either exits the software or continues to process patient data automatically.

- When Data Messenger operates in the Manual Process mode, the software closes the window and exits Data Messenger.
- When Data Messenger is set to operate in the Automatic mode, the software closes the window and continues to process patient data automatically. The Data Messenger  icon appears in the notification area.

To close the Data Messenger Configuration window

- ◆ On the Data Messenger Configuration window, click the **Close**  button.

Setting up Data Messenger preferences

Before you begin using Data Messenger, use the General tab to specify your settings for the following actions:

- Specify the case identifiers to add to patient event-summary data.
- Set the Automatic mode to start when you log on.
- When data is forwarded in the Automatic mode, set what notifications are sent.
- When in the Manual Process mode, send a confirmation message when a case is manually removed.
- Set the number of days that Data Messenger stores system log messages.

Configuring Data Messenger to process cases in the Automatic mode

On the General tab, you can set up Data Messenger to use or disable the Automatic mode.

In the Automatic mode, Data Messenger processes the patient event-summary, the 12-lead report, or periodic clinical data automatically without your intervention.

The following table summarizes how Data Messenger processes defibrillator data when configured to operate in the Automatic mode.


Your action	HeartStart Data Messenger automatic processing of:	
	Cases	12-lead and periodic clinical data
Start Data Messenger	Starts	Starts
Open the Data Messenger Configuration window	Pauses	Pauses
Open the Data Messenger Manual Process window	Pauses	Continues
Exit Data Messenger	Stops	Stops
Log off the computer	Stops	Stops
Change the computer logon	Stops	Stops
Log on to the computer again	Starts	Starts


In the default workflow, Data Messenger operates in the Manual Process mode. You must configure it to run in the Automatic mode.

To configure Data Messenger to process patient data automatically

- 1 In the Data Messenger Configuration window, click the **General** tab.
- 2 Under Automatic Mode, click the **Always Start Data Messenger at Logon** checkbox.


Note: On the General tab, under Select the Feedback that You Want to Recieve When Data Messenger Forwards Data Automatically, the three checkboxes become available. If you want to change these settings, see [Controlling feedback messages](#) on page 36.

- 3 On the toolbar, click **Apply**.
- 4 In the Data Messenger Configuration window, click the **Close**  button.
Data Messenger displays a confirmation message.
- 5 Click **OK** to continue.


In the notification area, in the lower right corner of your monitor, the Data Messenger  icon appears. This icon appears only when you are in the Automatic mode.


For information about the menu available from the Data Messenger icon, see [Using the Data Messenger icon in the notification area](#) on page 54.

To test the Automatic mode setup

- 1 From the Windows Start menu, click **Log Off**.
Some versions of Windows ask you to verify this action.
- 2 Click **Log Off**.
- 3 Log on to the computer.
In the notification area, in the lower right corner of your monitor, verify that the Data Messenger  icon appears.

To turn off the Automatic mode

- 1 On the Data Messenger Configuration window, click the **General** tab.
- 2 Under Automatic Mode, clear the **Always Start Data Messenger At Logon** checkbox.
- 3 On the toolbar, click **Apply**.
- 4 Click the **Close**  button on the Data Messenger Configuration window.
Data Messenger displays a confirmation message.
- 5 Click **OK** to continue.

Data Messenger reverts to operating in the Manual Process mode, and the Data Messenger  icon no longer appears in the notification area

Adding default case identifiers

If you want to associate cases with a specific organization, response team, or apparatus, do this on the General tab.

When your defibrillator does not already provide reference ID and institution information (as in the case of the AEDs), use the fields under Default Case Identifiers on the General tab to add them. Data Messenger does not override the reference ID and institution information if it was present in the defibrillator, patient summary, or imported case.

To add default case identifiers

- 1 On the Data Messenger Configuration window, click the **General** tab.
- 2 Under Default Case Identifiers, in **Reference ID**, type information that identifies the source of the patient case, for example, Engine 3 or Smithtown High School Gym. The maximum length is 100 characters.
The reference ID appears on the Cases table in HeartStart Event Review Pro and on the Patients table in HeartStart Telemedicine. It will appear on every patient case.
- 3 Under Default Case Identifiers, in **Institution**, type the name of the organization where the case originated, for example, Johnstown Fire Department or Smithtown School District. The maximum length is 100 characters.
The institution name appears on the Cases table in HeartStart Event Review Pro and on the Patients table in HeartStart Telemedicine. It will appear on every patient case.
- 4 On the toolbar, click **Apply**.

Storing system log messages

Use the General tab to set up how long Data Messenger stores system log messages.

In the default workflow, Data Messenger saves the system log messages for 7 days.

To modify how long Data Messenger stores system log messages

- 1 On the Data Messenger Configuration window, click the **General** tab.
- 2 Under System Messages, in **Days**, type the number of days that Data Messenger saves the system messages on the System Log tab of the Data Messenger Manual Process window. The default setting is 7 days. The maximum setting is 365 days.
Philips recommends that you adjust the number of days that Data Messenger stores system log messages based on the volume of patient data that your organization receives. For example, after a week of normal operations, look at the size of the System Log folder to estimate the storage capacity required for your environment.
After the set number of days, Data Messenger clears or deletes older system log messages.
- 3 On the toolbar, click **Apply**.

Controlling feedback messages

On the General tab, controls for feedback messages in the Automatic mode and in the Manual Process mode appear.

Feedback in Automatic mode

When Data Messenger operates in the Automatic mode, the software can display feedback messages in the notification area, in the lower right corner of your monitor.

On the General tab, under Select the Feedback that You Want to Receive When Data Messenger Forwards Data Automatically, three checkboxes are available.

- Notification of Data Received checkbox
When this checkbox is selected, notification messages appear when Data Messenger downloads data.
- Notification of Data Processed checkbox
When this checkbox is selected, notification messages appear when Data Messenger transfers data.

- **Notification of an Error Encountered** checkbox
When this checkbox is selected, notification messages appear when Data Messenger encounters an error.

To control the feedback you receive when in the Automatic mode

- 1 In the Data Messenger Configuration window, click the **General** tab.
- 2 Under Automatic Mode, at **Always Start Data Messenger at Logon**, ensure that the checkbox is selected.

Note: The three checkboxes become available under **Select the Feedback that You Want to Recieve When Data Messenger Forwards Data Automatically**.

In the default workflow, they are all checked. You receive a feedback message on your monitor each time Data Messenger receives data, processes data, and encounters an error.

You can configure your workflow to modify the feedback settings. You can select any combination of the messages, or no messages.

- 3 On the General tab, under Automatic Mode, click the following checkboxes for the types of feedback that you want to receive:
 - **Notification of Data Received** checkbox
 - **Notification of Data Processed** checkbox
 - **Notification of an Error Encountered** checkbox

To turn off the feedback, clear the checkboxes.

To save the settings

- ◆ On the toolbar, click **Apply**.

Feedback in Manual Process mode

When Data Messenger operates in the Manual Process mode, it can display a confirmation message when you remove a case from the Data Messenger Manual Process window. Data Messenger asks you to verify the deletion before it completes the action.

In the default workflow, **Display a Confirmation Message When Manually Removing a Case** is not selected, and you will not receive confirmation messages.

To receive confirmation messages when deleting cases in in Manual Process mode

- ◆ On the General tab, under Manual Mode, at **Display a Confirmation Message When Manually Removing a Case**, click the checkbox. You will receive a confirmation message that asks you to verify removing cases before Data Messenger completes the action.

To stop receiving confirmation messages, clear the checkbox.

To save the settings

- ◆ On the toolbar, click **Apply**.

For more information, see [Processing cases manually](#) on page 45.

Modifying the workflow for case processing

Use the Case Workflow tab to choose the actions that Data Messenger completes while processing (preparing and forwarding) the case. The data can include cases and event summaries.

Data Messenger can transfer patient event summaries to these destinations:

- A folder
- Event Review Pro
- A third-party application

You can also specify folders to store backups of processed data. Data Messenger does not delete files from the backup folders. You must delete or archive these files from the backup folder yourself. You can delete or archive the files the same way you do from a folder in My Computer.

In the default workflow, Data Messenger selects Print Case Report and Erase Source Data.

To set up the actions that Data Messenger performs

- 1 On the Data Messenger Configuration window, click the **Case Workflow** tab.

You can select the following actions:

- **Export case data** to save the data as a file
 - **Print case report** on the default printer
 - **Email case data** to the preconfigured email address as an attachment
 - **Forward case data** to Philips HeartStart Event Review Pro
 - **Erase source data** from the defibrillator or its data source, either a data card or the *Bluetooth* folder
 - **Back up processed case files** on the Data Messenger computer
- 2 Select each workflow action that you want Data Messenger to complete for all the patient data files that it receives.

To select an action, click the checkbox.

To deselect an action, clear the checkbox.

When a checkbox is selected for an action, Data Messenger enables the related fields on the Case Workflow tab and other related tabs.

- If you choose to print reports on the **Case Workflow** tab, complete the fields on the Report tab to set up the Full Disclosure or the Pre- and Post-shock report.
- If you choose to email patient event-summary data on the Case Workflow tab, complete the fields on the **Email** tab to send emails with patient event-summary data attachments.

To export cases to a folder

- 1 In the Data Messenger Configuration window, click the **Case Workflow** tab.
- 2 In **Export Case Data to a Folder**, click the checkbox.
- 3 In Folder Path, use one of the following methods to specify the folder that saves the export files:
 - In Folder Path, type the path for the folder.
 - Click **Browse** to navigate to the folder. In the Browse for Folder window, click the location and click **OK**.
- 4 In Export Format, select one of the following formats for the exported file:
 - **.mic, for use in Philips software products** – A *.mic* file contains defibrillator data supplemented with patient and demographic data. It is intended to be reviewed within Data Messenger or software products such as HeartStart Event Review Pro after a medical emergency.

- *.hic*, for use in third-party applications – A *.hic* file contains original defibrillator data, and reference ID within a single file. It is intended to be used by third-party applications.

To forward cases to HeartStart Event Review Pro

- 1 In **Forward Case Data to HeartStart Event Review Pro**, click the checkbox.
- 2 In **URL**, type the URL address for HeartStart Event Review Pro.
- 3 Click **Verify** to test that the URL is correct and accessible.
- 4 In **Number of Retries**, click the number of times that Data Messenger will attempt to forward the cases in the event of a failed transfer. The default is three attempts.
- 5 In **Interval**, click the number of minutes between each retry. The default is 60-minute intervals.

To set up a backup folder for cases

- 1 In the **Back Up Processed Case Files** area, click the checkbox.
- 2 To specify the folder location, use one of the following methods:
 - In **Folder Path**, type the path for the folder location. The default folder is: `c:\Document and Settings\Administrator\My Documents`
 - Click **Browse** to navigate to the folder location. In the **Browse for Folder** window, click the location and click **OK**.

To save the settings

- ◆ On the toolbar, click **Apply**.

Specifying reports

If you chose to print reports on the **Case Workflow** tab, then use the **Report** tab to specify the type of report that Data Messenger automatically sends to the printer or an email address.

Data Messenger can print and email the Full Disclosure or the Pre- and Post-shock report for a patient case.

The Full Disclosure report includes the entire incident, including all the events recorded on the ECG.

The Pre- and Post-shock report documents just the key ECG waveform segments and their associated events. The report displays the presenting rhythm, closing rhythm, and the ECG before and after each shock delivered. You can set the length of the presenting rhythm and the time bracketing the shock events on the Data Messenger Configuration window.

NOTE Your printer must be a Postscript-compatible printer on the same network as the computer that runs Data Messenger. The printer must also be configured on your computer as the default printer.

In the default workflow, Data Messenger generates the Full Disclosure report.

To specify the report to print or email

- 1 In the Data Messenger Configuration window, click the **Case Workflow** tab.
- 2 In the **Print Case Report** area, click the checkbox.
- 3 Click the **Report** tab.
- 4 In the **Case** area, click one of the following report types:
 - **Full Disclosure Report**




- **Pre- and Post-Shock Report**
- 5 If you selected **Pre- and Post-Shock Report**, type the number of seconds to display for the following segments in the report:
 - **Presenting Seconds** – To display a selected number of seconds of the presenting rhythm on the waveforms at the beginning of ECG waveform
 - **Closing Seconds** – To display a selected number of seconds of the closing rhythm on the waveforms at the end of ECG waveform
 - **Pre-Shock Seconds** – To display a selected number of seconds before each shock was administered
 - **Post-Shock Seconds** – To display a selected number of seconds after each shock was administered
 - 6 On the toolbar, click **Apply**.

Setting up to email case data

On the Case Workflow tab, if you choose to email cases, then use the Email tab to specify how you will send cases to a specified email address. Data Messenger uses the email format and destinations set up on the Email tab when it emails cases. Data Messenger enables the fields on the Email tab when you click Email Case Data on the Case Workflow tab.

You can also add information to the body of the email and assign a password to the attached case. Make sure to communicate the password to your intended recipient.

To set up the email case data feature

- 1 In the Data Messenger Configuration window, click the **Case Workflow** tab.
- 2 Click the **Email Case Data** checkbox.
- 3 Click the **Email** tab.
- 4 Locate the Email template area.
- 5 In **To**, type the email address, and then click the plus  button to add the address to Data Messenger.
- 6 (Optional) In **Cc**, type the email address, and then click the plus  button to add the address to Data Messenger.
- 7 To remove an email address, click the address and then click the minus  button.
- 8 In **Subject**, type a description of the email.
- 9 (Optional) In **Body**, you can add information about the nature of the email and attachment.
- 10 In the **Attachment Format** area, you can select any, all, or none of the following file formats to email as an attachment. If you want to send a notification without an attachment, leave the checkboxes unselected.
 - **.mic**, for use in Philips software products
 - **.hic**, for use in third-party applications

- *.pdf*, to view and print the document
- 11 (Optional) Complete the Password-protection area to password-protect *.mic* and *.pdf* file attachments.
 - a Click the **Password Protect .mic and .pdf file Attachments** checkbox.
 - b In **Password to Use**, type a password.

Passwords for attachments with the *.mic* file extension can contain any printable character in the ASCII character set, except a space character.

Passwords for attachments with the *.pdf* file extension can contain any printable character in the ASCII character set.

To review the ASCII character set, see the following URL: <http://www.asciitable.com/>
 - c Communicate the password to your intended recipient.
 - 12 On the toolbar, click **Apply**.

Specifying inboxes for HeartStart MRx data

NOTE The HeartStart MRx configuration functions that follow are only for advanced users.

An inbox is a location where Data Messenger retrieves HeartStart MRx data when the defibrillator uses the *Bluetooth* and batch LAN data transfer FTP methods.

Use the Advanced Inboxes tab to specify the location for the HeartStart MRx patient data that is sent through *Bluetooth* and batch LAN data transfer. Data Messenger monitors the inbox locations for event summaries, 12-lead reports, and periodic clinical data.

In the default workflow, Data Messenger does not have an inbox location configured.

Setting up a *Bluetooth* inbox for the HeartStart MRx

In order to transfer data from the defibrillator to the Data Messenger computer, you must first install the *Bluetooth* hardware and software. The *Bluetooth* stack that comes with the hardware includes drivers that define an inbox location where files are transferred.

NOTE The *Bluetooth* stack needs to support the *Bluetooth* FTP server profile so that HeartStart MRx can send files to the server. For information about supported *Bluetooth* stacks, see [System requirements](#) on page 17.

To set up the *Bluetooth* inbox

- 1 In the Data Messenger Configuration window, click the **Advanced Inboxes** tab.
- 2 In the *Bluetooth* area, use one of the following methods to specify the location of the *Bluetooth* Exchange Folder:
 - In **Folder path**, type the path of the *Bluetooth* Exchange Folder.
 - Click **Browse** to navigate to the *Bluetooth* Exchange Folder. In the Browse for Folder window, click the location and click **OK**.
- 3 On the toolbar, click **Apply**.

Setting up batch LAN data transfer for the HeartStart MRx

HeartStart MRx can transfer event summaries across a LAN to a computer that runs Data Messenger.

Batch LAN data transfer prerequisites

In order to transfer event summaries to Data Messenger, the computer must have the FTP Server software installed. Your IT department can install the Windows FTP Server profile, which can be found in the Windows Installation CD. Alternatively, you can use a third-party FTP server.

In addition to an FTP server, HeartStart MRx needs other network components. When HeartStart MRx connects to the network, it initiates an IP address request from the network. HeartStart MRx needs this IP address to send files to the computer that runs Data Messenger. During the batch LAN data transfer process, HeartStart MRx queries the local subnet for the computer.

The following instructions presume that the FTP server is already installed.

Specifying an inbox folder location for batch LAN data transfer

To set up an inbox for batch LAN data transfer

- 1 In the Batch LAN Data Transfer FTP area, use one of the following methods to specify the location of the FTP inbox folder:
 - In **Local Folder Path**, type the path for the FTP inbox folder.
 - Click **Browse** to navigate to the FTP inbox folder. On the Browse for Folder window, select the location and click **OK**.Data Messenger enables the fields that specify the FTP address.
- 2 Complete the following fields:
 - In **FTP Address**, type the IP address or name of the FTP server.
 - In **Port**, type the number of the port. The default port number is 21.
 - In **User Name**, type the user name for the person who has Read/Write access to the FTP server.
 - In **Password**, type the password associated with the user name.
 - In **Base directory**, type the directory where HeartStart MRx transfers the files on the FTP server. The default entry is a forward slash (/).
- 3 Click **Verify** to test that the FTP connection is correct and accessible.
- 4 On the toolbar, click **Apply**.

Specifying advanced workflow for the HeartStart MRx

Use the Advanced Workflow tab to choose the actions that Data Messenger completes when the software forwards 12-lead reports and periodic clinical data for HeartStart MRx advanced life-support (ALS) applications.

You can specify the following actions:

- Forward 12-lead reports and periodic clinical data from HeartStart MRx to HeartStart Telemedicine
- Erase source data
- Back up transmissions that failed to process

In the default workflow, Data Messenger selects the **Erase Source Data** option.

To forward 12-lead reports or periodic clinical data to HeartStart Telemedicine

- 1 In the Data Messenger Configuration window, click the **Advanced Workflow** tab.
- 2 In the **Forward to Philips HeartStart Telemedicine System** area, click the checkbox.
- 3 In **URL**, type the URL address for HeartStart Telemedicine.
- 4 Click **Verify** to test that the URL information is correct and accessible.
- 5 In the **Number of Retries** area, type the number of times that Data Messenger will attempt to transfer the 12-lead report or periodic clinical data in the event of a failed transmission. The default is three attempts.
- 6 In **Interval**, type the number of minutes between each attempt. The default is 60-minute intervals.

NOTE HeartStart Telemedicine does not require a HTTP user name and password because of the data it receives from Data Messenger. HeartStart Telemedicine accepts anonymous transmissions.

To erase source data from Data Messenger and its data source

- 1 Locate the **Erase Source Data** checkbox.
- 2 Verify that the checkbox is selected.

To set up a backup folder for files that did not process

- 1 In the **Back Up Failed Transmissions** area, click the checkbox.
- 2 To specify the folder location, use one of the following methods:
 - In **Folder Path**, type the path for the folder location.
 - Click **Browse** to navigate to the folder location. In the **Browse for Folder** window, select the location and click **OK**.

To save the settings

- ◆ On the toolbar, click **Apply**.

Managing configurations in Data Messenger

Data Messenger provides toolbar buttons to manage configurations. You can save, export, and import configurations. This can be useful if you want to easily configure multiple instances of Data Messenger the same way throughout your organization.

Once you apply a configuration, you can export that configuration for use as a backup copy or on other Data Messenger installations.

CAUTION Before to using Data Messenger to manage actual cases, test the Data Messenger configuration. An incorrect configuration may result in delay of data transfer. For resources, see [Implementation references](#) on page 95.

Saving configurations

The Data Messenger toolbar appears at the top of the Data Messenger Configuration window, above the tabs.

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Processing cases manually

Use the Manual Process option on the Data Messenger menu at any time to interactively download patient summary data from a defibrillator and save it as a case, for processing.

When you connect a defibrillator to Data Messenger or its data card, the software receives and lists patient event-summary data in the Cases list on the Data Messenger Manual Process window. Once Data Messenger receives the patient summary data, the data is known as a “case.”

You can use the Data Messenger Manual Process window to edit, print, save, and forward cases. The first time you start Data Messenger, the software uses the default configuration settings.

This section describes the tasks that you can complete in the Manual Process mode.

NOTE In the following topics, “processing cases” refers to editing, saving, and generating reports, and forwarding cases.

Using the Data Messenger Manual Process window

The Data Messenger Manual Process window includes the Cases tab, the System Log tab, and a toolbar.

Use the System Log tab to view the system activities.

Use the Cases tab to edit case identification information and process the selected case according to the workflow that you configured. A “case” is all the information relating to a specific patient cardiac emergency. This includes information recorded by the supported defibrillators as well as information entered by a user.

Use the toolbar buttons to manage one or more cases, manually process the case, and display the online Help system.

The following illustration describes the Data Messenger Manual Process window.



Number	Description
1	The toolbar displays the actions that you can complete manually.
2	The tabs list the data that you can use in the Manual Process mode: work with cases on the Cases tab and view system log messages on the System Log tab. The messages record the Data Messenger system activity. You can change how the data displays in each list.

NOTE Data Messenger interrupts the automatic processing of cases until you close the Data Messenger Manual Process window.

Opening the Data Messenger Manual Process window


You can open the Data Messenger Manual Process window from the Start menu or the notification area on the Windows task bar (typically at the bottom of the screen).

TIP You can use the Manual Process mode at any time, even when Data Messenger is set up to operate in the Automatic mode.

To open the Data Messenger Manual Process window from the Start menu


- 1 On the Windows Start menu, click **All Programs**.
- 2 Click **Philips HeartStart Data Messenger 4.2**.
- 3 Click **Data Messenger Manual Process**.
Data Messenger displays the Data Messenger Manual Process window.

To open the Data Messenger Manual Process window when in the Automatic mode

- 1 In the notification area on the Windows task bar, right-click the Data Messenger  icon.
- 2 Click **Manual Process**.

NOTE While your system is in the Automatic mode, you can switch temporarily to Manual Process mode by opening the Manual Process window. When you close the Manual Process window, the system resumes operating in the Automatic mode.

Closing the Data Messenger Manual Process window

If the Cases tab lists event-summary data when you click the Close  button, Data Messenger asks you how to handle the unprocessed cases.

- Click **Yes** to process all the cases and close the window. In the Manual Process mode, Data Messenger closes the Data Messenger Manual Process window and exits the software.

It is possible to have the Automatic mode running and still use the Manual Process window. If you do this, and you close the Manual Process window, the program resumes operating in the Automatic mode.

- Click **No** to keep the cases on the Cases tab and close the window. You can process the cases manually at a later time.
- Click **Cancel** to return to the Cases tab.

Receiving cases

Depending on the defibrillator, you can receive data through an infrared transmission, *Bluetooth* transmission, Ethernet cable, or from a data card.

To receive data, you typically put the defibrillator in the administration or data management mode, unless you are transferring data manually on a data card. The methods vary by defibrillator. For more information, see [Working with defibrillators](#) on page 61 and your defibrillator documentation.

Once you establish a connection between the defibrillator and Data Messenger, the software displays all the cases on the defibrillator or its data source on the Cases tab.

Viewing cases

Use the Cases tab to view the list of cases that Data Messenger received from the supported defibrillators or the case files that you imported (opened) in Data Messenger.

Depending on your workflow, you can also use the Cases tab to print the preconfigured case report and email, forward, and export (save) cases. You can also delete selected cases from Data Messenger or its data source (either the defibrillator, a data card, or the *Bluetooth* folder).

CAUTION When you delete data, you cannot restore or recover the data from the computer or defibrillator. To prevent data loss, ensure that your configuration is set to back up files. For information about backing up processed case files, see [Modifying the workflow for case processing](#) on page 37.

On the Cases tab, you can customize the way information displays in the list of data. You can also change how columns display, and sort and group the list. For more information, see [Working with columns](#) on page 58, [Sorting entries in a column](#) on page 58, and [Grouping entries](#) on page 58.

Selecting cases

To work on cases, click a case row on the Cases tab. You can select more than one case at a time to complete the following tasks

- View and print the default report for selected cases
- Process the selected cases according to the configured workflow

- Delete the selected cases from Data Messenger and its data source (either the defibrillator, a data card, or the *Bluetooth* folder)

To select one case

- ◆ On the **Cases** tab, click the case that you want to select.

To select more than one consecutive case

- 1 On the **Cases** tab, click the first case that you want to select.
- 2 Press and hold **SHIFT**, and click the last case that you want to select.

To select one or more cases that are not next to each other

- 1 On the **Cases** tab, click the first case that you want to select.
- 2 Press **CTRL** and click each additional case that you want to select.

Editing cases

On the **Cases** tab, you can edit the following information for each selected case:

- **Case ID** identifies the patient event-summary file. The maximum length is 25 characters.
- **Patient ID** identifies the patient. The maximum length is 100 characters.
- **First Name** identifies the patient's first name. The first name appears in the case and prints in report headers. The maximum length is 50 characters.
- **Last Name** identifies the patient's last name. The last name appears in the case and prints in report headers. The maximum length is 50 characters.
- **Adjusted "On" Time** adjusts the data date and time based on the clock of the Data Messenger computer. If you know that the defibrillator clock was not synchronized, you can adjust the time in the case here. This does not change the defibrillator.
- **Case Date and Time** displays the date and time that Data Messenger receives the case.
- **Reference ID** helps identify the case using a naming convention that is meaningful to you, for example, Engine 3 or Smithtown High School Gym. The maximum length is 100 characters.
- **Institution** helps identify the organization or system where the case originated, for example, Johnstown Fire Department or Smithtown School District. The maximum length is 100 characters.

Event Review Pro 4.1 or later supports the reference ID and institution information.

If Data Messenger receives a case from HeartStart MRx that already includes the patient ID, the first and last name of the patient, reference ID, and institution information, this information appears on the **Cases** tab.


If the defibrillator does not already provide this information, Data Messenger uses the configured information from the **General** tab on the Data Messenger Configuration window to complete the reference ID and institution information on the **Cases** tab. For more information, see [Adding default case identifiers](#) on page 35.

However, you can overwrite this information with information of your own in the Data Messenger Manual Process window.

To edit case information

- 1 On the **Cases** tab, identify the data that you want to edit.
- 2 Double-click the field to type or edit the information in the drop-down field.


Viewing and printing a case report

Use the **Print**  button on the toolbar to view and print the Full Disclosure report.


This report includes the entire incident, including the events recorded.

The continuous ECG is intended only for basic rhythm identification. It is not intended for diagnostic and ST-segment interpretation.

To print the report

- 1 In the Data Messenger Manual Process window, click the case that you want to print.
- 2 On the toolbar, click the **Print**  button.
Data Messenger displays a preview of the report.
- 3 To print the report, use one of the following Report Preview toolbar buttons:
 - Click **Print** to print the report on the printer of your choice.
 - Click **Quick Print** to print the report on your default printer.


Opening previously saved cases

On the Data Messenger Manual Process window, use the **Import**  button on the toolbar to open a previously saved case that has the *.mic* or *.hic* extension.

After you import a case, you can edit the patient information and process the patient data according to the configured workflow. If you import a case with the *.mic* extension from HeartStart Event Review Pro, Data Messenger imports only the defibrillator data into Data Messenger. It does not import the patient information that a HeartStart Event Review Pro user added to the case. If you then import this case back into HeartStart Event Review Pro, the software treats the file as a new case.


If you import a case with the *.mic* extension from the previous version of Data Messenger, all your data is imported into the current version.


To import a case

- 1 In the Data Messenger Manual Process window, click the **Import**  toolbar button.
Data Messenger displays the Data Messenger Manual Import window.
The default location is the My Documents folder or the last folder you used to import a case file.
- 2 In **Files of type**, select the type of file that you want to import (either *.mic* or *.hic*).
- 3 Click the file you want to import.
The file name appears in the **File Name** field.
- 4 Click **Open**.
Data Messenger imports the case and lists it on the **Cases** tab.
- 5 If the *.mic* file is password-protected, Data Messenger displays a message requesting the password. Type the password and click **OK**. Data Messenger closes the window and lists the case on the **Cases** tab.


Processing cases

The steps that happen when you process a case are determined by the way you configured your workflow. Depending on the selections you made when you configured your workflow, your case can be exported, printed, forwarded, or emailed. For information about setting up your workflow, see [Modifying the workflow for case processing](#) on page 37.

Use the Process  button on the toolbar to process the cases that you selected on the Cases tab. Process prepares and forwards the case by completing the configured workflow actions. **To process cases**

- 1 In the Data Messenger Manual Process window, click the case that you want to process manually from the list of cases on the Cases tab. For more information, see [Selecting cases](#) on page 47.
- 2 On the toolbar, click the Process  button.
Data Messenger processes the selected cases, changes the status on the Cases tab, and removes the row from the Cases tab. Data Messenger also lists the actions on the System Log tab.

Deleting cases from Data Messenger

Use the Delete  button on the toolbar if you have defibrillator data that was already downloaded, or data that you do not want to process. Data Messenger removes the case from the list on the Cases tab and lists the actions on the System Log tab.

CAUTION When you delete data, you cannot restore or recover the data from the computer or defibrillator.

To delete cases from Data Messenger

- 1 In the Data Messenger Manual Process window, click the cases that you want to delete from the list of cases on the Cases tab.
- 2 Click **Delete**.
If you operate Data Messenger in the Automatic mode, the software interrupts the automatic processing of cases until you close the Data Messenger Manual Process window. For more information, see [Processing cases automatically](#) on page 53.

Deleting cases from defibrillators or their data sources

Data Messenger processes all event-summary data for the associated defibrillator before the software deletes the data on the defibrillator or its data source.

Data Messenger can delete the data from the following sources:

- HeartStart HS1 and HeartStart FRx defibrillators
- Data cards that are connected to the Data Messenger computer
- *Bluetooth* inbox on the Data Messenger computer

- Source data in the FTP folder

To delete data from the data source

- ◆ Procedures for deleting data from your defibrillator or other data sources vary by defibrillator model. Data sources can include the defibrillator, its data cards, a *Bluetooth* inbox, or a FTP folder.

For more information:

- [Working with defibrillators](#) on page 61.
- [Deleting cases from HeartStart FRx or HeartStart HS1 defibrillators](#) on page 66.

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Processing cases automatically

When you first install Data Messenger, the software is set up to run in the Manual Process mode and use the default workflow settings. However, you can configure Data Messenger to operate in the Automatic mode, downloading and managing patient data without your intervention. The workflow you specify in advance specifies how Data Messenger processes cases receives, edits, prints, forwards, and saves cases.

This section introduces the Automatic mode and describes how Data Messenger manages cases without your intervention.

Using the Automatic mode

Before you can process cases automatically, your system needs to be configured to run in the Automatic mode, and you also need to select your case workflow. If you select other than the default workflow, you will need to configure your customized workflow.

For information about configuring Data Messenger to run in the Automatic mode, see [Configuring Data Messenger to process cases in the Automatic mode](#) on page 34.

If you choose to use the default workflow settings, Data Messenger automatically performs the following workflow:

- Notifies you when it receives and processes patient data, and when it encounters an error
- Generates and prints the Full Disclosure case report
- Erases case data from the defibrillator or its data source (either a data card or the *Bluetooth* folder)
- Displays confirmation messages when you remove a case from Data Messenger
- Stores a log file, for a default period of seven days
- Stores backup data in a default location indefinitely, until you delete it


You can customize your workflow settings at any time. For more information on configuring a custom workflow, see [Configuring HeartStart Data Messenger](#) on page 31.

For information about default settings for feedback messages, see [Controlling feedback messages](#) on page 36.

To start running the Automatic mode


- ◆ Log on to the computer.

If Data Messenger has been configured to run in the Automatic mode, Data Messenger automatically starts at logon and runs in the background, managing cases according to the selected workflow.

The Data Messenger  icon appears in the notification area, in the lower right corner of your monitor. This icon appears only when you are in the Automatic mode.

NOTE If you log off while in the Automatic mode, you exit Data Messenger.


To exit Data Messenger when running in the Automatic mode

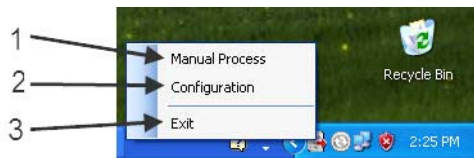
In the notification area, right-click the Data Messenger  icon to open the menu, and click **Exit**.

Using the Data Messenger icon in the notification area

When you are in the Automatic mode, the Data Messenger  icon appears in the notification area of the Windows taskbar, at the bottom right of your monitor. This icon appears only when Data Messenger is in the Automatic mode.

While you are in the Automatic mode, you can use the Data Messenger icon menu to perform actions in Data Messenger.

Right-click the Data Messenger  icon to open a menu with the selections Manual Process (1), Configuration (2), and Exit (3).

Data Messenger icon menu

Data Messenger processes cases automatically until you exit Data Messenger, log off of the computer, change the logon for the computer, open the Manual Process mode, or turn off the computer.

When Data Messenger is configured to display feedback messages, these also appear in the notification area. See [Controlling feedback messages](#) on page 36.

NOTE While your system is in the Automatic mode, you can switch temporarily to Manual Process mode by opening the Manual Process window. For more information, see [Using the Data Messenger Manual Process window](#) on page 45. When you close the Manual Process window, the system resumes operating in the Automatic mode.

To open the Data Messenger Manual Process window while operating in the Automatic mode

- ◆ On the Windows Start menu, click **Data Messenger Manual Process**.
The Data Messenger Manual Process window opens.

An alternative is to right-click the Data Messenger  icon and click **Manual Process**.


To open the Data Messenger Configuration window while operating in the Automatic mode


- ◆ On the Windows Start menu, click **Data Messenger Configuration**.
The Data Messenger Configuration window opens.

An alternative is to right-click the Data Messenger  icon and click **Configuration**.

CAUTION When you open the Data Messenger Configuration window with Data Messenger in the Automatic mode, the software interrupts the processing of incoming data until you close the Configuration window. If Data Messenger is processing a case when you open the Configuration window, it might not complete the workflow.

To close the Data Messenger Configuration window while operating in the Automatic mode

- ◆ In the Data Messenger Configuration window, click the Close  button.

Data Messenger closes the window and resumes processing the patient data automatically. The Data Messenger  icon appears in the notification area.

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Working with the system log

You can view the system log to see a list of all the Data Messenger activity. Use the system log to monitor system activity and to troubleshoot the processing of patient data.

When working with the system log, you can customize the way information displays in the list of entries. You can change how columns display, and sort and group the list of entries.

This section provides an overview of how to use the system log in Data Messenger.

NOTE Data Messenger automatically clears system log messages based on the number of days set up on the General tab on the Data Messenger Configuration window. For more information, see [Storing system log messages](#) on page 36.

Displaying the system log

The system log is available on the Data Messenger Manual Process window.

To display the system log

- 1 On the Start menu, click **Philips HeartStart Data Messenger 4.2**, and then click **Data Messenger Manual Process**.
The Data Messenger Manual Process window appears.
- 2 Click the **System Log** tab.

Monitoring system activities

The system log lists Data Messenger activity. You can use the system log information to monitor the system activity.

For each action, Data Messenger logs the following information:

- The type of message, for example, Information or Error
- The action that occurred, for example, when the software stopped a feature
- A description of the action
- The date and time when the action occurred

If the text for the description of the action does not fully display in the column, hover the mouse over the description text. Data Messenger displays the text in a pop-up window. You can also change the width of the column.

To help you monitor specific information, you can change how the information appears on the system log. For example, you can move columns with important information to the beginning of the table, and then group the information columns based on that column.

When you change the default layout of the system log, Data Messenger displays the new layout the next time you use the system log.

Working with columns

You can customize the columns that appear on the table.

To change a column width

- ◆ Use the mouse to click and hold the column border, and then drag the border to the size you prefer.

To restore a column to its default width

- ◆ Use the mouse to click the left border of a column, and then double-click the mouse.

To hide or display the columns on the table

- 1 Right-click a column header to display a shortcut menu.
- 2 Click **Columns** to display a list of column headers.
- 3 Click a checkbox for each column that you want to hide or display on the table. Column headers with a checkmark appear on the table.

To change the order in which columns appear

- ◆ Use the mouse to click and hold the column header, and then drag the column to the left or right to a new location.

Sorting entries in a column

You can sort the rows of information in a column. Data Messenger displays a triangular symbol (arrow) in the column header to indicate the sort order.

Click the column header to sort the list of values in ascending (1 to 9, or a to z) or descending (9 to 1, or z to a) order.

Grouping entries


You can organize the rows into primary and secondary sorts. For example, you can select a primary sort based on the action and a secondary sort based on the description of the action.

Use the area above the entries to set up groups of entries. For example, drag the **Action** column header to the area above the columns, and then drag the **Description** column header below the **Action** header in the same area. Data Messenger gathers all the entries with the same action in one group.


To group entries

- 1 Click a column header and drag it to the grouping area with the notation **Drag a Column Header Here to Group by that Column**.
The column name moves to the grouping area, forming the primary sort.
- 2 Repeat step 1 with other columns as necessary.
Data Messenger creates the next group level, forming the secondary sorts.

To display entries in a group

- ◆ Click **Expand**  to the left of the group that you want to expand. An expanded group lists all the entries assigned to that group.

To hide entries in a group

- ◆ Click **Collapse**  to the left of the group that you want to collapse. A collapsed group displays the group title.

To undo grouping for a single column

- ◆ Click a column header in the grouping area and drag it below the table header.

To undo grouping for all columns

- 1 Click a column header in the grouping area and drag it to the table header.
- 2 Repeat step 1 for each column.

Clearing system log entries

Data Messenger retains the system log entries for the number of days that is set on the General tab on the Data Messenger Configuration window. For more information, see [Storing system log messages](#) on page 36

Troubleshooting system activities

You can also use the system log to help troubleshoot the system activities. For a description of the system messages, see [System log messages](#) on page 75.

If you need additional customer support, call or email customer support. Your customer support representative might also ask you to send an email with an attachment of the system log.

To email the system log

- 1 Open either the Data Messenger Configuration window or the Data Messenger Manual Process window.
- 2 On the Help menu, click **Email Customer Support**.
Data Messenger creates an email, addresses it to customer support, and attaches the system log information. You can add additional information in the body of the email message.
- 3 Click **Send**.

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Working with defibrillators

This section discusses how to download case data from the supported defibrillators.

HeartStart Data Messenger can download defibrillator case data through infrared, *Bluetooth*, Ethernet or data-card access. Depending on the defibrillator, you might also need an infrared adapter, a card reader, a card adapter, or a *Bluetooth* adapter to read and download case data to Data Messenger.

This section includes the following topics:

- [Supported defibrillators](#) on page 61
- [Reading HeartStart FR2 data](#) on page 62
- [Reading HeartStart FR2 data](#) on page 62
- [Downloading HeartStart FRx and HeartStart HS1 data](#) on page 63
- [Determining the case date and time](#) on page 66
- [Working with HeartStart MRx data](#) on page 67
- [Downloading HeartStart MRx data using Bluetooth](#) on page 68
- [Downloading HeartStart MRx data using batch LAN data transfer](#) on page 71
- [Reading HeartStart XL data](#) on page 72
- [Selecting accessories for data transfer](#) on page 73

Supported defibrillators

Use the information in this topic to download product and user service manuals from the Philips Web site, and to identify the method that a defibrillator uses to read data.

To download product user and service materials

- Click the following link and navigate to your AED or monitor defibrillator: <http://www.healthcare.philips.com/main/support/ProductDocumentation/>
- For HeartStart FRx, FR2 and HeartStart HS1 defibrillators, you can also click the following link: http://www.healthcare.philips.com/main/products/resuscitation/products/aeds/online_resources.wpd

The method used to read and transfer defibrillator data varies by defibrillator model. Find your defibrillator in the following table.

Philips defibrillator model	Method used to read data
HeartStart FR2 defibrillator	Data-card access: CompactFlash data card with CompactFlash data-card reader or ATA flash-card reader with an adapter. See Reading HeartStart FR2 data on page 62.
HeartStart FRx defibrillator	Infrared connection. See Downloading HeartStart FRx and HeartStart HS1 data on page 63.
HeartStart HS1 family of defibrillators: HeartStart Home and HeartStart OnSite defibrillators	Infrared connection. See Downloading HeartStart FRx and HeartStart HS1 data on page 63.
HeartStart MRx defibrillator	Data-card access: CompactFlash data card with CompactFlash card reader or ATA flash-card reader with an adapter. <i>Bluetooth</i> connection: Defibrillators with version 9.0 or later with the event-summary <i>Bluetooth</i> Transfer feature (option B10, upgrade #861325) enabled. Defibrillators with version F.01 or later. Ethernet connection for defibrillators with version F.01 or later (option B18 or upgrade 861447). See Working with HeartStart MRx data on page 67, and Prerequisites for using Bluetooth for HeartStart MRx on page 69.
HeartStart XL defibrillators	Data-card access: ATA flash cards with the ATA flash-card reader. See Reading HeartStart XL data on page 72.

Reading HeartStart FR2 data

The HeartStart FR2 series defibrillators store patient event-summary data on a CompactFlash card. You can read these cards in the following card readers:

- CompactFlash card reader
- ATA flash-card reader with an adapter

If the computer is not equipped with an adapter, you can add an external or internal card reader. The external card reader usually plugs into the USB port.

You can use any adapter that Windows Explorer recognizes as a Removable Disk.

CompactFlash and ATA card readers are available through your Philips sales representative or local distributor. The Philips product ID is M3524A.

CAUTION Before removing the data card from the adapter or card reader, ensure that data transfer is completed. Premature removal of a data card can cause a data error.

To read a data card with an adapter

- 1 Remove the data card from the HeartStart FR2 series defibrillator.
- 2 One end of the data card has a series of perforations. This end goes into the adapter.
- 3 One end of the adapter has a similar series of perforations. This end of the adapter goes into the computer card reader.
- 4 Insert the adapter firmly into the card reader.
- 5 Check in Windows Explorer to see that the card was recognized. This might take a few minutes. When Windows recognizes the card, it assigns a drive letter to the card.

To read a data card without an adapter

- 1 Remove the data card from the HeartStart FR2 series defibrillator.
- 2 One end of the data card has a series of perforations. This end goes into the card reader. Insert the card firmly into the card reader.
- 3 Check in Windows Explorer to see that the card was recognized. When Windows recognizes the card, it assigns a drive letter to the card.



A HeartStart FR2 card being inserted into an adapter



A HeartStart FR2 card being inserted into a Kingston card reader

Downloading HeartStart FRx and HeartStart HS1 data

The HeartStart FRx and HeartStart HS1 defibrillators use an infrared (IrDA) communications port to transfer information.

The infrared port is located on the lower right side of the defibrillator.

To transfer information, the receiving computer must be set up for infrared communication. Some computers might have infrared ports. If the computer does not have an infrared port or the port does not work with the defibrillator, you can add an infrared adapter.

An infrared adapter that connects to a USB port is the recommended adapter.

Setting up an infrared adapter

You can use most infrared adapters to transfer data between a computer running Data Messenger and a defibrillator that uses the infrared transfer method.

TIP For best results, plug the hardware adapter into the USB port and use the device driver supplied with the adapter.

Data Messenger recognizes when an infrared adapter is plugged into the computer and is available. A Windows notification indicates that data can be transferred by infrared connection. You do not have to perform any additional steps. If you have to run the driver setup program, then install the CD-ROM that came with your infrared adapter and use your computer's New Hardware Wizard to guide you through setting up the adapter.

An infrared adapter is available from Philips. The Philips product ID is ACT-IR.

To set up the infrared adapter

- 1 Read the setup instructions for the driver that is used by the infrared adapter.
- 2 Run the driver setup program on the Windows operating system.
- 3 Follow instructions as the New Hardware Wizard guides you through setting up the adapter.

Downloading HeartStart FRx data

Downloading patient event-summary data from the HeartStart FRx defibrillator requires an infrared connection between HeartStart Data Messenger and the defibrillator.

To transfer information, you must put the defibrillator into the Administration mode.

If the HeartStart FRx does not receive a transmission within 3 minutes of starting the Administration mode, it cancels the Administration mode and you must start over.

TIP The Administration mode is active for 30 minutes after the last transfer is made.

To download HeartStart FRx patient data

- 1 Start Data Messenger.
- 2 Return to the defibrillator and remove the pads connector.
The defibrillator voice message might tell you to plug in the pads connector so that it is ready for patient use. Do not plug in the pads connector at this time.
- 3 Set up the defibrillator to communicate with the computer.
Make sure that the defibrillator infrared port and the computer infrared port face each other, are within 6 to 18 inches (16 to 45 cm) of each other, and have a clear and level path between them.
- 4 Turn on the defibrillator power.

- 5 On the defibrillator, press and hold the blue i-button for three tones.
The defibrillator sounds a tone once in about two seconds after pressing the blue i-button. In about two more seconds, it sounds a tone two more times.
- 6 Release the blue i-button.
The defibrillator voice message announces *Administration*.
- 7 Return to the Data Messenger computer and align the defibrillator's infrared port with the infrared port on the computer.
You can now send and receive information between the defibrillator and the computer.
HeartStart FRx announces *Transferring data*. Be sure to wait until the transmission is complete before you move the defibrillator from the computer infrared port.
- 8 When sending and receiving information is complete, remember to exit the Administration mode:
 - a Place the defibrillator in Standby Mode by pressing the on-off button.
 - b Insert the pads connector.This ensures that the defibrillator is ready for use on the next patient.
For more information, refer to the *HeartStart FRx Defibrillator Owner's Manual*.

Downloading HeartStart HS1 data

Downloading patient event-summary data from the HeartStart HS1 defibrillator requires an infrared connection between Data Messenger and the defibrillator.

If the HeartStart HS1 does not receive a transmission within 30 seconds of starting the Administration mode, you must place the defibrillator back in Administration mode.

TIP The Administration mode is active for 30 minutes after the last transfer is made.

To download HeartStart HS1 defibrillator patient data

- 1 Start Data Messenger.
- 2 Return to the defibrillator and make sure that there is a battery in the defibrillator.
- 3 Locate the latch at the top edge of the HeartStart HS1 and slide it to the side.
The HeartStart HS1 releases the pads cartridge.
- 4 Remove the pads cartridge.
The defibrillator voice message might tell you to insert the pads cartridge so this is ready for patient use. Do not insert the pads cartridge at this time.
- 5 Set up the defibrillator to communicate with the computer.
Make sure that the defibrillator infrared port and the computer infrared port face each other, are within 6 to 18 inches (16 to 45 cm) of each other, and have a clear and level path between them.
- 6 Turn on the defibrillator power.
- 7 On the defibrillator, press and hold the blue i-button for three tones.
The defibrillator sounds a tone once in about two seconds after pressing the button. In about two more seconds, it sounds a tone two more times.
- 8 Release the button after the third tone.
The defibrillator voice message announces *Administration*.

- 9 Press the blue i-button again for less than one second.
The defibrillator voice message announces Mode 1.
- 10 Return to the Data Messenger computer and align the defibrillator's infrared port with the infrared port on the computer.
You can now send and receive information between the defibrillator and the computer.
HeartStart HS1 announces sending. Be sure to wait until the transmission is complete before you move the defibrillator from the computer infrared port.
- 11 When sending and receiving information is complete, remember to exit the Administration mode.
 - a Place the defibrillator in Standby Mode by pressing the on-off button.
 - b Insert the pads cartridge.This ensures that the defibrillator is ready for use on the next patient.
For more information, refer to the instructions for use provided with the defibrillator.

Determining the case date and time


The HeartStart FRx and HeartStart HS1 family of defibrillators do not have a real-time clock that keeps the defibrillator date and time. Instead, the defibrillator has a continuously running timer that starts when you insert the battery. When responders use the defibrillator, all events and data are stamped with this running timer. When you remove the battery, the timer resets and the defibrillator keeps the last-use ECG recordings for 30 days before it automatically erases the data to prepare for a future use.

Each time Data Messenger communicates with a HeartStart FRx or HeartStart HS1 defibrillator, Data Messenger uses the date and time of the computer clock, and the date and time stamp of the defibrillator, to calculate the date and time of all events and data since the battery was last inserted.

CAUTION To ensure that you can download the defibrillator information for the last clinical use, download the last-use ECG recordings to a computer that runs software such as Data Messenger. Download the information within 30 days of the recording and before you remove the battery.

Deleting cases from HeartStart FRx or HeartStart HS1 defibrillators

Follow this process to delete patient data from your HeartStart FRx or HS1 defibrillators.

- 1 Put the defibrillator in the Administration mode, as described in the previous section on downloading data from your defibrillator.
- 2 Set up infrared communication between your defibrillator and the computer, as described in the previous section on downloading data from your defibrillator.
- 3 Make sure that the defibrillator infrared port and the computer infrared port face each other, are 6 to 18 inches (16 to 45 cm) of each other, and have a clear and level path between them.
- 4 On the **Cases** tab, select the case that you want to delete from the defibrillator. For more information, see, [Selecting cases](#) on page 47.
- 5 On the toolbar, click the **Delete**  button.
Data Messenger displays a message asking you to verify the deletion.

- 6 Click OK to delete the selected cases immediately.
Data Messenger displays the action on the Systems Log tab.

Working with HeartStart MRx data

CAUTION When using configurations involving Telemedicine, be sure to verify the URL for Telemedicine before working with actual cases. Incorrect connection information may result in delay of data transfer. See [Processing cases manually](#) on page 45.

The HeartStart MRx defibrillator stores information in internal memory. To open the information in the Philips Data Management Solutions software, such as Data Messenger, you need to transfer the information from the internal memory to an external CompactFlash card. To open the information in the Philips Data Management Solutions application, you need to transfer the information from the internal memory to an external CompactFlash card.

Follow the instructions in the *HeartStart MRx Monitor/Defibrillator Instructions for Use* guide.

After you transfer the information to a CompactFlash card, you can read these cards in the following card readers:

- CompactFlash card reader
- ATA flash-card reader with an adapter

If the computer is not equipped with an adapter, you can add an external or internal card reader. The external card reader plugs into the computer USB port. The Philips product ID for a data card and tray is M3854A.

You can use any adapter that Windows Explorer recognizes as a Removable Disk.

CompactFlash and ATA card readers are available through your Philips sales representative or local distributor. For more information, see the *HeartStart MRx Monitor/Defibrillator Instructions for Use* guide.

CAUTION Before removing the data card from the adapter or card reader, ensure that data transfer is completed. Premature removal of a data card can cause a data error.

To read a data card with an adapter

- 1 Remove the data card from the HeartStart MRx data-card tray.
- 2 One end of the data card has a series of perforations. This end goes into the adapter.
- 3 One end of the adapter has a similar series of perforations. This end of the adapter goes into the PC Card reader.
- 4 Insert the adapter firmly into the card reader. Typically, the computer sounds an audio signal to indicate that the reader is active.
- 5 Check in Windows Explorer to see that the card is recognized. When Windows recognizes the card, it assigns a drive letter to the card.
- 6 If the card does not appear in Windows Explorer, remove the card from the card reader, and then insert it into the card reader again.

To read a data card without an adapter

- 1 Remove the data card from the HeartStart MRx data-card tray.
- 2 One end of the data card has a series of perforations. This end goes into the card reader. Insert the card firmly into the card reader.
- 3 Check in Windows Explorer to see that the card was recognized. When Windows recognizes the card, it assigns a drive letter to the card.
- 4 If the card does not appear in Windows Explorer, remove the card from the card reader, and then insert it into the card reader again.



A HeartStart MRx card being inserted into an adapter



A HeartStart MRx card being inserted into a Kingston card reader

Downloading HeartStart MRx data using *Bluetooth*

You can transmit HeartStart MRx data to Data Messenger through a *Bluetooth* wireless transmission.

The HeartStart MRx data can include event-summary, 12-lead reports, and periodic clinical data. Periodic clinical data can include 12-lead reports, trigger events and waveforms, and periodic vital trends.

HeartStart MRx data might contain information which could be considered Patient Healthcare Information (PHI) or patient identifiable data. This information can be transferred from HeartStart MRx. Be sure to handle the information in accordance with HIPAA or your local patient privacy requirements.

Understanding *Bluetooth* for HeartStart MRx

To transfer the information from the HeartStart MRx defibrillator to Data Messenger, you must set up the *Bluetooth* transmission on the defibrillator and on the computer that has Data Messenger installed.

If the computer is not equipped with *Bluetooth*, it requires a *Bluetooth* adapter to receive data from the defibrillator. The adapter connects the computer that has Data Messenger installed and the defibrillator.

Each *Bluetooth* device from a different manufacturer has a unique set of features and configuration options. To ensure reliable transmissions, familiarize yourself with the *Bluetooth* configuration choices of each.

CAUTION Some configuration choices (either default or chosen by the user) could prevent receipt of data from the defibrillator. For example, it is recommended that you disable features such as “Start discovery every 10 minutes.” Enabling this option could interfere with transmissions from HeartStart MRx.

When you install the *Bluetooth* software on the receiving computer, the process creates the *Bluetooth* configuration folder. This folder is based on the logon of the user who configured the *Bluetooth* wireless technology. For example, the folder for *user1* is typically at the following location:

C:\Document and Settings*user1*\My Documents\Bluetooth Exchange Folder

When the defibrillator transmits data to Data Messenger, the defibrillator creates subfolders on the computer to store the transmitted data.

Prerequisites for using *Bluetooth* for HeartStart MRx

The *Bluetooth* card on HeartStart MRx is inside of the defibrillator. Make sure that you purchased HeartStart MRx with the appropriate *Bluetooth* option or upgrade.

Confirm that you have a *Bluetooth* card installed and one or more of the *Bluetooth* options enabled, for example the event-summary *Bluetooth* transmission feature.

To print the device information on HeartStart MRx

- 1 Turn on HeartStart MRx.
- 2 On the HeartStart MRx Main menu, select **Other**, and then press the **Enter** button.
- 3 On the Other menu, select **Print Device Info**, and then press the **Enter** button.
HeartStart MRx prints information about the defibrillator model, components, and modules.
- 4 On the printout, locate **Options**.
- 5 Verify that **Event Summary Bluetooth** appears in the list of installed features.
- 6 On the printout, locate **Bluetooth Card**.
- 7 Verify that version number 3.14 or higher appears in the “*Bluetooth Card*” section.

See [Selecting Bluetooth accessories](#) on page 74.

For detailed information on setting up the HeartStart MRx defibrillator for *Bluetooth* transmission, refer to the most current release of the following documentation:

- *HeartStart MRx Instructions for Use Addendum*
- *HeartStart MRx M3535A, M3536A Instructions for Use*

Setting up *Bluetooth* for HeartStart MRx

The Data Messenger computer must support FTP Server profile to receive files from HeartStart MRx.

Setting up the *Bluetooth* software and adapter involves the following tasks:

- Installing the *Bluetooth* software and adapter
- Pairing the defibrillator *Bluetooth* option with the computer
- Testing the connection

While setting up the *Bluetooth* software and adapter, make sure that the defibrillator and the computer with the software installed are within *Bluetooth* transmission range, usually within 30 feet (9 meters) of each other. For more information, see the *HeartStart MRx M3535a/M3536A Instructions for Use*.

To install the *Bluetooth* software and adapter

- 1 Read the instructions that came with the *Bluetooth* adapter.
- 2 Install the *Bluetooth* software and connect the adapter according to the instructions.

NOTE The *Bluetooth* configuration typically creates the folder based on the logon of the user who configured it. For example, if you have the administrator logon, the default folder location is typically: *C:\Document and Settings\Administrator\My Documents\Bluetooth Exchange Folder*. If the user who receives the wireless transmission is not the administrator, you can change the path to point to that user's *Bluetooth* exchange folder.

To specify the location of the *Bluetooth* Exchange Folder

- ◆ Refer to your *Bluetooth* software and adapter documentation.

To pair the defibrillator *Bluetooth* option with the computer

- ◆ Refer to your *Bluetooth* software and adapter documentation.

Pairing and testing the HeartStart MRx *Bluetooth* option

This topic helps you to pair and test the *Bluetooth* option for HeartStart MRx.

TIP Make sure that the computer is turned on and that the *Bluetooth* software and adapter are installed and visible or discoverable.

To pair the HeartStart MRx *Bluetooth* option with the computer

- 1 On HeartStart MRx, place the defibrillator in the Data Management mode.
- 2 On the HeartStart MRx Main menu, scroll to **Other** and press the **Enter** button.
- 3 On the **Other** menu, scroll to **Bluetooth Devices** and press the **Enter** button.
- 4 On the *Bluetooth* Devices menu, select **Add Device** and press the **Enter** button.
The defibrillator searches for your computer.
If your computer is not listed after the search, your computer *Bluetooth* is not enabled or set up correctly. Refer to your *Bluetooth* documentation to troubleshoot the setup.
- 5 Select your computer and press the **Enter** button.
- 6 Enter a passkey for the *Bluetooth* option.
The passkey is a user-defined character sequence, such as 000, or 1234. Use the documents listed in the [Prerequisites for using Bluetooth for HeartStart MRx](#) on page 69.
- 7 Scroll to **Done** and press the **Enter** button.
- 8 On the computer, locate the notification area of the taskbar. Immediately watch for a pop-up message.
- 9 Click the pop-up message.
- 10 Enter the same *Bluetooth* passkey that you entered on the defibrillator in Step 5.
The defibrillator and the computer test the *Bluetooth* connection.
- 11 On the *Bluetooth* Service menu, scroll to **File Transfer** and then press the **Enter** button.
HeartStart MRx displays the “transmission test passed” message.
- 12 On the **Add Device** menu, scroll to **Exit** and press the **Enter** button.

Sending HeartStart MRx *Bluetooth* transmissions

You can download event summaries from HeartStart MRx to the computer through a *Bluetooth* transmission.

TIP Make sure that the computer is turned on and that the *Bluetooth* software and adapter are installed.

To make a *Bluetooth* transmission

- 1 On HeartStart MRx, place the defibrillator in the Data Management mode. If necessary, use the HeartStart MRx documents listed in [Prerequisites for using Bluetooth for HeartStart MRx](#) on page 69.
- 2 Press **Next Item** or **Prev Item** to navigate to the incident of your choice.
- 3 Scroll to **Send**.
- 4 Press **Send**.
- 5 Select the type of information that you want to transmit to HeartStart Data Messenger and press the **Enter** button. Select the type of information that you want to transmit to the Philips Data Management Solutions application and press the **Enter** button.
- 6 The first time you send a *Bluetooth* transmission, complete steps 7 and 8. In the notification area of the task bar, immediately watch for a pop-up message.
- 7 Click the pop-up message.
- 8 Click the **Always Allow Authorization** check box.
After HeartStart MRx transmits the incident to the computer, you can attach the ECG from HeartStart MRx in HeartStart Data Messenger.

Downloading HeartStart MRx data using batch LAN data transfer

The batch LAN data transfer option is available on HeartStart MRx defibrillators with software version F.01 or later. This feature automates and streamlines data management workflows, which helps you optimize patient care information for timely retrospective reviews. This is most commonly used at the end of a work shift when a medic wants to download all cases from HeartStart MRx for quality review.

To do this, connect HeartStart MRx to a LAN cable on the network when HeartStart Data Messenger runs on a local PC or the network. HeartStart MRx downloads the event summaries from the defibrillator, and it updates the internal clock with the local computer date and time.

It is also possible to use the batch LAN data transfer option with HeartStart Data Messenger in the back of an ambulance, to transfer one or more cases.

Understanding the batch LAN data-transfer process

The following describes the process of transferring event summaries from the HeartStart MRx defibrillator to HeartStart Data Messenger.

- 1 Connect HeartStart MRx to the Ethernet cable.
HeartStart MRx queries the network for an IP address.
The DHCP server acknowledges the request and assigns an IP address for HeartStart MRx.

- 2 HeartStart MRx searches for the computer that runs HeartStart Data Messenger on the local subnet. HeartStart MRx detects HeartStart Data Messenger.
- 3 HeartStart MRx sends the notification to HeartStart Data Messenger. HeartStart Data Messenger passes the FTP access information to HeartStart MRx.
- 4 HeartStart MRx sends event-summary data to the FTP server based on the access information. HeartStart Data Messenger monitors the FTP server inbox and processes the received event summaries as a case, according to the configuration.

For more information, see the *HeartStart MRx Monitor/Defibrillator Instructions for Use* and *Data Management Solutions Implementation Guide*.

Prerequisites for using batch LAN data transfer

The following are prerequisites for the HeartStart MRx defibrillators with software version F.01 or later that have the batch LAN data transfer option (option B18 or upgrade 861447) enabled:

- LAN Ethernet cable
- Network router that is connected to an IP address server (DHCP server)
- Computer with the following installed:
 - HeartStart Data Messenger software
 - Windows FTP Server or third-party FTP Server
- HeartStart Data Messenger operating

For each prerequisite, follow the instructions in the *HeartStart MRx Monitor/Defibrillator Instructions for Use*. Consult your IT department for help with this implementation.

Reading HeartStart XL data

The HeartStart XL defibrillators store information on an ATA flash card. Read the documentation for the defibrillator to learn how to remove the card from the defibrillator.

You can read the ATA flash cards in an ATA flash-card reader or a PC card reader. If the computer is not equipped with an adapter, you can add one as an external or internal card reader. The external card reader plugs into the computer USB port.

NOTE CompactFlash and ATA card readers are available through your Philips sales representative or local distributor. The product ID is SDLCF-05.

CAUTION Before removing the data card from the adapter or card reader, ensure that data transfer is complete. Premature removal of a data card can cause a data error.

To read a data card

- 1 Remove the data card from the defibrillator.
- 2 One end of the card has a series of perforations. This end goes into the card reader. Insert the card firmly into the card reader.

- 3 Check in Windows Explorer to see that the card was recognized. When Windows recognizes the card, it assigns a drive letter to the card.
- 4 If the card does not appear in Windows Explorer, remove the card from the card reader, and then insert it into the card reader again.

Selecting accessories for data transfer

Before equipping your organization for data transfer, determine the defibrillators you need to transfer data from.

Several HeartStart defibrillators use an infrared connection to transfer the information to HeartStart Data Messenger. You need an infrared adapter to read and transfer this information to HeartStart Data Messenger.

Most of the HeartStart defibrillators that HeartStart Data Messenger supports store data on data cards. Each defibrillator uses a specific type of data card. Select a compatible card reader or adapter to read and transfer this information to HeartStart Data Messenger.

Selecting data transfer adapters and readers







If your computer did not come installed with the appropriate software or adapter for the transfer method, you can use an adapter or reader. Use the following table to identify the requirements for the adapter or drive that you need.

Defibrillator data transfer method	Requirements
HeartStart FR2 uses a CompactFlash data card.	Reading HeartStart FR2 data on page 62
HeartStart FRx uses infrared data transfer	Downloading HeartStart FRx and HeartStart HS1 data on page 63
HeartStart HS1 uses infrared data transfer	Downloading HeartStart FRx and HeartStart HS1 data on page 63
HeartStart MRx uses a CompactFlash data card, <i>Bluetooth</i> , or batch LAN data transfer	Working with HeartStart MRx data on page 67
HeartStart XL uses ATA flash data cards.	Reading HeartStart XL data on page 72

Quick reference to data cards

The following table shows the defibrillators with their associated data cards

For Philips part numbers, see [System requirements](#) on page 17.

<p>HeartStart FR2</p> 		<p>HeartStart FR2 defibrillators use the CompactFlash cards with the CompactFlash card reader, or an ATA flash-card reader with an adapter.</p>
<p>HeartStart MRx</p> 		<p>HeartStart MRx defibrillators use the CompactFlash cards with the CompactFlash card reader, or an ATA flash-card reader with an adapter.</p>
<p>HeartStart XL</p> 		<p>HeartStart XL defibrillators use ATA flash cards with the ATA flash-card reader.</p>

Selecting *Bluetooth* accessories

HeartStart MRx defibrillators support Data Messenger data transfer using *Bluetooth* wireless technology.

Data Messenger was tested with the following Windows systems and *Bluetooth* stacks:

- Windows XP or Windows 7: Microsoft *Bluetooth* stack
- Windows XP or Windows 7: Widcomm *Bluetooth* stack

If your computer did not come with the installed *Bluetooth* option, you must use a *Bluetooth* adapter that supports these stacks.

Data Messenger Mobile Edition was tested on the following Windows 6.5 mobile devices, with the Widcomm *Bluetooth* stack:

- HTC TouchPro2
- HTC HD2

System log messages

Use the system log to all HeartStart Data Messenger activity, and to troubleshoot the processing of patient data. For more information about using the System Log, see [Working with the system log](#) on page 57.

There are three types of system log messages for the actions that Data Messenger completes: error, warning, and information. Each message includes an explanation of possible issues and solutions.

- Error messages describe incomplete actions.
- Warning messages alert you to incomplete actions that might be due to unexpected results.
- Information messages describe the actions that the software completes successfully.

The following table identifies the type of message, the message that appears in the action column, and the description of the message.

Log type	Action	Description	Possible issues and solutions
Error messages			
Error	Add a file	Failed to add file to files list: {FileName} from {DirName}	The disk is either full or cannot be written to. Make sure that the disk is not full and is writeable. Start Data Messenger again.
Error	Applied the configuration	Failed to apply the current configuration	The configuration was incorrect or could not be read. Try to start Data Messenger again.
Error	Check for update	Failed to check for update	The Internet might be inaccessible, or the Internet service is down. Make sure that you can connect to the Internet. Try to check for the update again.
Error	Check for update	Failed to retrieve product code to check for update	The Data Messenger configuration is corrupt. Uninstall and reinstall Data Messenger to restore the original version.

B System log messages

Log type	Action	Description	Possible issues and solutions
Error	Create file list	Failed to add file from folder: {DirName}	The file might be inaccessible or have an incorrect format. Make sure that file exists. Try to start Data Messenger again.
Error	Delete file group	Failed to process the deletion. Cannot remove files for: {FileName} from {DirName}	The file is inaccessible or in use. Make sure that the file is accessible. You can start Data Messenger and try again.
Error	Delete the case manually	Failed to delete the case. Failed to remove the source data from: {SourcePath}	The source is either not available or in use. The source can be a data card or network. Make sure that the source data is available and accessible.
Error	Export the configuration	Failed to export configuration file: {FileName}	The configuration file is either inaccessible or write-protected. Make sure that the file has write permission and is accessible.
Error	Import the case manually	Failed to manually import case: {FileName} from {DirName}	Cannot import a case. Make sure that the file format is correct and that the case is accessible.
Error	Import the configuration	Failed to import configuration file: {FileName}	The configuration was incorrect or could not be read. Try to start Data Messenger again.
Error	Link patient data	Failed to link the patient data to view for file: {FileName}	Cannot link to the Cases or System Log tab. Try to start Data Messenger or the computer.
Error	Link patient data	Failed to register the patient data; data is null for: {FileName}	Cannot link to the Cases or System Log tab. Try to start Data Messenger or the computer.
Error	Print the case manually	Failed to print case: {CaseName}	Failed to print the case manually. Make sure that a default printer is set and accessible.
Error	Process data	Failed to process data for: {FileName}; invalid file status: {Status}	Encountered an invalid status. Try to restart the computer and send the data again.
Error	Process forward	Failed to forward the case data. URL for the event summary data was not specified.	Missing Event Review Pro URL. Fill in the URL in Configuration, then try again.
Error	Process forward	Failed to forward the case data. Encountered an unexpected file extension.	Unknown extension. User needs to verify the extension is correct and send the patient data again.
Error	Process forward	Failed to forward the case data. Reached the maximum number of retries.	Reached the maximum number of retries. At a later time, click the case and click Process on the Data Messenger Manual Process window.

Log type	Action	Description	Possible issues and solutions
Error	Process forward	Failed to forward the patient data. Encountered an unexpected file extension.	Reached the maximum number of retries. At a later time, click the case and click Process on the Data Messenger Manual Process window.
Error	Process forward	Failed to forward the patient data Reached the maximum number of retries.	Reached the maximum number of retries. At a later time, click the case and click Process on the Data Messenger Manual Process window.
Error	Process forward	Failed to forward the patient data. URL for the 12-lead or PCDT data was not specified.	The URL for the Telemedicine Server machine was not specified. Specify the URL on the Case Workflow tab on the Data Messenger Configuration window.
Error	Remove a case	Failed to remove case: {FileName}	Cannot remove the case from memory. Make sure that the computer is not out of memory. Start Data Messenger again.
Error	Retrieve next case to process	Failed to retrieve the next case waiting to be processed	Cannot retrieve the case from memory. Make sure that the computer is not out of memory. Start Data Messenger again.
Error	Retrieve the acquisition	Failed to retrieve acquisition: {FileName}	A generic failure to retrieve the acquisition file occurred. Try to delete the <i>Bluetooth</i> folder, start Data Messenger, and send the data again.
Error	Retrieve the configuration	Failed to retrieve configuration from file: {FileName}	Missing the configuration file. Create one from Data Messenger Configuration window and click Apply.
Error	Retrieve PCDT files	Failed to retrieve all PCDT files; unable to process incomplete files for: {PCDTFileName}	Did not receive all three files from the <i>Bluetooth</i> transmission. Try to send the data again.
Error	Retrieve PCDT files	Failed to retrieve PCDT for file: {DONFileName}	A generic failure to retrieve PCDT file occurred. Try to delete the <i>Bluetooth</i> folder, start Data Messenger, and send the data again.
Error	Retrieve PCDT files	Failed to retrieve PCDT files from folder {FolderPath}	The folder for periodic clinical data transmissions (PCDT) is either missing or inaccessible. Verify that the folder is accessible. You can also specify a different folder on the Case Workflow tab in the Data Messenger Configuration window.

B System log messages

Log type	Action	Description	Possible issues and solutions
Error	Scan IrDA	Failed to scan for IrDA defibrillators	A generic failure to scan IrDA occurred. Try to restart the mobile device, restart Data Messenger, and restart the defibrillator.
Error	Scan SD card	Failed to scan the SD card	The SD card is corrupted. Reinsert the SD card and try again.
Error	Scan for 12-lead	Failed to scan for 12-lead	A generic failure to retrieve 12-lead file occurred. Try to delete the <i>Bluetooth</i> folder, start Data Messenger, and send the data again.
Error	Scan for case	Failed to load case: {CaseName}	Failed to create a <i>.hic</i> file for found event summary data. Make sure that the data is valid.
Error	Scan for case	Failed to scan for case	A generic failure to retrieve case file occurred. Try to delete the <i>Bluetooth</i> folder, start Data Messenger, and send the data again.
Error	Start BDTBeacon	Failed to start BDTBeacon	The configuration might be invalid. The port might be unavailable. The firewall might be turned on. Make sure that the configuration is valid, and that the port is available and accessible from outside the firewall.
Error	Start Data Messenger	Failed to start Data Messenger. The configuration file is either missing or incorrect.	Missing the configuration file. Create one from Data Messenger Configuration window and click Apply.
Error	Start Data Messenger Mobile Edition	Failed to start HeartStart Data Messenger Mobile Edition	Cannot start Data Messenger Mobile Edition. Try to restart the mobile device.
Error	Stop BDTBeacon	Failed to stop BDTBeacon	Cannot shut down BDT Beacon. Restart the computer.
Error	Synchronize the configuration	Failed to synchronize the desktop edition and mobile device	The mobile device is either disconnected or unresponsive. Restart the mobile device and reconnect the mobile device to the Data Messenger computer.
Error	Update patient data	Failed to update the changed data for: {FileName}	Cannot map updated patient information into the data. Try to start Data Messenger or the computer.
Error	Write config	Failed to write FTP server info	The disk is either full or cannot be written to. Make sure that the disk is not full and is writeable. Start Data Messenger again.

Log type	Action	Description	Possible issues and solutions
Warning messages			
Warning	Add a file	Expired trial period. Data Messenger can process case data in Manual Process mode.	The trial period expired. Activate the license and try again.
Warning	Close the configuration	Closed the configuration without saving the changes	You did not save the configuration changes before you closed the Data Messenger Configuration window.
Warning	Create file list	Removed the folder with an error: {FolderName}	Removed the folder that Data Messenger does not understand.
Warning	Create file list	Failed to add from folder: {FolderName}	Cannot add the file. Make sure that the computer is not out of memory. Start Data Messenger again.
Warning	Delete data-card data	Failed to delete file {FileName}	Make sure no other application is accessing the same file or folder. Restart Data Messenger.
Warning	Delete data-card data	Failed to delete folder {FolderName}	Make sure no other application is accessing the same file or folder. Restart Data Messenger.
Warning	Delete data-card data	Failed to delete folder and content in {FolderName}	Make sure no other application is accessing the same file or folder. Restart Data Messenger.
Warning	Display the Readme file	Failed to display the ReadMe file	Cannot find the ReadMe file. Check that the RTF file exists and that it is associated with an application that can display it. Set up WordPad to handle RTF files and reinstall Data Messenger.
Warning	Display the user guide	Failed to display the user guide	Cannot find the user guide. Check that the PDF file exists and that it is associated with an application that can display it. You can install Adobe Reader and reinstall Data Messenger.
Warning	Failed processor join	Data Messenger processor failed to return	Waiting for the processor to complete its action. Continue to wait, or restart the computer.
Warning	Install the Mobile Edition	Could not install the mobile edition. Activate the license.	The Mobile Edition needs an active license. Activate the license and try again.
Warning	Migrate user data	Failed to migrate user data from Data Messenger {FolderName} to {FolderName}	Failed to move data. Make sure that the previous version of Data Messenger is not running, then restart the computer.

B System log messages

Log type	Action	Description	Possible issues and solutions
Warning	Move to the backup folder	Failed to move data to backup folder	Make sure no other application is accessing the same file or folder. Restart Data Messenger.
Warning	Move to the backup folder	Failed to delete file {FileName}	Make sure no other application is accessing the same file or folder. Restart Data Messenger.
Warning	Move to the backup folder	Failed to delete folder and content in {FolderName}	Make sure no other application is accessing the same file or folder. Restart Data Messenger.
Warning	Process delete	Failed to delete source for: {FileName}	Make sure that the device source is present and accessible.
Warning	Process delete	Failed to delete source or failed to process file:{FileName}	Make sure that the device source is present and accessible.
Warning	Process email	Failed to email data: {FileName}	Make sure that the default MAPI client is configured.
Warning	Process forward	Failed to forward: {FileName} to {URL}	Make sure that the export folder exists and is writeable.
Warning	Process forward	Failed to forward: {FileName} to {URL}	Failed to read the file or encountered a network connection problem. Make sure that the file can be read, and that Data Messenger can connect to the network.
Warning	Process forward	Failed to forward. Server response: {StatusCode}	Received an incorrect response from the server. Make sure that the receiving server is running correctly.
Warning	Process print	Failed to print data: {FileName}	Make sure that a default printer is selected and accessible.
Warning	Retrieve the acquisition	Expired trial period. Data Messenger only processes case data in Manual transfer.	The trial period expired. Data Messenger processes only case data in the Manual Process mode.
Warning	Retrieve the acquisition	Expired trial period. Ignored the retrieval of 12-lead file: {12LeadFileName}	The trial period expired. Data Messenger does not transfer incoming 12-lead files.
Warning	Retrieve the acquisition	Retrieved a duplicate acquisition on process list: {FileIdentifier}	A duplicate file exists on the process list. Data Messenger does not create a duplicate entry.
Warning	Retrieve column customization	Failed to retrieve column customization for tab: {TabName}	The file for the customized layout is corrupted.
Warning	Retrieve the configuration	Did not create configuration version {VersionNumber} with this Data Messenger	Found an existing configuration from an earlier version of Data Messenger

Log type	Action	Description	Possible issues and solutions
Warning	Retrieve the configuration	Failed to retrieve configuration from file: {Filename}	The configuration file is missing, inaccessible, or incorrect. Data Messenger restored the default configuration. You can also recreate the configuration.
Warning	Retrieve the customized layout	Failed to read setup file	The setup file for the Data Messenger Manual Process window is either missing or encountered a disk read error. Data Messenger restored the default settings.
Warning	Retrieve PCDT files	Expired trial period. Ignored the retrieval of PCDT file: {PCDTFileName}	The trial period expired. Data Messenger does not process incoming PCDT data.
Warning	Retrieve PCDT files	Retrieved a duplicate PCDT file: {PCDTFileName}	The PCDT file exists on the process list. Data Messenger does not create a duplicate entry.
Warning	Retrieve registry value	Failed to retrieve registry value: {Key}	Make sure the user has adequate privileges, and restart the computer.
Warning	Save the customized layout	Failed to save setup file	The setup file for the Data Messenger Manual Process window is either write-protected, in use, or it has encountered a disk write error. Data Messenger restored the default settings.
Warning	Scan for 12-lead	Found a duplicate 12-lead	This 12-lead has already been retrieved and is awaiting processing.
Warning	Scan for case	Found a duplicate case	This case has already been retrieved and is awaiting processing.
Warning	Scan for case	Failed to load case: {Case ID}	Reestablish the device connection, retry loading the case, and restart the computer.
Warning	Set registry value	Failed to set registry {Key} with value: {Value}	Make sure the user has adequate privileges, and restart the computer.
Warning	Start Data Messenger Mobile Edition	Data Messenger Mobile does not email, export, or print cases	This is a limitation of Data Messenger Mobile Edition.
Warning	Stop Data Messenger	Stopping Data Messenger. The Data Messenger Configuration window will close.	Data Messenger is closing, but the Configuration window is still open. The window will close.
Warning	Stop Data Messenger	Stopping Data Messenger. The Data Messenger Manual Process window will close.	Data Messenger is closing, but the Data Messenger Manual Process window is still open. The window will close.

B System log messages

Log type	Action	Description	Possible issues and solutions
Warning	Synchronize the configuration	Failed to detect a connected mobile device	Either ActiveSync is not running or the mobile device is not connected to the Data Messenger computer. Try to connect the mobile device to the computer and try again.
Warning	Synchronize the configuration	Failed to synchronize files from: {DirName}	Reestablish the device connection and restart the mobile device.
Warning	Synchronize the configuration	Cannot synchronize the desktop and mobile editions. Activate the license.	Cannot synchronize Data Messenger and the Mobile Edition without an active license. Activate the license and try again.
Warning	Validate the configuration	Failed to validate the configuration	The configuration is invalid. Correct the error identified by Data Messenger.
Information messages			
Information	Apply the configuration	Applied the current configuration	
Information	Check for update	Finished check for update	
Information	Close the Data Messenger Configuration window	Closed the Data Messenger Configuration window	
Information	Close the Data Messenger Manual Process window	Closed the Data Messenger Manual Process window	
Information	Delete IrDA	Stopped processing the delete for the infrared defibrillator. There are more files to process.	Data Messenger does not delete files from the infrared defibrillator if there are case data files to process.
Information	Delete the case manually	Deleted case: {CaseName}	
Information	Export the configuration	Exported configuration file: {FileName} to folder {DirName}	
Information	Import the case manually	Imported case:{CaseName} from {DirName}	
Information	Import the configuration	Imported configuration file: {FileName} from {DirName}	
Information	Install the Mobile Edition	Started the mobile edition installation	
Information	Migrate user data	User configuration, data, and log migrated successfully from Data Messenger {Previous Version} to {Current Version}	
Information	Move to the backup folder	Moved the temporary files to the backup folder: {BackupFolder}	

Log type	Action	Description	Possible issues and solutions
Information	Move to the backup folder	Moved the temporary files to the failed backup folder: {BackupFolder}	
Information	Open the Data Messenger Configuration window	Displayed the Data Messenger Configuration window	
Information	Open the Data Messenger Manual Process window	Displayed the Data Messenger Manual Process window	
Information	Print the case manually	Printed case: {CaseName}	
Information	Process data	Processed file: {FileName} with {number of} actions	
Information	Process delete	Deleted data source: {FileName}	
Information	Process email	Emailed data: {FileName}	
Information	Process export	Exported data: {FileName} to {Folder Name}	
Information	Process forward	Forwarded data: {FileName} to {URL}	
Information	Process print	Printed data: {FileName}	
Information	Receive the BDTBeacon request	Received a BDT Beacon request from device {DeviceID}, reference ID {DeviceRefID}	
Information	Receive the file	Received new file: {FileName}	
Information	Reschedule forward	Rescheduled forward in minutes: {Minutes}	
Information	Respond to the BDTBeacon request	Responded to device {DeviceID}, with server '{ServerName}', user '{UserName}'	
Information	Retrieve Data Messenger	Retrieved the existing instance of Data Messenger	Data Messenger was operating when you tried to start the software.
Information	Scan for 12-lead	Found 12-lead: {FileName}	
Information	Scan for case	Found case: {CaseName}	
Information	Scan IrDA	IrDA not found. Stopped scan for IrDA	
Information	Scan IrDA	Found case: {CaseName}	
Information	Select an action	Clicked About Data Messenger	
Information	Select an action	Clicked Data Messenger Configuration	
Information	Select an action	Clicked Check for Updates	

B System log messages

Log type	Action	Description	Possible issues and solutions
Information	Select an action	Clicked Configuration	
Information	Select an action	Clicked Customer Support	
Information	Select an action	Clicked Exit	
Information	Select an action	Clicked HeartStart Data Messenger Help	
Information	Select an action	Clicked Data Messenger Manual Process	
Information	Select an action	Clicked Read Me	
Information	Select an action	Clicked User Guide	
Information	Select an action	Clicked the Apply button on the Data Messenger Configuration window	
Information	Select an action	Clicked the Delete button on the Data Messenger Manual Process window	
Information	Select an action	Clicked the Export button on the Data Messenger Configuration window	
Information	Select an action	Clicked the Import button on the Data Messenger Configuration window	
Information	Select an action	Clicked the Import button on the Data Messenger Manual Process window	
Information	Select an action	Clicked the Mobile button, then Install on Device	
Information	Select an action	Clicked the Mobile button, then Synchronize Configuration	
Information	Select an action	Clicked the Print button on the Data Messenger Manual Process window	
Information	Select an action	Clicked the Process button on the Data Messenger Manual Process window	
Information	Select an action	Double-clicked the Data Messenger icon	
Information	Start BDTBeacon	Started BDTBeacon	

Log type	Action	Description	Possible issues and solutions
Information	Start Data Messenger Mobile Edition	Started Data Messenger Mobile Edition	
Information	Start Data Receiver	Started Data Receiver	
Information	Start Data Messenger	Started Data Messenger with license: {LicenseLevel}	
Information	Stop BDTBeacon	Stopped BDTBeacon	
Information	Stop Data Messenger	Stopped Data Messenger	
Information	Synchronize the configuration	Completed the synchronization of the desktop edition and mobile device	

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Using HeartStart Data Messenger Mobile Edition

HeartStart Data Messenger Mobile Edition (Mobile Edition) is used by some defibrillator programs that need to transmit data wirelessly from the field to a data management system in another location, for example, from an ambulance to a hospital. Mobile Edition is available only in English.

After you install and activate the English version of Data Messenger software on your computer, you can install the Mobile Edition on a pocket PC or smartphone that is equipped with infrared, *Bluetooth*, or data-card access. See [Mobile Edition prerequisites](#) on page 87.

The Mobile Edition receives patient data from defibrillators, and prepares and forwards (processes) the data according to the preconfigured workflow. The Mobile Edition displays system log messages as Data Messenger processes the data. It can also prepare the defibrillator for the next patient by removing the current patient data from Data Messenger and its data source, either the defibrillator, a data card, or the *Bluetooth* folder. The Mobile Edition does not display or print reports.

Mobile Edition prerequisites

The Mobile Edition is contained only in the English Data Messenger software. To use Mobile Edition, you need to meet these prerequisites:

- Install the English version of Data Messenger on a computer with a supported Windows operating system, and activate the license.
- Install synchronization software for your operating system, as described in the system requirements for Mobile Edition.
- Your mobile device must have a supported wireless operating system, and must be equipped with *Bluetooth* wireless technology, infrared (IrDA), or data-card access.

CAUTION Before using Mobile Edition to manage actual cases, test Mobile Edition on your mobile device by receiving and forwarding data to ensure that the device and configuration are working properly.

System requirements for the Mobile Edition

System requirements for using Data Messenger Mobile Edition	
Data Messenger computer	<p>Install and activate an English version of Data Messenger on a computer with a supported Windows operating system.</p> <p>For the Data Messenger system, see System requirements on page 17.</p>
Mobile devices	<p>To monitor HeartStart Data Messenger as the software receives, prepares, and transfers patient data according to the preconfigured workflow</p> <p>Required:</p> <ul style="list-style-type: none"> Windows 6.5 mobile device, with the Widcomm <i>Bluetooth</i>[®] stack. Wi-Fi or Internet data access to transfer patient data One or more of the following transfer methods: <ul style="list-style-type: none"> Infrared transmission Data-card access <i>Bluetooth</i> transmission <p>For information about <i>Bluetooth</i> accessories, see Selecting Bluetooth accessories on page 74.</p> <p>To synchronize information between Data Messenger and Mobile Edition, go to the Microsoft Web site for the current version of:</p> <ul style="list-style-type: none"> Microsoft ActiveSync for Windows XP or Windows tablet PC Windows Mobile Device Center for Windows 7

Guidelines for using the Mobile Edition

Philips recommends that you keep the following guidelines in mind when using the Mobile Edition.

Mobile Edition supports the following features:

- Forwards defibrillator data within the constraints of your network.
 - If a computer is within the company firewall, then the Mobile Edition can forward data to computers within the firewall.
 - If the mobile device connects to the Internet from outside the company firewall, then the destinations must be on a registered Internet domain.
- Transfers defibrillator data using the following transfer methods, when supported by the mobile device:
 - Infrared port
 - *Bluetooth* from HeartStart MRx
 - Data card

- Transfers data directly from the defibrillator, instead of from Data Messenger on the computer. If the defibrillator data contains the reference ID and institution information, then Mobile Edition includes this information in the file.
- Automatically backs up cases that fail to process on the Mobile Edition. The software backs up the cases onto the computer when you synchronize Mobile Edition and Data Messenger. After the synchronization, Data Messenger lists these cases on the Data Messenger Manual Process window. You can then process selected cases manually from the Cases tab.

Mobile Edition does not support the following features:

- Does not send emails to a configured destination
- Does not display or print reports
- Does not export case data to a folder or a URL
- Does not back up processed data, due to space limitations

Installing Data Messenger Mobile Edition

After you activate the English version of Data Messenger on your computer, you can install the Mobile Edition. For information about installing Data Messenger on your computer, see [Installing Data Messenger](#) on page 20.

You must perform the following procedures from the Data Messenger computer to complete the Mobile Edition installation and setup.


- Install the Mobile Edition software on the Data Messenger computer and the mobile device.
- Synchronize the mobile device with the Data Messenger computer.

Installing the Mobile Edition using a Windows 7 computer

Follow these installation instructions if you are running Data Messenger on a Windows 7 computer.

To install Mobile Edition using a Windows 7 computer


- 1 Turn on the mobile device.
- 2 On the Data Messenger computer Start menu, click **Windows Mobile Device Center**.
If the Windows Mobile Device Center window does not display, complete the following steps:
 - a Click the Windows **Start** button.
 - b Click All Programs.
 - c Click **Windows Mobile Device Center**
The Windows Mobile Device Center window appears.
- 3 With the Windows Mobile Device Center window open, connect the mobile device to the Data Messenger computer. For information about how to connect your mobile device to a computer, consult your mobile device manual.
Wait until the Windows Mobile Device Center window displays the **Connected** status.
If the connected status does not display, disconnect and reconnect the mobile device on the computer.
- 4 In Data Messenger, complete the following steps:
 - a Open the Data Messenger Configuration window.

- b On the toolbar, click the down-arrow to the right of the **Mobile**  button. The toolbar button displays a drop-down menu.
 - c Click **Install on Device**. Data Messenger starts the installation process.
 - d Follow the on-screen instructions.
A message might display. The message states that the Data Messenger installation will make changes to the computer.
 - e Click **Yes** to continue with the installation.
- 5 On the WMDC, hold the cursor over **Programs and Service**. When the list appears, click **More**.
- 6 From the choices that appear, click **Add/Remove Programs**.
- 7 Make sure that both **Microsoft .NET CF 3.5** and **Philips HeartStart Data Messenger Mobile** are checked.
- 8 Click **OK**.
The installation completes successfully.
- 9 On the mobile device, follow the on-screen instructions to complete the following steps:
 - a Install Microsoft .NET 3.5 CF.
 - b Install Philips HeartStart Data Messenger Mobile.
- 10 After successfully installing the software on the mobile device, click **OK** to close the mobile device installation window.
- 11 On your computer, return to Data Messenger and click **Finish** to complete the installation.
- 12 Synchronize Data Messenger on the computer with Data Messenger on the mobile device.
See [Synchronizing Data Messenger with the Mobile Edition](#) on page 91.

Installing the Mobile Edition using a Windows XP computer

Follow these installation instructions if you are running Data Messenger on a Windows XP computer.

To install the Mobile Edition from Microsoft Windows XP Pro or Windows XP Tablet Edition

- 1 Connect the mobile device to the Data Messenger computer.
Wait until the Synchronization Setup Wizard displays.
 - a Follow the on-screen instructions.
 - b Click **Finish**.
- 2 If the ActiveSync window does not display, complete the following steps:
 - a Click the Windows **Start** button.
 - b Click **All Programs**.
 - c Click **Microsoft ActiveSync**. The ActiveSync window appears.
- 3 In Data Messenger, open the Data Messenger Configuration window.
- 4 On the toolbar, click the **Mobile**  button.
- 5 Click **Install on Device**.
Data Messenger starts the installation process.
- 6 Follow the on-screen instructions on the Data Messenger computer and on the mobile device.
The Add/Remove Programs window appears on the Data Messenger computer.

- 7 Verify that both Microsoft .NET CF 3.5 and Philips HeartStart Data Messenger are selected, and click OK.
- 8 Synchronize Data Messenger on the computer with Data Messenger on the mobile device. See [Synchronizing Data Messenger with the Mobile Edition](#) on page 91.

Understanding synchronization

When you configure the Data Messenger computer, the configuration also controls the configuration on the Mobile Edition. You must synchronize the Data Messenger computer and Mobile Edition after you install the Mobile Edition and after you modify the configuration for the Data Messenger computer.


The synchronization process downloads the configuration settings to the Mobile Edition, and uploads and merges the system log on the Mobile Edition with that of the Data Messenger computer.

During synchronization, the Mobile Edition also uploads any case that did not process successfully. The Data Messenger computer lists the data on the Cases tab. You can then process the data manually. For more information, see [Processing cases](#) on page 50.

Synchronizing Data Messenger with the Mobile Edition

Philips recommends that you synchronize the Data Messenger computer and the Mobile Edition frequently, such as at the end of your work shift. This will help ensure that the system log contains a complete record of the Mobile Edition system activity.

To synchronize Data Messenger and Mobile edition

- 1 Connect the mobile device to your Data Messenger computer.
- 2 Open the Data Messenger Configuration window.
- 3 On the toolbar, click the **Mobile**  button.
- 4 On the drop-down menu, click **Synchronize Configuration**.
Data Messenger completes the following:
 - Downloads the configuration to the mobile device
 - Uploads the system log to the Data Messenger computer
 - Uploads any cases that did not process successfullyWhen the synchronization is complete, Data Messenger displays the Mobile Sync window.
- 5 Click OK.
- 6 To use the new configuration, restart the mobile device by turning it off, and then on.
For more information, see your mobile device documentation.

Starting the Mobile Edition

The Mobile Edition starts automatically when you turn on the mobile device.

You can also start the Mobile Edition manually.

To start the Mobile Edition manually

- ◆ On the mobile device Start menu, tap **Programs**, and then tap **Philips HeartStart Data Messenger Mobile**.

The Data Messenger Mobile screen displays all log messages. As the patient event-summary data, 12-lead reports, and periodic clinical data are processed, the messages appear with the most recent message at the top of the list. For more information, see [System log messages](#) on page 75.

Using the Mobile Edition

Mobile Edition uses the configuration on the Data Messenger computer to process and monitor patient data. For example, if you set up Data Messenger to erase the original data on the Case Workflow tab, the Mobile Edition processes the cases and erases it from Data Messenger and its data source, either the defibrillator, a data card, or the *Bluetooth* folder.

NOTE If you use the Mobile Edition to transfer cases to HeartStart Event Review Pro, the Mobile Edition transfers the original defibrillator data in the *.hic* file format. If you add reference ID to a case on the General tab, the reference ID transfers to HeartStart Event Review Pro.

Status messages display on the mobile device as Data Messenger processes the patient event summary, 12-lead reports, or periodic clinical data.

Waking the mobile device before transmissions

Philips recommends that you also “wake up” your mobile device just before transmitting defibrillator data to Philips Data Messenger Mobile (Data Messenger Mobile). This ensures that the mobile device receives transmissions and does not “time-out” during the transmission.

Monitoring activity on the mobile device

In addition to monitoring Data Messenger activity on the **System Log** tab on the Data Messenger computer, you can monitor system activity on the mobile device.

As the Mobile Edition transfers the cases to the configured destinations, it displays the system log messages.

To view Data Messenger activity

- ◆ Turn on the mobile device. For more information, see your mobile device documentation.
- The Data Messenger Mobile screen displays all log messages.

To manage the list of messages

- ◆ Tap **Clear** to clear the list of messages from the screen, not from the system log.

To close the Mobile Edition

Use one of the following methods:

- Tap **Exit** to close Data Messenger Mobile.
- On touch-screen devices, tap the **X** in the upper right corner to hide the software.

Uninstalling the Mobile Edition

This topic discusses how to remove the Mobile Edition software from the mobile device.

For information about uninstalling Data Messenger from your computer, see [Uninstalling Data Messenger](#) on page 23.

Removing the Mobile Edition using Windows 7

To remove Mobile Edition from the mobile device

- 1 Turn on the mobile device.
- 2 From the Data Messenger computer Start menu, click **All Programs**.
- 3 Click **Windows Mobile Device Center**.
- 4 With the Windows Mobile Device Center window open, connect the mobile device to the Data Messenger computer.
Wait until the Windows Mobile Device Center window displays the **Connected** status.
If the status does not display, disconnect the mobile device from the computer, and then reconnect.
- 5 If the Windows Mobile Device Center window does not display, complete the following steps:
 - a Click the Windows **Start** button.
 - b Click **All Programs**.
 - c Click **Windows Mobile Device Center**. The Windows Mobile Device Center window appears.
- 6 On the mobile device, exit the Data Messenger Mobile software.
- 7 On the Windows Mobile Device Center window, complete the following steps:
 - a Click **Connect without Setting Up Your Device**.
 - b Place the mouse over **Programs and Service**. The text expands.
 - c Click **More >**.
 - d Click **Add/Remove Programs**.
 - e Verify that **Philips Data Messenger Mobile** is not selected.
 - f Click **OK**.
- 8 Follow the on-screen instructions on the Data Messenger computer and mobile device.
- 9 From the mobile device Start menu, verify that the Data Messenger Mobile software was removed.
- 10 Close the Windows Mobile Device Center window.

For information about uninstalling Data Messenger from your computer, see [Uninstalling Data Messenger](#) on page 23.

For information about synchronizing, see [Synchronizing Data Messenger with the Mobile Edition](#) on page 91.

Removing the Mobile Edition using Windows XP

To remove Mobile Edition from the mobile device

- 1 Open the Microsoft ActiveSync window on the computer that runs Data Messenger.
 - a Click the Windows **Start** button.
 - b Click **All Programs**.
 - c Click **Microsoft ActiveSync**. The ActiveSync window appears.
- 2 On the Tools menu, click **Add/Remove Programs**.
The Microsoft ActiveSync window displays a dialog box.
- 3 Verify that Philips Data Messenger Mobile is not selected.
- 4 Click **OK**.

For information about uninstalling Data Messenger from your computer, see [Uninstalling Data Messenger](#) on page 23.

For information about synchronizing, see [Synchronizing Data Messenger with the Mobile Edition](#) on page 91.

Implementation references

You can use the references listed in this topic lists while you set up and troubleshoot Philips HeartStart Event Review Pro and HeartStart Telemedicine Server for use with Data Messenger.

To obtain a copy of the documents, contact your Philips representative. You can also visit the Philips Web site at the following URL address: <http://www.healthcare.philips.com/main/support/index.wpd>


NOTE The *Data Management Solutions Implementation Guide* is available only in English.

- To plan the data management implementation, see *Data Management Solutions Implementation Guide*, and the “Streamlining Data Management Workflow” application note, part number 453564176311.
- To set up the FTP server to use the HeartStart MRx Batch LAN data transfer feature, see *HeartStart MRx M3535A/M3536A Instructions for Use* and *Data Management Solutions Implementation Guide*.
- To set up the *Bluetooth* transmission option to receive HeartStart MRx data, see [Downloading HeartStart MRx data using Bluetooth](#) on page 68 and *Data Management Solutions Implementation Guide*.
- To troubleshoot HeartStart Data Messenger, see *Data Management Solutions Implementation Guide*.
- To set up and use Philips HeartStart Event Review Pro, see *HeartStart Event Review Pro User Guide*.
- To set up and use HeartStart Telemedicine Server, see *HeartStart Event Review Pro User Guide*.
- To plan the data transmission implementation for HeartStart MRx and HeartStart Telemedicine Server, see the “Emergency Care Clinical Data Transmission Networks” application note, part number 453564176301.

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Customer support

Philips strives to provide you with excellent customer service and technical support. Customer support is available through email, Internet, and telephone.

Software updates are available from the Help menu. From the Help menu, click **Check for Updates** .

Product support through email is available in English only at: datamessenger.support@philips.com

You can also email the HeartStart Data Messenger system log information to customer support. On the Help menu, click **Email Customer Support**.

Product support is available in English only by calling the following numbers between 8:00 AM and 4:00 PM, Monday through Friday, Pacific Time. Please select the Data Management option.

- +1(800) 263-3342, inside the United States
- +1(978) 659-3332, outside the United States

Sales support contacts

Sales support by telephone is available by calling your sales representative or the local sales office listed in the following table.

Region	Address	Telephone number
United States	Philips Healthcare 3000 Minuteman Road Andover, Massachusetts 01810-1099	+1(800) 263-3342
Canada	Philips Healthcare, a Division of Philips Electronics Ltd. 281 Hillmount Road Markham, Ontario, Canada L6C 2S3	+1(800) 291-6743
Authorized EU Representative Europe, Middle East, and Africa	Philips Medizin Systeme Boeblingen GmbH Cardiac and Monitoring Systems Hewlett-Packard Strasse 2 71034 Boeblingen, Germany	(+49) 7031 463-2254

Region	Address	Telephone number
Latin America	Philips Medical Systems Ltda. Rua Verbo Divino - 1400 - 7o Andar0 04719-002 - Sao Paulo, Brazil	0800 7017789
Asia Pacific	Philips Electronics Hong Kong Ltd. 6/F, Core Building 1 1 Science Park East Avenue Hong Kong Science Park Shatin, New Territories, Hong Kong	(852) 2821 5888

Philips Response Center telephone numbers

The following table contains telephone numbers for Philips Response Centers around the world.

Philips Response Center Telephone Numbers			
North America	Canada	800-323-2280	
	United States of America	800-722-9377	
Europe	European International Sales	41 22 354 6464	
	Austria	01 60 101 820	
	Belgium	French	02 525 68 80
		Dutch	02 525 68 81
	Finland	09- 615 80 400	
	France	0810 835 624	
	Germany	0180 3333 544	
	Italy	800 232100	
	Luxembourg	+32 2 525 68 80	
	Netherlands	040 27 85600	
	Portugal	800 201766	
	Spain		900 180612;
			902 304050
	Sweden		08-59 85 2530
Switzerland	German	0800 80 3000	
	French	0800 80 3001	
United Kingdom		0870 532 9741	

Philips Response Center Telephone Numbers				
Asia and Pacific	Australia		1800 251 400	
	China	Beijing		800 810 0038
		Hong Kong		852 2821 5888
		Macau		0800 923
	India		18004256788	
	Indonesia		021 794 7542	
	Japan		0120 381 557	
	Korea			080 372 7777
		In Seoul		02 3445 9010
	Malaysia		1800 866 188	
	New Zealand		0800 251 400	
	Philippines		02 845 7875	
	Singapore		1800 PHILIPS (1800-744-5477)	
	South Africa		011 471 6000	
	Thailand		02 614 3559	
Taiwan		0800 005 616		

Supported help

Customer support technicians provide help for the following:

- Explaining the proper use of Data Messenger features
- Answering your questions about how Data Messenger works
- Explaining the proper installation and maintenance of the software
- Assisting you in selecting and configuring card readers

Customer support technicians do not provide help for the following:

- Interpreting ECG or medical data. Contact your medical director or clinical specialist.
- Repairing hardware. The support technicians can help you determine if you have a hardware problem, but they cannot help you fix problems that are not related to Data Messenger software.
- Troubleshooting defibrillators. Call Philips Customer Support, listed in your defibrillator documentation.
- Troubleshooting non-Philips products.

Helping us help you

You can help our technicians give you good support by following these steps:

- 1 Call from a phone near your computer.
- 2 Be at the Data Messenger computer and have it started, if possible.
- 3 Have the following information:
 - Windows version.
 - Data Messenger version number. This is available from the About HeartStart Data Messenger option on the Help menu.

- A written copy of the error message text.
- The activity and task you were doing when the error occurred.

Please send your feedback and suggestions to: datamessenger.support@philips.com

Glossary

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12-lead report For *12-lead ECG strip*. A diagnostic test that helps identify various pathologic conditions. The report provides 12 views of the heart's electrical activity. The 12 leads include: three unipolar augmented limb leads (aV_r, aV_t and aV_f), six unipolar precordial or chest leads (V₁, V₂, V₃, V₄, V₅, and V₆), and six limb leads. Each waveform reflects the orientation of a lead to the wave of depolarization passing through the myocardium.

A

ACI For *acute cardiac ischemia*. A critical cardiac episode when there is a lack of blood flow and oxygen to the heart muscle.

Administration mode A setting on HeartStart defibrillators that allows the defibrillator to send and receive information.

AED For *Automated External Defibrillator*. A defibrillator that automatically performs rhythm analysis of the patient's surface electrocardiogram.

archive To store or save information.

B

Batch LAN data transfer An option that is available in HeartStart MRx defibrillators with version F.0.1 and later. This feature automates and streamlines data management workflows. It is typically used to download patient data from the HeartStart MRx defibrillator to Data Messenger or software that integrates Philips HeartStart DataSDK.

Bluetooth[®] A short-range wireless technology that uses radio links between a devices such as defibrillators and computers, mobile computers, mobile phones, and other portable devices.

C

card reader Hardware that reads information from a data card.

case All information relating to a specific patient emergency. This includes information recorded by supported defibrillators as well as information entered by a user.

COD or *.cod* The generic term for files created by the HeartStart Event Review family of products and CodeRunner version 2.x.

D

DNS	For <i>Domain Name Service</i> . The Internet utility that implements the domain name addresses (such as philips.com) and IP addresses (such as 123.45.6.7). DNS servers access and maintain databases that contain IP addresses. The domain name address is automatically translated into the numerical IP address, which is used by the packet-routing software.
data card	A computer storage device used for recording and storing information. Some HeartStart defibrillators use data cards to record configuration, ECG, and audio information.
Data Management mode	A set of HeartStart MRx features used to manage data, such as to send <i>Bluetooth</i> transmissions.
decryption	The use of a required password to open an encrypted file.
defibrillator event	Information received from a defibrillator. Examples are alarms, shocks, measurements, and error conditions.
destination	The intended recipient of patient data. The destination can be HeartStart Event Review Pro software, HeartStart Telemedicine software, 12-Lead Transfer Station software, a printer, an email address, and an ePCR application.
device	A generic term used for defibrillators, mobile telephones, PDAs, and data cards.
domain name	An address of a network connection in the format that identifies the owner of that address in a hierarchical format: server.organization.type. For example, www.whitehouse.gov identifies the Web server at the White House, which is part of the U.S. government.
Domain Name Service	See DNS.

E

ECG	For <i>electrocardiogram</i> . The electrical rhythm of the heart as detected through defibrillator pads.
elapsed time	The time since the responder turned on the defibrillator.
EMS	For <i>Emergency Medical Services</i> .
encryption	The Data Messenger feature that sets a password for exported Data Messenger files. Encryption ensures privacy by making the attachment unreadable to anyone other than the intended recipient.
export	Saving Data Messenger configuration settings as a file outside the software. This is typically done to share a configuration with other users or to back up a configuration.
ePCR	For <i>electronic patient care reporting</i> . The hardware and software solutions that allow you to collect patient information and care details electronically. In Data Messenger, <i>ePCR</i> refers to both the EMS and hospital implementations of the third-party application.

F

FRx	For <i>HeartStart FRx</i> . A HeartStart automated external defibrillator (AED) that is designed for simple and reliable operation by minimally trained users.
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fax modem	A modem that sends and possibly receives data encoded in a fax format, which a fax machine or another modem decodes and converts to an image. Fax modems might be internal or external and might combine fax and conventional modem capabilities.
fibrillation	A disturbance of the normal heart rhythm that results in chaotic, disorganized activity that cannot effectively pump blood. Ventricular fibrillation (fibrillation in the lower chambers of the heart) is the most common cause of sudden cardiac arrest.
firewall	A security system intended to protect an organization's network against external threats (such as hackers) coming from another network (such as the Internet). A firewall prevents computers in the organization's network from communicating directly with computers external to the network, and vice versa. Instead, all communication is routed through a proxy server outside of the organization's network, and the proxy server decides whether it is safe to let a particular message or file pass through to the organization's network.
forward	Sending data to a destination.

G

(No glossary terms for this letter.)

H

HeartStart MRx	For <i>HeartStart MRx Monitor/Defibrillator</i> . A HeartStart defibrillator that is designed to meet monitoring and resuscitation needs by providing advanced, multiparameter monitoring functions and a full range of defibrillation therapies. HeartStart MRx is intended for use in hospital and prehospital settings by qualified medical personnel trained in the operation of the device and qualified by training in basic life-support, advanced cardiac life-support, or defibrillation.
HeartStart Telemedicine Classic 12-Lead Edition	A HeartStart Telemedicine software option that receives HeartStart MRx 12-lead report transmissions.
HeartStart Telemedicine Critical Care Edition	A HeartStart Telemedicine software option that receives HeartStart MRx data transmissions. Data can include 12-lead reports, trigger events and waveforms, and periodic vital trends. See also <i>PCDT</i> .
<i>.hic</i>	The file extension for a HeartStart defibrillator file that contains only defibrillator data. It is intended to be transferred to a third-party application, such as an electronic patient care record (ePCR) application.
HS1 HS1 family	For <i>HeartStart HS1</i> . A HeartStart automated external defibrillator (AED) that is designed for simple and reliable operation. Available without a prescription.
HTTP	For <i>Hypertext Transfer Protocol</i> . The set of rules for exchanging files (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.

I

IP	For <i>Internet Protocol</i> . The protocol within TCP/IP that governs the breakup of data messages into packets, the routing of the packets from sender to destination network and station, and the reassembly of the packets into the original data messages at the destination. IP corresponds to the network layer in the ISO/OSI model.
----	--

import	The action of downloading file that is not stored in Data Messenger. On the Data Messenger Configuration window, the Import feature downloads a Data Messenger configuration file that was created by another instance of Data Messenger. On the Data Messenger Manual Process window, Import loads a case file with the <i>.mic</i> or <i>.hic</i> extension.
incident	The series of events involved in treating a patient with a defibrillator.
Internet Information Service (IIS)	Microsoft's brand of Web server software, using Hypertext Transfer Protocol to deliver World Wide Web documents. It incorporates various functions for security, allows for CGI programs, and provides for Gopher and FTP servers.
Internet Protocol	See IP.
Internet Service Provider (ISP)	A business that supplies Internet connectivity services to individuals, businesses, and other organizations. Some ISPs are large national or multinational corporations that offer access in many locations, while others are limited to a single city or region. Also called access provider, service provider.

J

(No glossary terms for this letter.)

K

(No glossary terms for this letter.)

L

(No glossary terms for this letter.)

M

MRx	For <i>HeartStart MRx Monitor/Defibrillator</i> .
<i>.mic</i>	The file extension for a case that contains patient and demographic data. In Data Messenger and Event Review Pro 4.0 or later, you can import and export a case as <i>.mic</i> file.
Microsoft Fax Console	A user interface for Microsoft Fax Service.
Microsoft Fax Service	A system service that provides fax services to local and remote network clients. Fax services include receiving faxes and faxing documents, fax wizard messages, and email messages.

N

NSA	For <i>no shock advised</i> . A decision that is made by the defibrillator based on analysis of the patient's heart rhythm.
NetBIOS	For <i>Network basic input/output system</i> . An application programming interface (API) that can be used by software programs on a local area network consisting of IBM and compatible microcomputers running MS-DOS, OS/2, or some version of UNIX.

O

(No glossary terms for this letter.)

P

Patients	A feature set that allows HeartStart Telemedicine users to view the list of available patient data records that are stored in the 12-Lead Transfer Station database.
PCDT	For <i>Periodic Clinical Data Transmission</i> . A HeartStart MRx data transmission option. Data can include 12-lead reports, events, and periodic vital trends.
.pdf file	File extension for <i>portable document format</i> . A file that you can view and print. To view a .pdf file, you need a .pdf file reader, such as Adobe Reader.
PEA	For <i>Pulseless Electrical Activity</i> .
periodic vitals	A HeartStart MRx option that records patient vitals in 1-minute to 60-minute intervals and sends the patient vitals to HeartStart Telemedicine in 1-minute to 5-minute intervals. HeartStart MRx records the time and date of patient vitals, such as pulse, heart rate, airway respiration rate, EtCO ₂ , invasive pressure values, and temperature.
PR	For <i>perfusing rhythm</i> .
process	The actions that Data Messenger completes when the software receives patient data. The actions are set up on the Workflow tab in the Data Messenger Configuration Window.
proxy server	A firewall component that manages Internet traffic to and from a local area network (LAN) and that can provide other features, such as document caching and access control. A proxy server can improve performance by supplying frequently requested data, such as a popular Web page, and can filter and discard requests that the owner does not consider appropriate, such as requests for unauthorized access to proprietary files. See also firewall.

Q

(No glossary terms for this letter.)

R

Recorded “On” Time	The date and time that the responder turned on the defibrillator.
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S

save	Adding the information and its associated details to the Data Messenger data.
serial number	The serial number of the defibrillator used during the response. Data Messenger reads the serial number from the defibrillator.
simultaneous 12-Lead ECG report	An ECG report that shows a 2.5-second simultaneous segment of ECG data for each lead, as well as the full ten seconds of captured data for a single lead. The 12-lead report presents data for each lead that was taken at exactly the same instant in time. A simultaneous 12-lead ECG report marks each segment with double vertical lines. It is the preferred format in Europe. See time-sequential 12-lead ECG report.
shock series	Also called shock stack. A sequence of one or more shocks, each separated by no more than a preset interval. After completion of a shock series, the defibrillator automatically provides a CPR protocol.
sweep bar	The vertical line on an ECG strip that marks the playback or event location.
system log	Log of all monitored Data Messenger activity. Use the system log to review Data Messenger usage.

T

- TCP/IP For *Transmission Control Protocol/Internet Protocol*. A protocol developed by the Department of Defense for communications between computers. It is the de facto standard for data transmission over networks, including the Internet.
- time-sequential 12-lead ECG report An ECG report that shows a sequential sample of 2.5 seconds of ECG data from each of the twelve channels. The format has three rows of four channels of data, with a single channel at the bottom of the page. Each successive channel has the next 2.5 seconds of data of the total of 10 seconds of data. A time-sequential 12-lead ECG report marks each segment with a single vertical line. It is the preferred format in the United States. See simultaneous 12-Lead ECG report
- trigger event A HeartStart MRx event that initiates the transmission of the patient data.

U

- URL For *Uniform Resource Locator*. An address for a resource on the Internet. URLs are used by Web browsers to locate Internet resources. A URL specifies the protocol to be used in accessing the resource (such as http: for a World Wide Web page or ftp: for an FTP site), the name of the server on which the resource resides (such as //www.whitehouse.gov), and, optionally, the path to a resource (such as an HTML document or a file on that server).

V

- virus A computer program that is designed to replicate itself by copying itself into the other programs stored in a computer. It might be benign or have a negative effect. For example, the virus might cause a program to operate incorrectly or corrupt the computer memory.
- vital trends Tabulated measurements for the recorded HeartStart MRx patient periodic vitals. Vital trends are available for 12 hours at 1-minute to 60-minute resolutions and display in descending order. HeartStart Event Review Pro and HeartStart Telemedicine display the vital trends in a tabular or chart format.

W

- web A set of interlinked documents in a hypertext system. The user enters the web through a home page. See also World Wide Web.
- World Wide Web The total set of interlinked hypertext documents residing on HTTP servers all around the world. Documents on the World Wide Web, called pages or Web pages, are written in HTML (Hypertext Markup Language), identified by URLs (Uniform Resource Locators) that specify the particular machine and path name by which a file can be accessed, and transmitted from node to node to the end user under HTTP (Hypertext Transfer Protocol).
- wizard A software feature that guides the user through a task.

X

(No glossary terms for this letter.)

Y

(No glossary terms for this letter.)

Z

(No glossary terms for this letter.)

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Index

#

12-lead report (faxing automatically) 37

A

Automatic mode
closing 55
customizing settings 53

B

batch LAN data transfer 42
Bluetooth®
Data Messenger mobile edition 88
installing adapter 70

C

card reader requirements 73
case
Automatic mode 53
defined 27
deleting a case 50
downloading automatically 53
emailing 38
erasing source data 38
exporting 38
Full Disclosure report 49
printing a report 38
selecting 48
Check for Updates 22
configuration
manage 43
confirmation message default settings in the Manual Process mode 37
Continuous ECG report 49
customer support 97

D

data card requirements 73
defibrillators supported 12

E

ECG Full Disclosure report 39
emailing cases
password-protecting PDF file 41
setting up for 41
event summary
selecting 48

event-summary data
editing 48
manual processing 46
export
case data 38

F

FTP
address setup 42
inbox folder 42
server 42
Full Disclosure report 49

H

HeartStart Event Review Pro 58
HeartStart FR2 62
HeartStart FRx 62
administration mode 64
HeartStart HS1
administration mode 65, 71
receiving patient data from 26
HeartStart HS1 family of defibrillators
HeartStart Home 62
HeartStart HS1 12
HeartStart OnSite 62
HeartStart MRx
data card requirements 73
Ethernet connection 62
FTP server 19
pairing and testing Bluetooth® 70
periodic clinical data 68
USB port 67
HeartStart Telemedicine 42
HeartStart XL data card 73

I

implementation references 95
infrared
adapter requirements 19, 73
data transmission 25
reader 73
setting up a connection 71
installation planning 26
IrDA requirements 19

L

limited version restrictions 13

M

Manual Process mode
exiting Data Messenger 33
starting from notification area 46
Mobile Edition
forwarding data within a firewall 88
guidelines 88
messages 92
monitoring system activity 92
system requirements 88
Mobile Edition with Pocket PC or smartphone 88

N

notification default settings in the Automatic mode 37
notification default settings in the Manual Process mode 37

P

Post-shock seconds 40
Presenting seconds 40
Pre-shock seconds 40
print case report 38

R

reports
Full Disclosure report 39, 49
Pre- and Post-shock 39
printing 49
setting up 39

S

sales support information 97
software activation 20
synchronize with the Mobile Edition 91
system log
customizing columns 58
grouping entries 58
monitoring system activity 57
re-ordering columns 58
sorting entries 46, 58
storage requirements 36
troubleshooting 59
system requirements 88

T

tabs (in Data Messenger Manual Process window)

 Cases 45

 System Log 45

tabs (in the Configuration window) 32

transferring patient data, by defibrillator type 25

typographical conventions, description 8

W

workflow

 configuring 42

 planning 26