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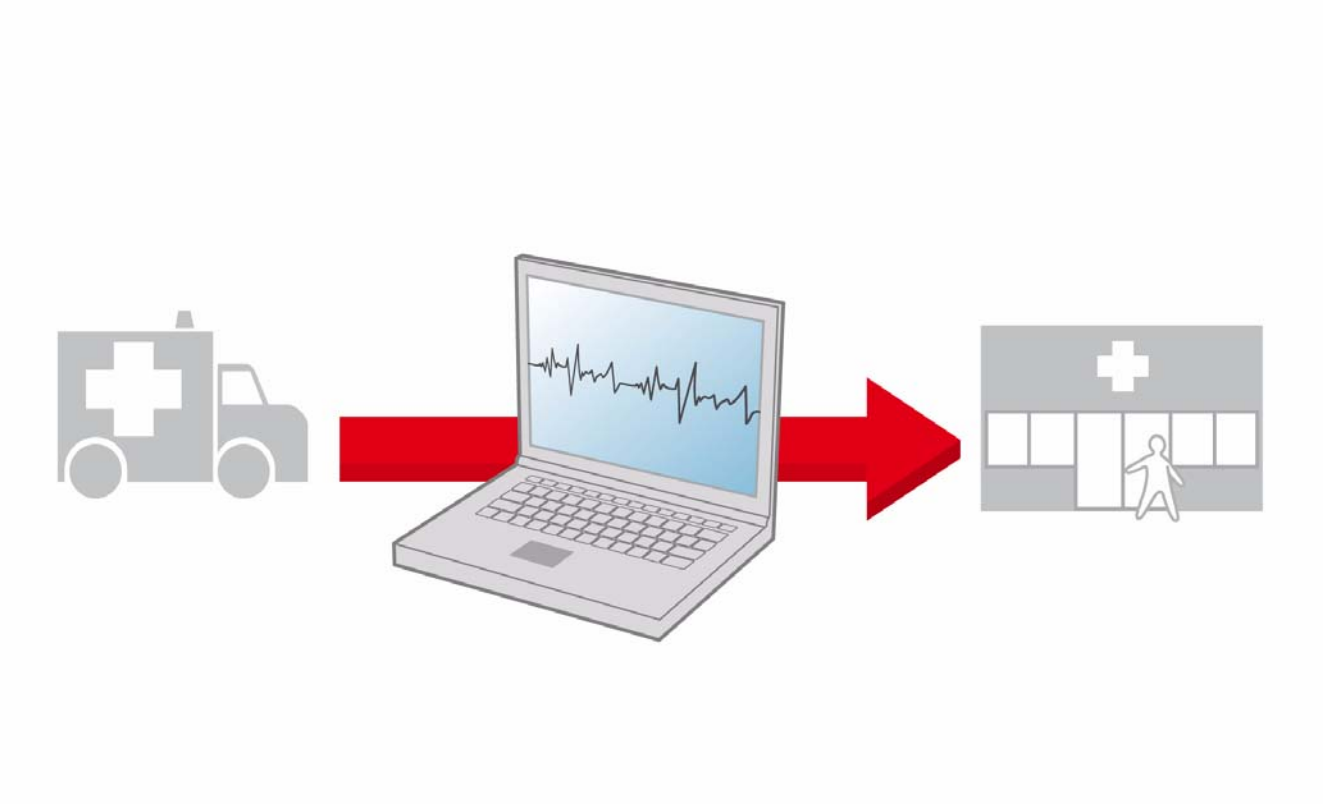

HeartStart Telemedicine System

USER GUIDE

Edition 1

HEARTSTART

About This Edition

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Contents

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A Quick Start Guide to Using HeartStart Telemedicine

This section is intended to help clinicians find and forward clinical data in HeartStart Telemedicine System 4.0 (HeartStart Telemedicine). It introduces you to some of the most common tasks to get you started quickly. Also, online help is always available.

HeartStart Telemedicine System includes the HeartStart Telemedicine Server software and HeartStart Telemedicine Viewer software. HeartStart Telemedicine Server consists of the application software, database installation, Internet access, and system administration user interface. HeartStart Telemedicine Viewer allows clinicians to interact with the data found in HeartStart Telemedicine Server remotely and perform limited tasks such as forwarding events.

HeartStart Telemedicine Server has two software options. In HeartStart Telemedicine Classic 12-Lead Edition, you can see and work with only 12-lead reports. In HeartStart Telemedicine Critical Care Edition, you can see and work with 12-lead reports plus periodic clinical data.

To understand the transmission options, read *Data Transmission Implementation Guide*, which is included with the HeartStart MRx Monitor/Defibrillator or your upgrade package. *Data Transmission Implementation Guide* provides information about implementing the complete solution.

There are many ways that you can view patient data. For more information, see Viewing HeartStart MRx Patient Data on page 25.

This section includes the following topics:

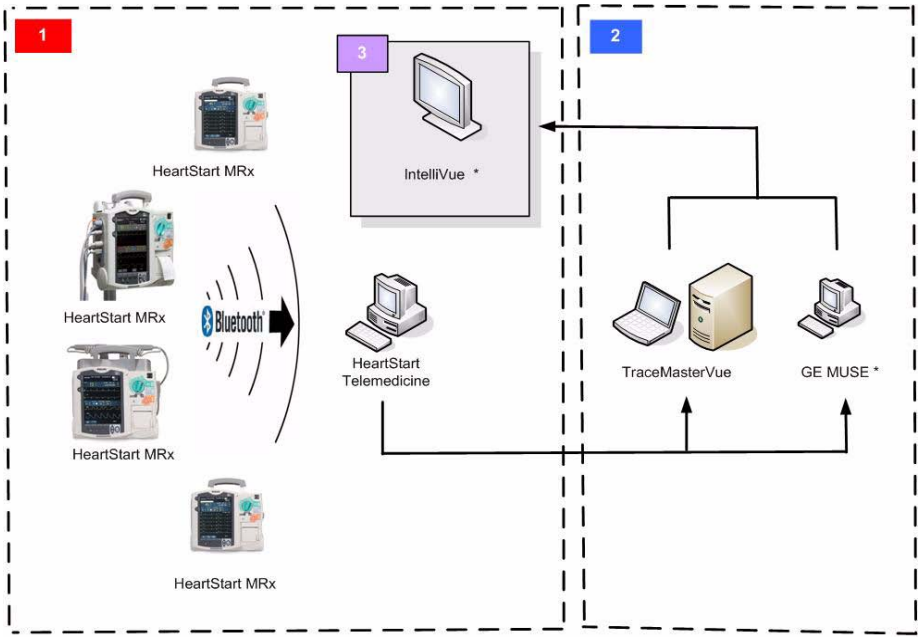
Typical Use Cases

Users in different healthcare markets use HeartStart Telemedicine in different ways, based on their unique workflows and existing infrastructure. For example, organizations might use HeartStart Telemedicine to do the following:

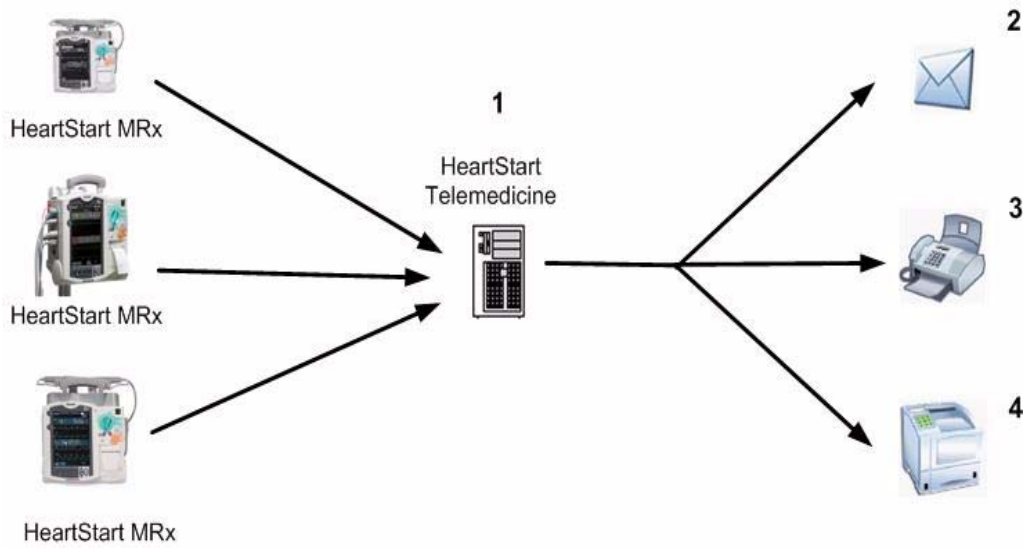
- Provide critical care support to inbound ambulance responders who are transporting a patient to the Emergency Department (ED).

  You can view patient 12-lead reports, trigger events and waveforms, or periodic vital trends in real time while responders transport a patient to the receiving emergency department or hospital.

- Prepare your ED for the arrival of the critical care patient.
  You can triage the patient who is en route to the ED, make space decisions where to assign the patient, and summon specialists. You can also pull patient histories.
- Prepare the next level of care inside the hospital. For example:
  - Many EDs locate HeartStart MRx monitor defibrillators in chest pain rooms or in overflow locations (1) and forward 12-lead reports for use in a department such as Cardiology (2). The following illustration shows a HeartStart Telemedicine System receiving HeartStart MRx 12-lead reports at a central station and forwarding them to TraceMaster ECG Management System (TraceMasterVue) and an ECG host such as GE MUSE in Cardiology (2), or an IntelliVue information console (3) at another location.



- Many hospitals locate HeartStart Telemedicine System in a central location in the emergency department or hospital. The following illustration shows HeartStart Telemedicine System receiving HeartStart MRx periodic clinical data at a central station. From the HeartStart Telemedicine machine, you can manually select clinical data and fax (3) or email (2) it to another department such as Surgery, Radiology, or ICU. You can also manually print (4) the patient report on a printer that is at another location in the hospital.



Typical uses include the following tasks:

- Viewing HeartStart MRx Data on page 3
- Forwarding HeartStart MRx Data on page 4

Viewing HeartStart MRx Data

You can use the Patients feature to view patient 12-lead reports and periodic clinical data that HeartStart MRx records and transmits.

Depending on how HeartStart MRx is configured, HeartStart MRx might send the following clinical data:

- 12-lead reports to HeartStart Telemedicine automatically or manually
- Trigger events and waveforms to HeartStart Telemedicine automatically when an event occurs
- Periodic vitals to HeartStart Telemedicine in 1- to 5-minute intervals automatically

This screen illustrates the View Patient feature that the triage medical staff might see in an urban hospital. The list of patients on the left (1) are the critical care patients. These patients are en route to the hospital.

1 The **Patients** navigation pane lists patient information in the order that the hospital receives the HeartStart MRx data transmission. You can double-click a patient row to view transmission details about the patient.

2 The Patients workspaces on the right pane list details about the patients.

- The **View All Patients** workspace lists information for each patient, including the institution, the transporting agency and units, and why the patient is a critical care patient.
- The **View Patient** workspace lists transmission details about the selected patient on the left pane.

3 The **Transmissions** pane on the **View Patient** workspace displays all the transmissions for the selected patient and a brief description of each transmission type.

HeartStart Telemedicine can display up to three panes to the right, depending on the type of HeartStart MRx data transmission it receives. Each pane displays the latest transmission automatically.

4 The **Waveform** pane to the right of the **Transmissions** pane displays trigger events and waveforms.

5 The **12-Lead** pane to the right of the **Transmissions** pane displays 12-lead ECG reports.

6 The **Vital Trends** pane to the right of the **Transmissions** pane displays the periodic vitals for the patient in a table or chart format.

If you would like to try using the Patients pane, see Patient Workflow Examples on page 7.

Forwarding HeartStart MRx Data

In HeartStart Telemedicine, the HeartStart MRx data can be forwarded automatically or manually. The type of HeartStart MRx data that you can forward depends on the software option that your organization installed and the destinations set up for your organization.

- In HeartStart Telemedicine Classic 12-Lead Edition, HeartStart Telemedicine stores, displays, and forwards only 12-lead reports to configured applications, email addresses, fax machines, and printers. HeartStart Telemedicine can forward the 12-lead reports automatically, or you can forward them manually.
- In HeartStart Telemedicine Critical Care Edition, HeartStart Telemedicine can store, display, and forward periodic clinical data transmission in addition to HeartStart Telemedicine Classic 12-Lead Edition functionality. A transmission can be a patient record, a 12-lead report, a trigger event and waveform, or vital trends. HeartStart Telemedicine can automatically forward trigger events and waveforms, and vital trends to another HeartStart Telemedicine. You can also print a report, send a fax, or email periodic clinical data to an alternate destination.

Forwarding data automatically

Your Information Technology administrator can set up an Auto Send List to forward a 12-lead report automatically from HeartStart MRx to destinations. An Auto Send List can include the following destination types:

- HeartStart 12-Lead Transfer Station
- TraceMasterVue
- DatamedFT
- HeartStart Telemedicine
- Fax machine
- Printer
- Email address
  When forwarding a transmission to an email address, your Information Technology administrator can password protect the email.

HeartStart Telemedicine uses the printers set up for your LAN.

Forwarding data manually

You can use the **Forward** options on the File menu to send the following data manually:

- Selected patient record to a configured HeartStart Telemedicine destination.
- Selected patient 12-lead report to a configured destination.
- Selected trigger event or periodic vital trends to a configured HeartStart Telemedicine destination.
- Selected patient record to an alternate fax machine, printer, or email address. A selected patient record can contain 12-lead reports, event triggers on waveforms, and periodic vital trends.

You can use the **Fax 12-Lead**, **Print Report**, and **Email PDF** options on the File menu to send the selected patient record or transmission to another destination. You can also use the **Export** option on the menu to save the selected patient record or transmission to a file outside the database.

The following table lists how you can send patient data to destinations based on the purchased HeartStart Telemedicine edition.

Task	HeartStart Telemedicine	
	Classic 12-Lead Edition	Critical Care Edition
Automatically forward 12-lead reports through an Auto Send List	✓	✓
Manually forward a selected patient record	✓	✓
Manually forward a selected 12-lead report	✓	✓
Manually forward a selected trigger event and waveform	✗	✓
Manually forward vital trends for a selected patient record	✗	✓
Fax a selected 12-lead report	✓	✓
Print a Patient Report for a selected patient record	✓	✓
Print a selected 12-lead report	✓	✓
Print a selected waveform	✗	✓
Print vital trends for a selected patient record	✗	✓
Email a Patient Report for a selected patient record	✓	✓
Email a selected 12-lead report	✓	✓
Email a selected waveform	✗	✓
Email vital trends for a selected patient record	✗	✓
Export a Patient Report for a selected patient record	✓	✓
Export a selected 12-lead report	✓	✓
Export a selected waveform	✗	✓
Export vital trends for a selected patient record	✗	✓

Patient Workflow Examples

The first workflow example demonstrates how you can quickly display and send 12-lead reports using HeartStart Telemedicine Classic 12-Lead Edition. The second workflow example demonstrates how you can quickly display and send waveform data and periodic vitals using HeartStart Telemedicine Critical Care Edition. For more information, see Viewing HeartStart MRx Patient Data on page 25.

To begin, start HeartStart Telemedicine and display the Patients feature

1 From the Start menu, select **All Programs** > **Philips HeartStart Telemedicine System 4.0** > **Telemedicine**.

2 On the navigation pane, click the **Patients** navigation button.

HeartStart Telemedicine displays the **Patients** navigation pane on the left and the workspace on the right. The Patient feature lists patient records and data transmissions in the order HeartStart Telemedicine received the data from HeartStart MRx.

3 Double-click a patient record on the **Patients** navigation pane.

HeartStart Telemedicine changes the information on the right and displays the patient transmissions on the **View Patient** workspace.

You can use the File menu to send a selected a transmission to a destination manually.

Displaying and Sending 12-Lead Reports

You can use the following steps with either HeartStart Telemedicine Classic 12-Lead Edition or HeartStart Telemedicine Critical Care Edition as the software receives patient transmissions.

Your Informational Technology (IT) system administrator routes 12-lead reports to your desktop for viewing. In HeartStart Telemedicine Classic 12-Lead Edition, you can only see and work with 12-lead reports.

To display and send 12-lead reports

When you first display the **View Patient** workspace, HeartStart Telemedicine lists the transmissions for the patient record in the **Transmissions** pane. The most recent 12-lead report appears on the **12-Lead** pane in simultaneous or time-sequential format.

1 On the **Transmissions** pane, click any 12-lead transmission.

The selected 12-lead report appears on the **12-Lead** pane.

2 On the File menu, click the **Forward Selected 12-Lead** option.

HeartStart Telemedicine displays a menu of destination types.

3 Click a destination type.

HeartStart Telemedicine displays a menu of the destinations.

4 Click a destination.

HeartStart Telemedicine forwards the 12-lead report to the destination.

To email a 12-lead report

1 On the **Transmissions** pane, click any 12-lead transmission.

2 On the File, click **Email PDF**.

HeartStart Telemedicine displays a menu of email options.

3 Click **Selected 12-Lead**.

HeartStart Telemedicine might display the File Security window. HeartStart Telemedicine displays this window if your application is configured to password protect emails. If the window displays, complete the following steps.

a (Optional) In the File Security window, you can password protect the email by selecting the check box and typing a password.

b Click **OK** to close the File Security window.

HeartStart Telemedicine displays the Email window with a PDF file of the transmission.

4 In **To** or **Cc**, type an email address of your choice.

5 Click **Send**.

You can also use the File menu and these steps to email a selected patient record.

Congratulations! You started HeartStart Telemedicine, viewed the critical care patients, and selected a patient. You then, viewed the list of 12-lead transmissions for the patient. Next, you forwarded a 12-lead report to a destination and emailed the transmission.

Displaying and Sending Critical Care Data

You can use the following steps with HeartStart Telemedicine Critical Care Edition as the software receives patient transmissions.

Your IT system administrator routes patient clinical data to your desktop for viewing. You can see and work with 12-lead reports, trigger events and waveforms, and periodic vitals.

To display and send critical care data

◆ Double-click a patient record on the **Patients** navigation pane.

HeartStart Telemedicine displays the patient record and transmission details on the **View Patient** workspace. By default, HeartStart Telemedicine expands the patient record, and lists the most recent transmission in one or more of the panes located to the right of the **Transmissions** pane:

- The **Waveform** pane displays the selected trigger event on the appropriate waveform.
- The **12-Lead** pane displays the selected 12-lead report in simultaneous or time-sequential format.
- The **Vital Trends** pane displays the periodic vitals recorded during the patient intervention in table or chart format. HeartStart Telemedicine displays the periodic vital trends. When you click a vital on the **Transmissions** pane, HeartStart Telemedicine highlights the vital trend on the table or chart.

To forward a 12-lead transmission manually

◆ Use the same steps as listed in To display and send 12-lead reports on page 7.

2

Getting Started

HeartStart Telemedicine System is part of an end-to-end telemedicine solution for communicating patient data from HeartStart MRx Monitor/Defibrillators (HeartStart MRx) to a viewing and forwarding workflow station. On the sending side, HeartStart MRx can be configured to transmit 12-lead ECG reports (12-lead reports) and periodic clinical data such as waveform data when trigger events occur. A trigger event is an HeartStart MRx event that initiates the transmission.

There are two software options of HeartStart Telemedicine System. In HeartStart Telemedicine Classic 12-Lead Edition, HeartStart Telemedicine stores, displays, and forwards only 12-lead reports. In HeartStart Telemedicine Critical Care Edition, HeartStart Telemedicine can store, display, and forward periodic clinical data transmission in addition to HeartStart Telemedicine Classic 12-Lead Edition.

HeartStart Telemedicine System consists of a server component that runs typically in the Information Technology (IT) server room and a viewer component in the clinical environment. The server component, HeartStart Telemedicine Server, consists of the application software, the database, Internet access, and the system administration user interface. The viewer component, HeartStart Telemedicine Viewer, allows clinicians to interact with the patient clinical data found in HeartStart Telemedicine Server remotely and perform limited tasks such as forwarding events.

HeartStart Telemedicine System is typically configured in one of the following environments and used as explained in Typical Use Cases on page 1.

- **At an EMS agency to serve multiple hospitals for a given region.** In this environment, the software commonly runs on one machine in a server room at the EMS agency. HeartStart Telemedicine forwards 12-lead reports to receiving hospitals by way of fax, email, or other HeartStart Telemedicines that are installed at one or more of those hospitals. If a receiving hospital wants to be notified at a number of destinations such as by fax and email, an AutoSend List can include as many as 10 destinations at the hospital.
- **In a hospital that is served by multiple EMS agencies.** In this environment, the software commonly runs in an IT server room with multiple HeartStart Telemedicine Viewers running in departments such as ED, Intensive Care Unit, Cardiology, or Radiology. Sometimes, these hospitals also forward the 12-lead reports automatically to their ECG Diagnostic Cardiology databases, such as TraceMasterVue or GE MUSE System (GE MUSE).
- **In a hospital where HeartStart MRx monitor defibrillators are used in chest pain rooms, overflow areas and/or transport monitors.** In this environment, HeartStart Telemedicine runs at a central nurses station to centrally view and print the 12-lead reports. Clinicians can also forward them to cardiology.

NOTE Philips Healthcare recommends that Information Technology (IT) personnel install and configure the HeartStart Telemedicine system. To understand the transmission options, read *Data Transmission Implementation Guide*, which is included with the HeartStart MRx Monitor/Defibrillator or your upgrade package. *Data Transmission Implementation Guide* provides information about implementing the complete solution. For more information, see Setting Up the HeartStart Telemedicine Monitoring Service on page 95.

This section includes the following topics:

What's New in this Release

For HeartStart 12-Lead Transfer Station users, HeartStart Telemedicine System 4.0 has new software options, new installation components, a new look and feel, and new features.

You can choose to purchase from the following software editions:

- In HeartStart Telemedicine Classic 12-Lead Edition, HeartStart Telemedicine stores, displays, and forwards only 12-lead reports.
- In HeartStart Telemedicine Critical Care Edition, HeartStart Telemedicine can store, display, and forward periodic clinical data transmission in addition to HeartStart Telemedicine Classic 12-Lead Edition.

For each software edition, you can choose to purchase a server component and one or more viewer components:

- HeartStart Telemedicine Server, the server component, consists of the application software, the database, Internet access, and the system administration user interface.
- HeartStart Telemedicine Viewer, the viewer component, allows clinicians to interact with the patient clinical data found in HeartStart Telemedicine Server remotely and perform limited tasks.

The following features are new in HeartStart Telemedicine System 4.0:

- A new application interface allows you to do the following:
  - Display and hide navigation panes
  - Resize panes and workspaces
  - Select the columns to display on a pane or workspace
  - Sort, group, and filter patient records and transmissions
- HeartStart Telemedicine supports the following HeartStart MRx transmission data:
  - ACI-TIPI and TPI data on 12-lead ECG reports
  - Trigger events and waveforms

  - Periodic vital trends
- HeartStart Telemedicine processes and stores the HeartStart MRx periodic clinical data in 1- to 5-minute time intervals.
- A new Patient feature allows you to do the following:
  - View the received HeartStart MRx transmission data in real time as the application receives the data.
  - Consult in real time with responders and the receiving organizations about the patient's condition while viewing the data received.
  - Add and edit patient data to a patient record. You can add the institution, patient name, and reference ID for the patient. You can also select a provider impression to clarify the patient's condition.
  - Automatically or manually forward the selected HeartStart MRx data to a HeartStart Telemedicine in addition to the destinations available in HeartStart 12-Lead Transfer Station.
  - View one transmission or multiple transmissions at the same time on the **View All Patients** workspace.

Intended Use of HeartStart Telemedicine

The HeartStart Telemedicine System software displays patient vitals, waveforms, and 12-lead ECG information transmitted from Philips HeartStart defibrillators in remote locations. The HeartStart Telemedicine Server software allows viewing, diagnostic quality printing, archiving and further distribution of digitized clinical data. The HeartStart Telemedicine Server software is also able to forward the 12-lead ECG information into ECG management systems that can process XML formatted ECG reports such as the TraceMaster ECG Management System.

Understanding HeartStart MRx Transmissions

This section describes data transmission from HeartStart MRx to HeartStart Telemedicine.

The following steps describe an automatic transmission from HeartStart MRx. A typical example follows the description.

1 The HeartStart MRx operator acquires a transmission while monitoring a patient.

2 The HeartStart MRx operator uses a wireless technology to connect HeartStart MRx to HeartStart Telemedicine Server.

3 The HeartStart MRx operator uses HeartStart MRx to select a destination for the patient data.

4 The HeartStart MRx operator selects the transmission method.

5 HeartStart MRx encrypts the data.

6 Depending on the wireless technology and distance, one of the following occurs:

  - The cell phone sends the 12-lead report through the Internet to HeartStart Telemedicine.
  - HeartStart MRx transmits the 12-lead report directly to HeartStart Telemedicine using a *Bluetooth* wireless transmission.

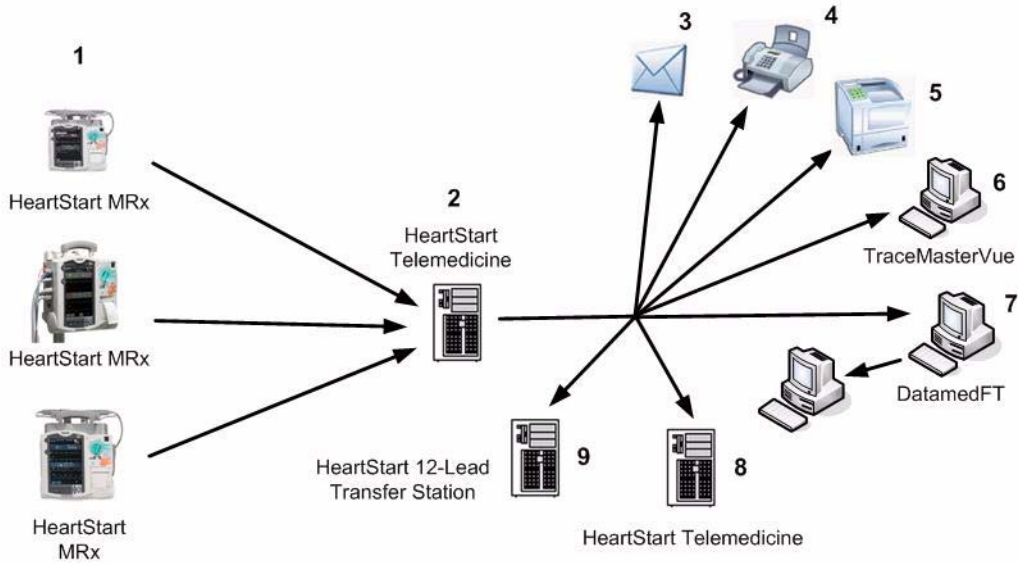
7 HeartStart Telemedicine decrypts the data transmission and stores the data in the database.

8 HeartStart Telemedicine sends the 12-lead report to destinations according to the instructions from HeartStart MRx.

9 If the HeartStart Telemedicine user configured an Auto Send List, HeartStart Telemedicine sends the 12-lead report to the destinations on the Auto Send List.

An Example Use of HeartStart Telemedicine

During a transmission, HeartStart MRx can send 12-lead reports, trigger events and waveforms, and periodic vital trends to HeartStart Telemedicine using *Bluetooth* wireless transfer. A trigger event is an HeartStart MRx event that initiates the transmission.



HeartStart Telemedicine (2) acts as a central point of communication to send the 12-lead reports to the following possible destinations:

- Email address (3)
- Fax machine (4)
- Printer (5)
- TraceMaster ECG Management System (TraceMasterVue) (6)
- Datamed Format Translators (DatamedFT) (7)

The DatamedFT software supports ECG hosts, such as GE MUSE.

- HeartStart Telemedicine (8)
- HeartStart 12-Lead Transfer Station (9)

When a HeartStart Telemedicine (8) or HeartStart 12-Lead Transfer Station (9) is a destination, it can further distribute 12-lead reports automatically or manually to additional destinations.

You can also manually send selected patient trigger events and waveforms, and periodic vital trends to a selected HeartStart Telemedicine (8). A trigger event is an HeartStart MRx event that initiates the transmission. For more information, see Forwarding HeartStart MRx Data on page 4 and Forwarding Patient Data on page 38.

Where This Guide Fits

The HeartStart Telemedicine System 4.0 software provides two options to receive patient data from the HeartStart MRx and forward patient data to destinations. HeartStart Telemedicine Classic 12-Lead Edition provides tools to receive and send 12-lead reports from HeartStart MRx to destinations. HeartStart Telemedicine Critical Care Edition provides tools to receive and send 12-lead reports, trigger events and waveforms, and periodic vital trends from HeartStart MRx to destinations.

This guide covers the process from the point where HeartStart Telemedicine receives the 12-lead reports, trigger events and waveforms, and periodic vital trends, and forwards them to destinations.

Chapters in *Data Transmission Implementation Guide* use information from this guide.

Getting Assistance

To take advantage of its many features, HeartStart Telemedicine has the following sources of help.

Application Tooltips

Throughout HeartStart Telemedicine, when you point to a toolbar button, text appears in a pop-up window. The text identifies the toolbar button.

Online Help

To get help with the current feature, click on the pane or on the workspace and press F1.

To read an overview of a topic, on the Help menu, click HeartStart Telemedicine **Help** . Select a topic from Help Contents. You can use the browse buttons to move from topic to topic.

User Guide

The user guide is in Portable Document Format (PDF). You can view the user guide using a PDF reader such as Adobe Acrobat.

You can view the user guide online, print sections, or print the whole guide.

- **Section 1** provides a quick start to HeartStart Telemedicine and the new interface.
- **Section 2** provides general information about HeartStart Telemedicine.
- **Section 3** explains how to use the HeartStart Telemedicine application window.
- **Sections 4 through 6** explain how to perform common tasks, and to view and forward selected HeartStart MRx data to selected destinations.
- **Section 7** provides information on how to monitor system activity.
- **Sections 8 through 10** explain how to configure the HeartStart Telemedicine system, destinations, and Auto Send Lists.
- **Appendices** provide installation, monitoring service, and troubleshooting information in addition to a glossary, references, and additional information about customer support.

Backing Up the Data

The HeartStart Telemedicine database is low-maintenance compared to many other databases. Nonetheless, attention to routine maintenance tasks will help to ensure database integrity. It is the database administrator's responsibility to set up appropriate database management tools and to check that they execute successfully.

CAUTION HeartStart Telemedicine does not back up your database. Maintaining proper backups is the database administrator's responsibility.

The HeartStart Telemedicine database server name is \<machine name>\HeartStart.

The database name is PDTS40.

Back up the HeartStart Telemedicine database on a regular basis (preferably every day) to tape or some other medium. Disaster recovery experts recommend that you store the backup tapes somewhere safe, so that disasters such as fire or theft cannot harm them. Without a recent backup, you have no chance of recovery after a catastrophe (disk failure, fire, mistakenly dropping a critical table, etc.).

Conventions Used in this Guide

HeartStart Telemedicine user information uses the following conventions to help identify information.

Conventions	Used for	Example
Bold	Menu options, buttons, field names and list box names. References to field and list box names and sections in general discussions.	Click **Import** on the File menu.
`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 HS1 voice prompt will announce `Administration.` When you click the close button, the screen displays the following message: `Are you sure you want to exit?`
Italic	File and file extension names.	Navigate to the directory where you saved the downloaded installation file with the *exe* extension.
`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`

CAUTION A caution alerts you to circumstances that can result in damage to the HeartStart Telemedicine database, 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.

3

Working in HeartStart Telemedicine

To use HeartStart Telemedicine, click a navigation button on the left pane of the application window.

This section includes the following topics:

Starting HeartStart Telemedicine

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

To start HeartStart Telemedicine

1 Click the Windows **Start** button.

2 Click **All Programs**.

3 Click **Philips HeartStart Telemedicine System 4.0**.

4 Click **Telemedicine**.

HeartStart Telemedicine displays the **Getting Started** pane and workspace.

NOTE The first time you start the application, HeartStart Telemedicine displays the Philips HeartStart Activation Wizard. HeartStart Telemedicine keeps track of the number of days before the pre-registration period expires. HeartStart Telemedicine **stops working if you do not activate the software within 60 days of installation.**

For more information, see Activating the Software on page 90.

Understanding the Application Window

When you start HeartStart Telemedicine, the **Getting Started** pane is above the navigation buttons on the left. A welcome page is on the right. The welcome page identifies the installed edition of HeartStart Telemedicine (Classic 12-Lead or Critical Care) and the features you can use (Server administrative features or Viewer limited features). The welcome page also has links to helpful information.

The title bar identifies the application. Use the buttons on the title bar to **Minimize**, **Maximize**, and **Close** the application.

Beneath the title bar, the application displays menus across the window and toolbar buttons below the menus. Menu options and toolbar buttons change based on the navigation button and function that you select.

- The menus list options to access the application features.
- The toolbar buttons provide quick access to frequently used menu options.

Beneath the menus and toolbar buttons, the navigation pane is on the left and the workspace is on the right.

- The navigation pane has navigation buttons and a pane above the buttons.
  - A navigation button groups major application features by their function. You can hide or display navigation buttons.
  - A navigation pane is above the navigation buttons. For example, if you click **Patients**, HeartStart Telemedicine displays two options, **View All Patients** and **View Latest Patient**. The pane lists navigation features.
- The workspace on the right pane changes based on the navigation button and the feature that you select. For example, if you click **Patients** and click **View All Patients**, HeartStart Telemedicine lists all patients received on the **View All Patients** workspace. When you click for a row on the workspace, HeartStart Telemedicine displays the patient transmissions stored in the database. Double-click on a patient record on the workspace to display the **Transmissions** and patient detail panes on the **View Patient** workspace.

Beneath the panes, you can connect to the default and alternative HeartStart Telemedicine Server from the HeartStart Telemedicine application window. When you start HeartStart Telemedicine Server. you are connected to the database. You can set up, configure, and manage the HeartStart Telemedicine, destinations, and Auto Send Lists. For more information, see Configuring HeartStart Telemedicine System on page 65 and Managing Patient Data and Destinations on page 77.

The following illustration shows a Patients workspace.

1 Title bar

2 Menu bar

3 Toolbar

4 Navigation pane

5 Navigation buttons

6 Navigation pane features

7 Workspace

8 HeartStart Telemedicine Server

Connecting to HeartStart Telemedicine Server

You can identify and connect to the HeartStart Telemedicine Server machine and its database from the **Administration** navigation pane and the **HeartStart Telemedicine Server** field on application window.

Use the **HeartStart Telemedicine Server** field in the lower right corner of the HeartStart Telemedicine window to connect to a HeartStart Telemedicine Server machine. **To set up a database on the Intranet**

- Contact the IT system administrator for the HeartStart Telemedicine installation.

To set up the default database

1 Click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **General Configuration**.

3 In the Server information area, click **Change**. HeartStart Telemedicine displays the HeartStart Telemedicine Database Server window.

4 In **Database server**, select the location of the HeartStart Telemedicine database.

5 Click the **Integrated security** check box if the database is installed on your machine. Clear the **Integrated security** check box if the database is not installed on your machine.

6 Click **Save**.

To connect to a different HeartStart Telemedicine Server

1 Locate the **HeartStart Telemedicine Server** field in the lower right corner of the HeartStart Telemedicine window,

2 In **HeartStart Telemedicine Server** click the drop-down arrow and click **Change server**. HeartStart Telemedicine displays the HeartStart Telemedicine Database Server window.

3 In **Database server**, select the location of the HeartStart Telemedicine data.

4 Click the **Integrated security** check box if the database is installed on your machine. Clear the **Integrated security** check box if the database is not installed on your machine..

5 Click **Save**.

Using the Navigation Pane

The key to using HeartStart Telemedicine is the navigation pane. The navigation pane on the left provides centralized navigation and access to the application features.

A navigation button can display more than one pane, which provides access to features.

To display a set of features

◆ Click a navigation button.

Following is a description of the navigation buttons.

- **Getting Started** helps you to learn about HeartStart Telemedicine, visit the HeartStart Telemedicine website, and look for software updates.
- **Patients** has tools to import and view HeartStart MRx data. You can use **Patients** to review and manually forward selected HeartStart MRx data to selected destinations.
- **Administration** helps you configure the HeartStart Telemedicine system, destinations, and Auto Send Lists. You can also monitor and troubleshoot system activity.

If you are unsure about which feature to use, see the Sample Workflow on page 22.

TIP HeartStart Telemedicine displays a navigation pane on the **Patients** navigation pane and on the **View Patient** workspace. You can hide the navigation panes to increase the size of each workspace. You can always return to the navigation pane while you work on the set of features.

To hide the navigation pane

◆ At the top of the navigation, click the **Auto Hide** icon.

HeartStart Telemedicine hides the navigation pane and displays a tab along the left edge of the hidden pane.

To display the navigation pane temporarily

1 Point to the tab along the left edge of the pane.
HeartStart Telemedicine displays the navigation pane temporarily.

2 HeartStart Telemedicine hides the pane when you point to or tap the right pane.

3 Point to the tab again to redisplay the navigation pane.

To restore the navigation pane

- Click tab, and then click the **Stay Open**  icon.

To show fewer or more navigation buttons

You can display or hide navigation buttons on a navigation pane. By default HeartStart Telemedicine displays all navigation buttons.

1 On the navigation pane, click the drop-down button on the bottom navigation button.

2 On the menu, click the appropriate button:

- Click **Show Fewer Buttons** to hide the navigation button and display the icon on the bottom navigation button.
- Click **Show More Buttons** to restore the navigation button.
- Click **Add or Remove buttons**, and then click the button you want to remove or return to the navigation pane. For example, click **Getting Started** to hide the navigation button.

3 Repeat steps 1 and 2 for each navigation button that you want to change.
HeartStart Telemedicine displays a tooltip when you point to an icon on the bottom navigation button.

TIP You can click a feature icon on the bottom navigation button to use the feature.

Completing Fields

In HeartStart Telemedicine, you use a pointing device, such as a mouse or stylus, to select field values from a window and to change the way HeartStart Telemedicine displays information on tables and logs.

If a field has a drop-down list, you can select information from the drop-down list. HeartStart Telemedicine displays the information on the workspace based on the selected option the next time you use the workspace. At that time, you can select another value.

For more information, see Using the Application Tables and Log on page 19.

Using the Application Tables and Log

In  **Patients** and  **Administration**, HeartStart Telemedicine lists information in tables and a log to help you manage your data. A table and log display information similar to a spreadsheet.

Each row represents one record in the database. A record can be a patient, a patient transmission, a 12-lead report, a trigger event and waveform, a periodic vital trends, or a system activity.

Each column has values for a specific field.

You can modify your view of the information by grouping and sorting the rows.

The following topics describe each table and log.

Patients Table

The **Patients** table lists each HeartStart MRx patient (incident) data received by HeartStart Telemedicine. The list of patient data is based on the date and time that the patient entry was first received by HeartStart Telemedicine.

The **Patient** table is on the **Patients** navigation pane.

The **Patients** table lists the same patient entries as the **View All Patients** workspace. By default, HeartStart Telemedicine displays the **Received**, **Reference ID**, and **Status** columns. The patient entries appear in descending order.

You can customize how the patient entries in the following way:

- Filter patient records, see Filtering Patients Records on page 29
- Hide or display columns, see Working with Columns on page 52
- Sort patient entries, see Sorting Entries on page 52

View All Patients Table

The **View All Patients** table lists each HeartStart MRx patient (incident) data received by HeartStart Telemedicine. The list of patient data is based on the date and time that the patient was first received by HeartStart Telemedicine. HeartStart Telemedicine also lists the current patient status. By default, HeartStart Telemedicine lists the patients in descending order.

The **View All Patient** table is on the **View All Patients** workspace. For more information, see Viewing All Patients on page 27.

You can use the **View All Patient** table to complete the following tasks:

- Group patients, see Grouping Entries on page 52
- Sort patients, see Sorting Entries on page 52
- Hide or display columns, see To hide or display the columns on the table on page 52
- Filter patient records, see Filtering Patients Records on page 29
- List transmission details, see Viewing Patient Transmission Details on page 30
- Delete the selected patient record from the HeartStart Telemedicine database, see Deleting Patient Data on page 78.

Transmission Detail Panes

When you click **View Latest Patient**, HeartStart Telemedicine displays the **Transmissions** and transmission detail panes on the **View Patient** workspace.

The **Transmissions** pane includes each transmission for the most current patient (incident) received by HeartStart Telemedicine. By default, HeartStart Telemedicine lists the patient transmissions in descending order. Each detail pane lists the most current transmission.

You can also display the **Transmissions** pane from the **View All Patients** workspace. For more information, see Viewing Patient Transmission Details on page 30.

You can use the **Transmissions** pane to complete the following tasks:

- Display transmission details
- Select a transmission detail to review the following data on the appropriate detail pane or tab:
  - The 12-lead report
  - The trigger event labelled on the appropriate waveform
  - The periodic vital trends in a table or chart format
- Fax, print, email, or export the selected 12-lead report to defined destination
- Print or email the selected transmission to an alternate destination
- Delete the selected patient record from the HeartStart Telemedicine database

A trigger event is an HeartStart MRx event that initiates the transmission. For more information, see Viewing HeartStart MRx Patient Data on page 25.

System Log

 **System Log** lists all monitored HeartStart Telemedicine activity.

The **System Log** table is on the  **Administration** workspace.

For more information, see Working with the System Log on page 51.

Resizing Panes and Workspaces

You can change the default layout of the application window. HeartStart Telemedicine displays the layout the next tine you use the navigation pane or workspace.

To resize a pane or workspace

1 Use the mouse to click and hold a border on the pane that you want to resize.

2 Drag the border in the appropriate direction to a new location.

HeartStart Telemedicine adjusts the size of the adjacent panes.

Restoring the Default View

You can restore the installed layout of the HeartStart Telemedicine application window.

To restore the default layout of the user interface

◆ On the View menu, click **Default View**.

HeartStart Telemedicine restores the navigation panes, navigation buttons, and workspaces to the installed layout.

Saving Your Work

Philips Healthcare recommends that you save your modified patient details periodically as you use HeartStart Telemedicine. HeartStart Telemedicine automatically saves the transmissions when they are received.

To save your work

1 On the File menu or toolbar, click **Save** .
HeartStart Telemedicine might display a confirmation message.

2 Click **Yes**.

Sample Workflow

The following table lists scenarios for clinicians and medical staff, and for IT personnel. Each scenario includes tasks and the topics that discuss the tasks.

TIP If you are using this guide online, you can go to topics by clicking on the reference.

HeartStart Telemedicine

Scenario	Task	Topic
Clinicians and medical staff who view and forward 12-leads and clinical data		
An EMS responder calls to say that she is sending HeartStart MRx data transmissions for you to assess.	View HeartStart MRx patient data	Viewing HeartStart MRx Patient Data on page 25
	Change the way information appears in a HeartStart Telemedicine table or log	Working with Columns on page 52 Sorting Entries on page 52 Grouping Entries on page 52
The ED medical staff receives a patient transmission and needs to send it to a physician at a different location on the LAN.	Forward HeartStart MRx patient data	Exporting Patient Data on page 38 Forwarding Patient Data on page 38 Faxing 12-Lead Reports on page 40 Emailing Patient Data on page 41 Emailing Reports on page 49 Printing Reports on page 48
During your shift, you did not receive all the patient data. You want to search for patient data transmissions that were not complete.	Review the system log	Monitoring System Activities on page 51

Scenario	Task	Topic
IT personnel who configure and maintain HeartStart Telemedicine System		
A medical specialist needs to assess patient data stored in another database on the LAN.	Connect to a different HeartStart Telemedicine Server	Connecting to HeartStart Telemedicine Server on page 17
IT personnel need to set up the HeartStart Telemedicine System hardware and software.	Configure HeartStart Telemedicine	Configuring the System on page 66 Setting Up the HeartStart Telemedicine Monitoring Service on page 95 Running HeartStart Telemedicine Service Manager as a Service on page 101
After installing HeartStart Telemedicine System, your Medical Director gives the IT department information about the destinations that will receive the patient data transmissions.	Configure destinations	Setting Up Application Destinations on page 68 Setting Up Fax Destinations on page 69 Setting Up Printer Destinations on page 71 Setting Up Email Address Destinations on page 72
	Configure Auto Send Lists	Configuring Auto Send Lists on page 74
You receive HeartStart Telemedicine System on a data card and need to add it the HeartStart Telemedicine database	Import a HeartStart MRx patient data	Importing HeartStart MRx Data on page 77
Your Medical Director sent you an email that lists changes to the Auto List destinations	Review or modify a destination	Managing Applications on page 79 Managing Fax Machines on page 80 Managing Printers on page 81 Managing Email Addresses on page 81
	Review or modify Auto Send Lists	Managing Auto Send Lists on page 75
Your network technician sent an email stating that several printers and fax machines were upgraded. You need to change several destinations and Auto Send Lists.	Manage destinations and Auto Send Lists	Managing HeartStart Telemedicine Destinations on page 79

Scenario	Task	Topic
Your database administrator sent an email stating that the database is reaching its storage capacity. You need to archive and delete patient data to provide storage space.	Delete patient data	Deleting Patient Data on page 78 Managing HeartStart Telemedicine Destinations on page 79

4

Viewing HeartStart MRx Patient Data

This section provides an overview of the HeartStart Telemedicine System Patient feature. It explains how to use the **Patients** navigation pane and workspaces to view HeartStart MRx 12-leads, trigger events and waveforms, and periodic vital trends.

The HeartStart Telemedicine software option and the HeartStart MRx options that you purchased determine the type of HeartStart MRx data that HeartStart Telemedicine processes and stores.

- In HeartStart Telemedicine Classic 12-Lead Edition, HeartStart Telemedicine stores, displays and forwards only 12-lead reports.
- In HeartStart Telemedicine Critical Care Edition, HeartStart Telemedicine can store, display, and forward 12-lead reports plus periodic clinical data. Periodic clinical data can include patient events and waveforms, and periodic vital trends.

A trigger event is an HeartStart MRx event that initiates the transmission. For information on how to send patient details manually to a destination, see Working with HeartStart MRx Data on page 37.

For information on how to configure the HeartStart Telemedicine System system and destinations, see Configuring HeartStart Telemedicine System on page 65.

For information on how to manage transmission destinations, see Managing HeartStart Telemedicine Destinations on page 79.

This section has the following topics:

Working with Patients

This topic describes how you can use the **Patients** navigation pane and workspaces to display patient records.

Use the **Patients** navigation pane to view a list of patient records received from HeartStart MRx. By default, HeartStart Telemedicine lists patient records in descending order by the date and time received. HeartStart Telemedicine identifies patient records that are not yet viewed in **bold** type.

TIP HeartStart Telemedicine periodically refreshes the display of patient records. You can click **Refresh** on the toolbar or View menu to refresh the display manually.

You can sort, group, reorder columns, and display additional columns. For more information, see the following topics:

- Working with Columns on page 52
- Sorting Entries on page 52
- Grouping Entries on page 52

Use the **Patients** workspaces to view all patient records, the latest patient record received, or a selected patient record. From a **Patients** workspace, you can use the Forward feature to manually send a selected patient record to a selected destination.

HeartStart Telemedicine System lists the patient records on the **Patients** navigation pane and on the **View All Patients** workspace. The **Patients** navigation pane initially displays three columns of the **View All Patients** workspace.

On the **View All Patients** workspace, you can sort, reorder columns, and expand a patient record row to view the list of transmissions. You can change the column display. For more information, see Working with Columns on page 52.

You can also add and edit information about a patient in the **Institution**, **Patient Name**, **Reference ID**, and **Provider Impression** columns. For more information, see Viewing All Patients on page 27.

When you double-click a transmission on the **View All Patients** workspace, you can view the transmission details on appropriate panes on the **View Patient** workspace. For more information, see Viewing Patient Transmission Details on page 30.

To work with patient records

1 On the navigation pane, click the **Patients** navigation button.

2 On the **Patients** navigation pane, select a patient record and do one of the following to work with a patient record:

- Click **View All Patients** to list all patient records on the **View All Patients** workspace.
- Click **View Latest Patient** to to display transmissions for a selected patient record on the **View Patient** workspace.
- Double-click the patient record to display transmissions for a selected patient record on the **View Patient** workspace.

For more information see, the following topics:

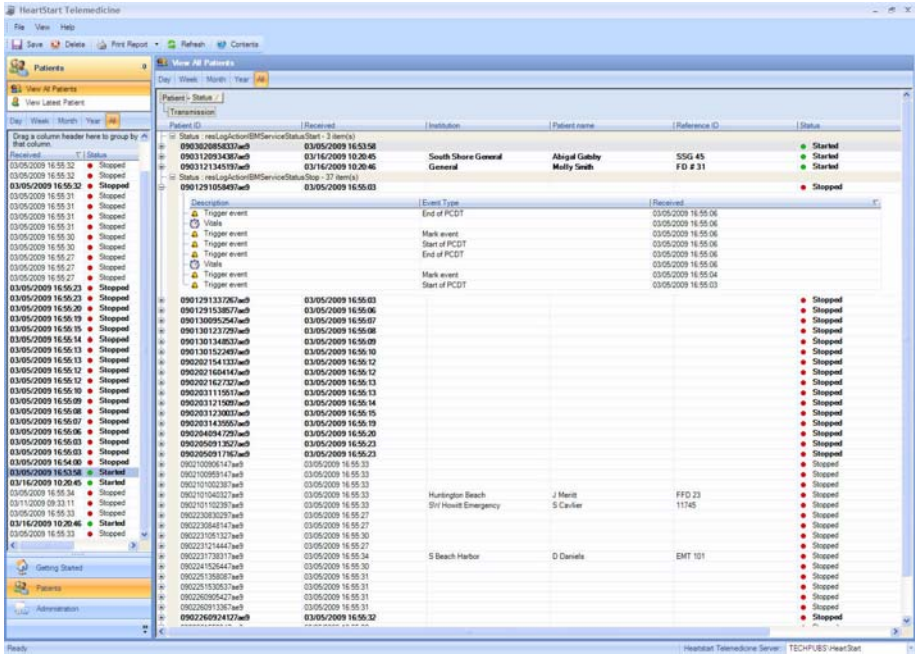
- Viewing All Patients on page 27
- Viewing Patient Transmission Details on page 30
- Forwarding Patient Data on page 38
- Exporting Patient Data on page 38
- Faxing 12-Lead Reports on page 40
- Emailing Patient Data on page 41
- Printing Reports on page 48
- Emailing Reports on page 49

Viewing All Patients

Use the **View All Patients** workspace to view the patient records that were received from HeartStart MRx. By default, HeartStart Telemedicine lists all the patient records received in descending order based on the date and time HeartStart Telemedicine received it.

HeartStart Telemedicine displays information received from HeartStart MRx in the **Reference ID** and **Institution** columns. You can edit these fields and add information in the **Patient Name** and **Provider Impression** columns.

You can expand a patient record to list the transmissions received. You can also double-click a selected transmission to view transmission details.



You can use the **View All Patients** workspace to complete the following tasks:

Displaying the Patient Records

To display the patient records

1 On the navigation pane, click the **Patients** navigation button.

2 On the **Patients** navigation pane, click **View All Patients**.

Adding and Editing Patient Data

To add and edit patient data

You can add and edit information about a patient in the **Institution**, **Patient Name**, **Reference ID**, and **Provided Impression** columns. If HeartStart MRx completed a field, you can edit the information.

HeartStart Telemedicine displays the edit on the **View All Patients** pane. However, on the **View Patient** pane and destinations, HeartStart Telemedicine displays and prints the transmission with the patient information received from the HeartStart MRx.

NOTE HeartStart Telemedicine stores the most recent changes saved in the **Institution**, **Patient Name**, **Reference ID**, and **Provider Impression** columns. Philips Healthcare recommends that you designate one person to change the field data to avoid overwriting the information by mistake.

1 Click in the **Institution, Patient Name**, and **Reference ID** columns to type text.

2 Click in the **Provided Impression** column to type text in the **Other** field or to select an impression that describes the patient's condition. You can also type additional text to the selected impression.

3 On the File menu or toolbar, click **Save**.

If HeartStart Telemedicine asks if you want to save the edits, click one of the following:

- **Yes** to save the edits
- **Cancel** to restore the original text and keep the cursor at the current location
- **No** to remove the edits and continue

For example: If you click **Exit** on the File menu to exit the application before HeartStart Telemedicine displays the message window, click **No** to remove the edits and exit the application, or click **Cancel** to restore the original text and remain on the **View All Patients** workspace.

Displaying Patient Transmissions

To display patient transmissions

◆ Click **Expand** to the left of the patient record that you want to expand. An expanded patient record lists all the transmissions received for the patient.

Displaying All Patient Transmissions

To display all patient transmissions

1 Right-click on a record or row.

2 On the shortcut menu, click **Expand All**.

Hiding Patient Transmissions

To hide patient transmissions

- Click **Collapse** to the left of the patient record that you want to collapse.

Hiding All Patient Transmissions

To hide all patient transmissions

1 Right-click on a record or row.

2 On the shortcut menu, click **Collapse All**.

Filtering Patients Records

By default, HeartStart Telemedicine displays a list of all the patient records received in descending order based on the date and time HeartStart Telemedicine received it. You can change the display to view transmissions received by HeartStart Telemedicine during the day, week, month, or year. HeartStart Telemedicine uses the date you imported or received the data, not the date of the patient data.

To filter the number of patient records

TIP A patient record filter button behaves like an option button .

1 To display the **View All Patients** workspace, click **View All Patients** on the **Patients** navigation pane,

2 On the **Patients** pane or on the **View All Patients** workspace, click a filter button at the top of the workspace: **Day**, **Week**, **Month**, **Year**, or **All**.

Sorting Patient Records

You can sort the information based on the column.

To sort patient records

- Click the 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 Patient Records

You can group patient records based on the column names.

To group patient records

Use area above the **Patients** navigation pane and **View All Patients** workspace to set up groups. Each patient record in the group lists transmissions.

You can also group transmissions using the columns in the transmissions list.

- For more information, see Grouping Entries on page 52.

Working with Columns

You can select which columns appear on the workspace. You can also resize the width of a column and change the order in which they appear.

To display or hide columns

- For more information, see Working with Columns on page 52.

Viewing Patient Transmission Details

Use the **View Patient** workspace to view transmissions and selected transmission details.

The workspace can consist of four areas: **Transmissions**, **Waveform**, **12-Lead**, and **Vital Trends**.

By default, transmissions on the **Transmissions** pane appear in descending order based on the date and time that HeartStart Telemedicine received it. You can filter which type of transmissions appear in the list. You can also click a transmission to display the details to the right of the **Transmissions** pane.

HeartStart Telemedicine displays transmissions with the patient information received from HeartStart MRx.

To display the View Patient workspace

1 On the navigation pane, click the **Patients** navigation button.

2 To display the **Transmission** pane, use one of the following methods:

- On the **Patients** navigation pane, double-click a patient record.
- On the **Patients** navigation pane, click **View All Patients** to display the list of patient records, then double-click a patient record.
- On the **Patients** navigation pane, click a patient record, then click **View Latest Patient**.

HeartStart Telemedicine displays the following information for the patient record above the Transmission pane: patient ID, date and time, and device.

3 On the **Transmissions** pane, click a transmission.

HeartStart Telemedicine displays the patient transmissions on the **Transmissions** pane and on the appropriate pane or tab: **Waveform**, **12-Lead**, or **Vital Trends**.

4 (Optional) You can view the transmission details.

- Click **Expand** to the left of the transmission that you want to expand. An expanded transmission lists the available details.
- Click **Collapse** to the left of the transmission that you want to collapse.

You can use the **Transmissions** pane to complete the following tasks:

- Filtering Patients Records on page 29
- Sorting Patient Transmissions on page 31
- Grouping Patient Transmissions on page 31
- Working with Columns on page 29

Filtering Patient Transmissions

By default, HeartStart Telemedicine displays a list of all the patient transmissions for the patient received in descending order based on the date and time HeartStart Telemedicine received it. You can change the display to view one or more combinations of transmissions.

To filter the number of patient transmissions

1 To display the **Transmission** pane, use one of the following methods:

- On the **Patients** navigation pane, double-click a patient record.
- On the **Patients** navigation pane, click **View All Patients** to display the list of patient records, then double-click a patient record.
- On the **Patients** navigation pane, click a patient record, then click **View Latest Patient**.

2 Click a transmission filter button.

A filter button behaves like a check box. You can click more than one button to display combinations of transmission types.

Sorting Patient Transmissions

You can sort the information based on the column.

To sort patient records

◆ Click the 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 Patient Transmissions

You can group patient transitions based on the column names.

To group patient transmissions

Use area above the **Transmissions** pane to set up groups.

◆ For more information, see Grouping Entries on page 52.

Hiding the Transmissions Pane

You can display or hide the **Transmissions** pane on the **View Patient** workspace to increase the available workspace. Use the **Auto Hide** icon located at the top of the list the same way you do on the navigation pane.

For more information, see Using the Navigation Pane on page 18.

Viewing a Selected Transmission

You can view a selected transmission to the right of the **Transmissions** pane. The **View Patient** workspace can display stacked horizontal panes or tabs to the right of the **Transmissions** pane. The default view uses stacked horizontal panes. You can select the view from the View menu or shortcut menu.

You can also resize the pane manually.

To view a selected transmission on a tab

- On the View menu, click **Transmissions**, and then **Tabbed View**.

TIP You can also right-click the pane or tab to select **Stacked View** or **Tabbed View**.

To view another transmission in Tabbed View

Complete one of the following methods:

- On the **Transmissions** pane, click a transmission.
  HeartStart Telemedicine displays the transmission on the tab. If the transmission is a different type, HeartStart Telemedicine changes tabs and display the transmission.
- Click a different tab.
  HeartStart Telemedicine displays the most recent transmission of that type on the tab.

To view a transmission on a pane

Complete one of the following methods from the View menu:

- Click **Transmissions,** and then click **Stacked View**.
- Click **Default View**. HeartStart Telemedicine restores the installed application layout, including the stacked horizontal panes on the **View Patient** workspace.

Displaying a 12-Lead Report

You can select a 12-lead report from the **View All Patients** workspace or **Transmissions** pane on the **View Patient** workspace. HeartStart Telemedicine displays the 12-lead report on the default **12-Lead** pane. You can also select to view the 12-lead report on a tabbed view. For more information, see Viewing a Selected Transmission on page 32. The pane and tab title includes the transmission date and time.

HeartStart Telemedicine displays the 12-lead report in the format set up on the **General Configuration** workspace. By default, HeartStart Telemedicine displays the 12-lead report in the time sequential format. You can view the 12-lead report in one of two formats: time sequential or simultaneous. For more information, see Configuring the System on page 66.

You can click more than one transmission filter button to display combinations of transmission types. A transmission filter button behaves like a check box.

You can also manually forward the 12-lead report to a configured destination or to an alternative fax machine, printer, or email address. For more information, see Working with HeartStart MRx Data on page 37.

Viewing a 12-Lead Report

You can view a selected 12-lead report on a pane or on a tab.

To view a 12-lead report

1 On the navigation pane, click the **Patients** navigation button.

2 To display the **Transmission** pane, use one of the following methods:

- On the **Patients** navigation pane, double-click a patient record.
- On the **Patients** navigation pane, click **View All Patients** to display the list of all patient records. Then, double-click a patient record.
- On the **Patients** navigation pane, click a patient record, then click **View Latest Patient**.

HeartStart Telemedicine displays the latest 12-lead report on the **12-Lead** pane.

3 On the **Transmissions** pane, click another  12-lead report to display on the **12-Lead** pane.

4 You can view the entire 12-lead report:

- Drag the scroll bar at the bottom and to the right of the 12-Lead pane to view the current 12-lead report.
- Click **Next** to view the next page.
- Click **Previous** to view the previous page.

Changing the 12-Lead Setup

You can use the View menu to change the 12-lead report setup.

To change a 12-lead report setup

A time sequential 12-lead ECG report marks each segment with a single vertical line. A simultaneous 12-lead ECG report marks each segment with double vertical lines.

1 View a 12-lead report on the **12-Lead** pane. For more information, see Displaying a 12-Lead Report on page 32.

2 On the View menu, you can set up the 12-lead report view:

a Click **12-Lead ECG**, and then click **Time Sequential** or **Simultaneous**. to select the display format

b Click **Transmissions**, and then click **Tabbed View** to display transmissions on tabs. For more information, see Viewing a Selected Transmission on page 32.

Displaying a Trigger Event

If you installed HeartStart Telemedicine Critical Care Edition, you can view a selected trigger event from the **View All Patients** workspace or **Transmissions** pane on the **View Patient** workspace.

HeartStart Telemedicine displays the trigger event on the appropriate waveform on the default **Waveform** pane. A trigger event is an HeartStart MRx event that initiates the transmission. You can also select to view the waveform on a tab. For more information, see Viewing a Selected Transmission on page 32. The pane and tab title includes the transmission date and time.

You can click more than one transmission filter button to display combinations of transmission types. A transmission filter button behaves like a check box.

You can manually forward the trigger event to a HeartStart Telemedicine destination. You can also email the trigger event to an alternate email address. For more information, see Forwarding Patient Data on page 38.

The type of information that HeartStart MRx sends during a periodic clinical data transmission depends on the event which triggers the transmission. For more information, see HeartStart MRx Trigger Events on page 115.

Viewing a Trigger Event

You can view the selected waveform with a trigger event on a pane or tab.

To view a trigger event

1 On the navigation pane, click the **Patients** navigation button.

2 To display the **Transmission** pane, use one of the following methods:

- On the **Patients** navigation pane, double-click a patient record.
- On the **Patients** navigation pane, click **View All Patients** to display the list of all patient records. Then, double-click a patient record.
- On the **Patients** navigation pane, click a patient record, then click **View Latest Patient**.

HeartStart Telemedicine displays the latest trigger event on the associated waveform, such as: ECG, plethysmography (PLETH), and capnography (CO2). A trigger event is an HeartStart MRx event that initiates the transmission. For more information, see HeartStart MRx Trigger Events on page 115 and *HeartStart MRx M3535A/M3536A Instructions for Use,* for use with version F.00 and later.

3 On the **Transmissions** pane, click a trigger event  to display on the **Waveform** pane.

4 (Optional) On the View menu, click **Transmissions**, and then click **Tabbed View.**

5 Use the scroll bars on the **Waveform** pane or tab to view each waveform.

Displaying a Periodic Vital

If you installed HeartStart Telemedicine Critical Care Edition, you can view a selected periodic vital from the **Patients** table or **Transmissions** pane on the **View Patient** workspace.

HeartStart Telemedicine displays the periodic vital trends on the default  **Vital Trends** pane in a table or chart format. You can also select to view the periodic vital trends on a tab. For more information, see Viewing a Selected Transmission on page 32. The pane and tab title includes the transmission date and time.

When HeartStart Telemedicine displays periodic vitals on a table, HeartStart Telemedicine highlights the appropriate vital row and the time column.

When HeartStart Telemedicine displays periodic on a chart, HeartStart Telemedicine moves to the time of the selected vital.

You can click more than one transmission filter buttons to display combinations of transmission types. A transmission filter button behaves like a check box.

Viewing a Periodic Vital

You can view the vital trends on a pane or tab.

To view a periodic vital

1 On the navigation pane, click the **Patients** navigation button.

2 On the **Patients** navigation pane, use one of the following methods to display the Transmission pane:

- On the **Patients** navigation pane, double-click a patient record.
- On the **Patients** navigation pane, click **View All Patients** to display the list of all patient records. Then, double-click a patient record.
- On the **Patients** navigation pane, click a patient record, then click **View Latest Patient**.

HeartStart Telemedicine displays the latest periodic vital on the **Vital Trends** pane in a table or chart format.

3 On the **Transmissions** pane, click a  periodic vital to display on the **Vitals Trends** pane.

4 (Optional) On the View menu, click **Transmissions**, and then click **Tabbed View**.

5 Use the scroll bars on the **Vital Trend** pane or tab to view each vital trend.

Reviewing Vital Trends Data

You can view the vital trends data associated with the ECG in a table or on a chart.

To display vital trends data in a table

◆ Click the **Table** tab.

To display vital trends data on a chart

◆ Click the **Chart** tab.

HeartStart Telemedicine displays the vital trends data on a chart.

To remove trends from display in Chart view

◆ On the vital trends configuration pane, select any trends that you want removed from the chart.

HeartStart Telemedicine clears the check box and removes the selected trends from the chart.

To change the point style in Chart view

1 If you are not already in Chart view, click the **Chart** tab.
HeartStart Telemedicine displays the vital trends data in a chart.

2 On the configuration pane to the left of the vital trends chart, click the style button next to the trend you want changed.
HeartStart Telemedicine displays a shortcut menu.

3 Click **Point style**.
HeartStart Telemedicine displays a list of point styles.

4 Select a point style from the list.
HeartStart Telemedicine displays the trend with the selected point style.

To change the trend color in Chart view

1 If you are not already in Chart view, click the **Chart** tab.
HeartStart Telemedicine displays the vital trends data in a chart.

2 On the configuration pane to the left of the vital trends chart, click the style button next to the trend you want changed.

HeartStart Telemedicine displays a shortcut menu.

3 Click **Color**.

HeartStart Telemedicine displays the **Color** dialog box.

4 Select a color from the **Basic colors** list.

You can also use **Define Custom Colors**, to create a custom color.

5 Click OK.

HeartStart Telemedicine displays the trend with the selected color.

5

Working with HeartStart MRx Data

The HeartStart Telemedicine application provides tools to send patient data manually to an external destination. You can send a selected patient trigger event and waveform, or periodic vital trends to a configured HeartStart Telemedicine application. You can send a selected 12-lead report to the following configured destinations.

- Auto Send List
- HeartStart 12-Lead Transfer Station
- TraceMasterVue
- DatamedFT
- HeartStart Telemedicine
- Fax machine
- Printer
- Email address

This section explains how to how to complete the following tasks:

- Viewing the System Log on page 37
- Exporting Patient Data on page 38
- Forwarding Patient Data on page 38
- Faxing 12-Lead Reports on page 40
- Emailing Patient Data on page 41

For information on how to configure the HeartStart Telemedicine System system and destinations, see Configuring HeartStart Telemedicine System on page 65.

For information on how to manage transmission destinations, see Managing HeartStart Telemedicine Destinations on page 79.

Viewing the System Log

You can view the system log to see the status of all HeartStart Telemedicine activity.

To view the system log

- On the **Administration** pane, click **System Log**.

The system log has tools to change the way information displays. You can sort and group the list of entries.

You change the way the system log displays information when you want to assess data or search for specific information. For help using these tools, see Working with the System Log on page 51. For an explanation of the messages, see System Log Messages on page 54.

Exporting Patient Data

You can export patient data as a separate file. You can export an imported file and patient data received from HeartStart MRx. Depending on the patient data that you select, you can export the file as an XML or PDF file. You can then distribute and view the files using the appropriate XML and PDF tool.

To export patient data

1 Import the 12-lead report. For more information, see Importing HeartStart MRx Data on page 77.

2 On the **Patients** navigation pane or **View All Patients** workspace, select the patient record. For more information, see Working with Patients on page 25.

3 Display the patient transmission. For more information, see the following topics:

- To display the patient records on page 28
- To display the View Patient workspace on page 30

4 On the File menu, click **Export.**

HeartStart Telemedicine lists Export options based on the transmission in the patient data. Select one of the following options:

- **Patient Report** to export the patient data in a PDF file.
- **Selected 12-Lead** to export the selected 12-lead report in either a PDF or an XML file.
- **Selected Waveform** to export the selected trigger event and waveform in a PDF file.
- **Vital Trends** to export the periodic vital trends for the patient record in a PDF file. The vital trends are in a table format.

HeartStart Telemedicine displays the Export window.

5 In **File name**, enter the 12-lead report name. You can select the 12-lead report file name from another location.

6 In the **Save as type** field, select the appropriate file type: PDF or XML.

7 Click **OK**.

Forwarding Patient Data

Use the **Forward** options on the File menu to send selected HeartStart MRx patient data manually. You can forward the following types data:

- 12-lead report received from HeartStart MRx to any configured Auto Send List or destination
- 12-lead reports received from HeartStart MRx manually to an alternative fax machine, printer, or email address
- Patient data to a configured HeartStart Telemedicine

- Trigger events and waveforms to a configured HeartStart Telemedicine
- Periodic vital trends for the patient record to a configured HeartStart Telemedicine

NOTE The available destinations on the menus depend on the destinations set up on the **Administration** navigation pane.

Each HeartStart Telemedicine Viewer machine must have the same access to the network destinations as the HeartStart Telemedicine Server machine.

HeartStart Telemedicine can receive HeartStart MRx 12-lead reports that were filtered between .05 and 40 Hz. HeartStart Telemedicine can also forward the 12-lead reports to the TraceMasterVue and to DatamedFT. Note that TraceMasterVue users cannot change the filter setting for these ECGs on TraceMasterVue.

See your IT system administrator for help with configured destinations. For more information, see Configuring HeartStart Telemedicine System on page 65.

To send patient data from the View All Patients workspace

1 Display the **View All Patients** workspace. For more information, see Viewing All Patients on page 27.

2 Select a patient row from the table.

3 Click the **Expand**  to the left of the row.

4 Select a transmission.

5 (Optional) You can select a printer page size when you forward a 12-lead report to a **Printer** destination.

On the View menu, click **12-Lead** and select a page size.

6 On the File menu, click the appropriate **Forward** option.

- If you selected **Forward Selected 12-lead**, HeartStart Telemedicine displays a menu of destinations. The types of destinations depend on the destinations you set up from the **Administration** pane:
  Auto Send List
  HeartStart 12-Lead Transfer Station
  TraceMasterVue
  DatamedFT
  HeartStart Telemedicine
  Fax
  Printer
  Email
- If you selected **Forward Patient Data**, **Forward Selected Waveform**, or **Forward Vital Trends**, HeartStart Telemedicine displays a list of HeartStart Telemedicine Server destinations.

7 If you selected **Forward Selected 12-lead**, click a destination type.

8 Click a destination name.

HeartStart Telemedicine completes the connection, sends the selected transmission, and displays a confirmation message.

To send a transmission from the View Patient workspace

1 Display the **View Patient** workspace. For more information, Viewing Patient Transmission Details on page 30.

2 On the **Transmissions** pane, double-click the transmission row. HeartStart Telemedicine displays the transmission on the appropriate pane.

3 On the File menu, click the appropriate **Forward** option.

- If you selected **Forward Selected 12-lead**, HeartStart Telemedicine displays a menu of destinations. The types of destinations depend on the destinations you set up from the **Administration** pane:
  Auto Send List
  HeartStart 12-Lead Transfer Station
  TraceMasterVue
  DatamedFT
  HeartStart Telemedicine
  Fax
  Printer
  Email
- If you selected **Forward Patient Data**, **Forward Selected Waveform**, or **Forward Trends**, HeartStart Telemedicine displays a list of destination names.

4 If you selected **Forward Selected 12-lead**, click a destination type.

5 Click a destination name. HeartStart Telemedicine completes the connection, sends the selected transmission, and displays a confirmation message.

Faxing 12-Lead Reports

You can fax a 12-lead report automatically or manually.

HeartStart Telemedicine automatically faxes 12-lead reports to the fax numbers that you add to the default Auto Send List.

You can also send a 12-lead report to a configured fax destination manually. These fax numbers are available from the **Forward Selected 12-Lead** option on the File menu. Use the **Forward Selected 12-Lead** option when you want to forward a 12-lead report to one fax destination.

Use the **Fax 12-Lead** option on the File menu to manually fax a 12-lead report to an alternate fax destination. HeartStart Telemedicine displays the Microsoft **Send Fax Wizard**.

The 12-lead report that HeartStart Telemedicine faxes might not be of diagnostic quality.

NOTE Each HeartStart Telemedicine Viewer machine must have a fax service. Send Fax Wizard is part of Microsoft Fax Service. If you have not installed Microsoft Fax Console, use the Windows Help and Support feature. Type `Fax` in the **Search** field and follow Microsoft's instructions.

To manually fax a 12-lead report to a configured destination

◆ Use the steps listed in Forwarding Patient Data on page 38.

To manually fax a 12-lead report to an alternate fax destination

1 Use one of the following methods to select a 12-lead report:

- Display the **View All Patients** workspace. For more information, Viewing All Patients on page 27.

- Display the **View Patient** workspace. For more information, Viewing Patient Transmission Details on page 30.

2 If you are using the **View All Patients** workspace, select a patient record and click the **Expand** to the left of the row.

3 Select a 12-lead report.

On the File menu, click **Fax 12-Lead**. HeartStart Telemedicine displays the Print window.

4 Complete one of the following:

a Select the a printer name and click **Print**.

b Select the printer named Fax and click **Print**. HeartStart Telemedicine displays the Send Fax Wizard window. Follow the on-screen instructions.

Emailing Patient Data

You can email a 12-lead report automatically or manually. Depending on the option you purchased, you can also manually email a patient record or a selected transmission to an alternate destination.

HeartStart Telemedicine automatically emails 12-lead reports to the email addresses that you add to the default Auto Send List.

You can also send a 12-lead report to a configured email address manually. These email addresses are available from the **Forward Selected 12-Lead** option on the File menu. Use the **Forward Selected 12-Lead** option when you want to forward a 12-lead report to one email address.

Use the **Email PDF** option on the File menu to manually email the following data to an alternate email address.

- A patient report
- A selected 12-lead report
- A selected trigger event and waveform
- Vitals trends for a patient

HeartStart Telemedicine starts your default email application. For example, HeartStart Telemedicine might start Lotus Notes, Microsoft Outlook, or Outlook Express.

To manually email patient data to an email address configured for HeartStart Telemedicine

◆ Use the steps listed in To send a transmission from the View Patient workspace on page 40.

To manually email a patient report or selected patient transmission to an alternate email address

Depending on the configuration for emails, you can assign a password to the attachment.

NOTE Make sure to tell the recipient the password that you assign to an attachment in a separate communication or email.

1 Use the procedure steps listed in Forwarding Patient Data on page 38.

2 Select a patient record from the **View All Patients** workspace or a selected patient transmission from the **View Patient** workspace.

3 On the File menu, click **Email PDF**.

HeartStart Telemedicine displays the File Security window.

4 Complete one of the following methods:

- Click the **Protect file with password** check box and type a password. Then, click **OK** to password protect the attachment. The password can be the same password that you assigned to an email address on the **Email Destinations** workspace. For more information, see Setting Up Email Address Destinations on page 72.
- Click **OK** to email the attachment without a password.

HeartStart Telemedicine starts your default email application and attaches the PDF.

5 Address and send the email.

6

Managing Reports

You can print a report that contains all the patient data, or one with the following selected transmission:

- 12-lead report
- Trigger event and waveform
- Vital trends

The first step in working with reports is to select a patient record and page size. HeartStart Telemedicine generates the report from the selected patient record and displays in on the selected page size format.

TIP The default page size is “letter.”

In **Print Report**, you can also do the following tasks:

- Preview the report as you specify report details
- Print the report
- Export the report
- Email the report

This section includes the following topics:

Selecting a Page Size

You can select a page size format to preview and print reports.

To select a paper size:

1 On the View menu, click **12-Lead**.

2 Select one of the following page sizes:

- **Letter Page Size**
- **A4 Page Size**

The selected page size becomes the standard page size until you change it.

Generating Reports

In HeartStart Telemedicine, you can generate a report for patient record or for a patient transmission. You use the same steps to generate the reports.

The type of report that you can generate depends on the **Patients** workspace from which you select **Print Report**.

Report Type	Patients Workspace	
	View All Patients	View Patient
Patient	✗	✓
12-Lead	✓	✓
Trigger Event/ Waveform	✓	✓
Vital Trends	✓	✓

HeartStart Telemedicine displays the appropriate parameter settings for the report above the preview of the report. HeartStart Telemedicine also remembers the parameter settings the next time you select the report.

For more information, see Using the Reports Toolbar on page 45.

Generating a Report

Use **Print Report** to generate a report for a selected patient record or transmission.

To generate a report

1 Select a patient record or transmission. For more information, see Viewing All Patients on page 27 and Viewing Patient Transmission Details on page 30.

2 On the File menu or toolbar, click **Print Report**.

3 Click the type of report that you want to generate.

On the workspace, HeartStart Telemedicine displays parameter settings that you can use to specify the report format and details above the report preview.

4 Click a customization tab.

HeartStart Telemedicine displays a preview of the report as you set and change the parameter settings.

5 Complete one or more parameter settings to specify the information that the report displays.

6 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.

For more information, see Printing Reports on page 48.

7 To generate an export file, click **Export To** on the Report Preview toolbar. For more information, see Exporting Reports on page 48.

8 To email the report, click **E-mail As** on the Report Preview toolbar. For more information, see the previous step and Emailing Reports on page 49.

Using the Reports Toolbar

The following table provides a description of the Reports toolbar buttons.

Button	Description
	Click **Print** or press **Ctrl+P** to select a printer, number of copies, or other printing options before printing.
	Click **Quick Print** to send the document directly to the default printer without making changes.
	Click **Find** to find text in the document based on your entry in the **Find what** field and Search options.
	Click **First Page** or press **Ctrl+Home** to navigate to the first page of the document.
	Click **Previous Page** or press **PageUp** to navigate to the previous page of the document.
	Click **NextPage** or press **PageDown** to navigate to the next page of the document.
	Click **Last Page** or press **Ctrl+End** to navigate to the last page of the document.
	Click **Mouse Pointer** to show the mouse pointer.
	Click **Hand Tool** to manually scroll through the pages.
	Click **Magnifier** to display the full page. Click **Magnifier** again to zoom to 100% view of the report page.
	Click **Many Pages** to select the page layout and to arrange the document pages in preview.
	Click **Zoom Out** to see more of the page at a reduced size.
	Click **Zoom** to change the zoom level of the document preview.
	Click **Zoom In** to get a close up view of the document.
	Click **Export To** to export the document in one of the available formats, and save it to a file on a disk. HeartStart Telemedicine displays a window to specify parameter settings for the export file.
	Click **E-Mail** As to export the document in one of the available formats, and attach it to the email.

Working with Patient Reports

You can generate a Patient report from the **View Patient** workspace.

The Patient report documents the most recent transmission listed in the **Transmission** pane on the **View Patient** workspace.

Patient reports have detailed patient information based on the information that HeartStart Telemedicine received and processed from HeartStart MRx. The information you select for the report determines the parameter settings you can specify.

For information on how to generate a report, see Generating Reports on page 44.

For related information, see the following topics:

- Printing Reports on page 48
- Exporting Reports on page 48
- Emailing Reports on page 49

To specify how the report displays information

1 Select a patient record or transmission. For more information, see Viewing Patient Transmission Details on page 30.

2 On the File menu or toolbar, click **Print Report**.

3 Click **Patient Report**.

4 On the **Report Customization** tab, select the check box for each type of information that you want to include in the report.

HeartStart Telemedicine displays the tabs that require you to select parameter settings.

5 Click a customization tab and select one or more parameter settings to specify the section of the report.

For more information, see the following topics:

- Working with 12-Lead Reports on page 46
- Working with Vital Trends Reports on page 47

6 Repeat step 5 for each type of report that you selected.

Working with 12-Lead Reports

You can generate a 12-lead report from the **View All Patients** and **View Patient** workspaces.

The 12-Lead report documents the 12-lead report that appears in the **12-Lead** pane or tab on the **View Patient** workspace.

The report can display the following information:

- Date and time
- Reference ID
- Institution
- Patient age and gender
- Report format: simultaneous or time sequential

- ACI-TIPI and TPI data

The report uses the following parameter settings:

- Timing – Select **Simultaneous** or **Time Sequential** format.
- Display grid – Display the 12-lead report with or without grids.

A simultaneous 12-lead ECG report marks each segment with double vertical lines. It is the preferred 12-lead report format used in the Europe.

A time sequential 12-lead ECG report marks each segment with a single vertical line. It is the preferred 12-lead report format used in the United States.

For related information, see the following topics:

- Printing Reports on page 48
- Exporting Reports on page 48
- Emailing Reports on page 49

Working with Waveform Reports

You can generate a Trigger Event/Waveform report from the **View All Patients** and **View Patient** workspaces.

The Trigger Event/Waveform report documents the waveform based on the trigger event and waveform that appears in the **Waveform** pane or tab on the **View Patient** workspace The report includes the appropriate waveforms, such as: ECG, plethysmography (PLETH), and capnography (CO2).

The report displays the following information:

- Date and time
- Patient ID and name
- Reference ID
- Institution
- Device
- Trigger event and waveform

For related information, see the following topics:

- Printing Reports on page 48
- Exporting Reports on page 48
- Emailing Reports on page 49

Working with Vital Trends Reports

You can generate a Vital Trends report from the **View All Patients** and **View Patient** workspaces.

The Vital Trends report provides patient information based on the vital trends information that appears on the **Vital Trends** pane or tab on the **View Patient** workspace. The vital trends information appears in a table format.

The report displays the following information:

- Date and time

- Patient ID and name
- Reference ID
- Institution
- Device
- Vital trends in a table format

The report uses the following parameter settings:

- Interval – Select 1, 5, 10, 15, 30, or 60 minutes in duration.
- Show latest first – Select to display the vital trends in descending order. Clear to display the vital trends in ascending order.

For related information, see the following topics:

- Printing Reports on page 48
- Exporting Reports on page 48
- Emailing Reports on page 49

Printing Reports

You can print reports for a selected transmission from the the **View All Patients** and **View Patient** workspaces. However, you can only print a Patient report from the **View Patient** workspace.

The printed 12-lead report and trigger event waveforms are of diagnostic quality.

Before you print a report, you must generate the report.

To print a report for a patient record

1 Select a patient record or transmission. For more information, see Viewing All Patients on page 27 and Viewing Patient Transmission Details on page 30.

2 On the File menu or toolbar, click **Print Report**.

3 Click the type of report that you want to print.

4 Click a customization tab.

HeartStart Telemedicine displays a preview of the report as you set and change the parameter settings.

5 Complete one or more parameter settings to specify the information that the report displays.

6 To print the report, use one of the following Report Print toolbar buttons:

- Click **Print** to select a printer, number of copies, and other printing options.
- Click **Quick Print** to send the report directly to the default printer without making changes.

7 If you clicked **Print** on the toolbar, click **Print**.

For more information, see Generating Reports on page 44.

Exporting Reports

You can export reports for a selected transmission from the the **View All Patients** and **View Patient** workspaces. However, you can only export a Patient report from the **View Patient** workspace.

HeartStart Telemedicine saves a copy of the report to a file outside of the database. If you frequently review a report or want to track your system's performance, generate the report, and then use the Export tool to save the report as a file.

The Save As window suggests to save the reports in the folder located at: C:\Documents and Settings\<user name>\My Documents\Telemedicine\Exported Reports. You can save the report to a different location.

NOTE You can also export a selected transmission using the Export feature on the File menu. For more information, see Exporting Patient Data on page 38.

To export a report

1 Generate and view the report. For more information, see Generating Reports on page 44.

2 On the Report Preview toolbar, click **Export To**.

3 Click the arrow and select the file format for the exported file.

HeartStart Telemedicine displays a list of file formats that is appropriate for the type of report.

4 Complete the parameter settings for the file format and click **OK**.

5 HeartStart Telemedicine displays the Save As window.

HeartStart Telemedicine populates the **File name** field with Exported Reports folder. The default location is typically: C:\Documents and Settings\< user name>\My Documents\Telemedicine\Exported Reports.

6 In **File name**, enter a name for the report.

The **Save as type** field lists the document type that you selected.

7 Click **Save**.

8 If you can open the file, click one of the following buttons:

- Click **Yes** to preview the file.
- Click **No** to continue.

Emailing Reports

You can email the export file for a report the same way you email patient data.

You can use the Report **Email-As** option or your email application to send an exported report to another HeartStart Telemedicine user.

NOTE The Report **Email-As** option and the File menu **Email PDF** option require that you configure Microsoft Outlook or a MAPI compliant email client, and an email profile.

To email a report

1 Generate and view the report. For more information, see Generating Reports on page 44.

2 On the Preview Report toolbar, click **E-Mail As**.

3 Select the file format for the report.

4 Depending on the file format that you selected, complete the parameter settings and click **OK**.

HeartStart Telemedicine displays the Save As window.

HeartStart Telemedicine populates the **Save in** field with Exported Reports folder and the **File name** field. The default location is typically: C:\Documents and Settings\< user name>\My Documents\Telemedicine\Exported Reports. HeartStart Telemedicine might display the Internet Connection Wizard. Follow the on-screen instructions.

5 You can change the **Save in** and **File name** field data.

6 Click **Save**.

HeartStart Telemedicine attaches the exported report file when it displays the email window.

7 Enter the email address in the **To** and **Cc** fields.

8 Click **Send**.

7

Working with the System Log

You can view the system log to see the status of all HeartStart Telemedicine activity.

When working with the system log, you can change the way information displays in the list of entries. This section provides an overview of how to use the system log in HeartStart Telemedicine.

This section includes the following topics:

Opening the System Log

The system log is available from the **Administration** navigation pane.

You can change the default layout of the system log. HeartStart Telemedicine displays the layout the next time you use the navigation pane or workspace. For more information, see Resizing Panes and Workspaces on page 21.

To display the system log

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **System Log**.

HeartStart Telemedicine displays the system log.

Monitoring System Activities

The system log lists HeartStart Telemedicine activity. For each action, HeartStart Telemedicine identifies the following information:

- The type of activity, for example Information or Error
- The action that occurred

- A description of the action
- The date and time when the action occurred

Working with Columns

You can customize the columns that appear on the table. You can resize the width of a column. You can also hide or display the columns on the table and the order in which they appear.

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 hide or display the columns on the table

1 Right-click a column header name to display a shortcut menu.

2 Click **Columns** to display a list of column header names.

3 Click a check box for each column that you want to hide or display on the table.
Column headers with a check mark display 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

You can sort the information based on the column. HeartStart Telemedicine displays a triangular symbol (arrow) in the column header to indicate the sort order.

TIP The Date and Time column lists when the action occurred.

Grouping Entries

You can group entries to sort the entries. For example, you can select a primary sort by **Type** and a secondary sort by **Description**. Use the area above the entries to set up groups..

HeartStart Telemedicine gathers all entries received at a specific time with the same Action into one group. If you expand a group, HeartStart Telemedicine displays all the entries in the group.

You can 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.

The right-click to display a shortcut menu. The shortcut menu lists the **Expand All**, and **Collapse All** options.

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.

2 Repeat step 1 as necessary.

HeartStart Telemedicine creates the next group level.

TIP Click the column header to sort the order of the entries.

To use the shortcut menu

1 Display the workspace or open **System Log**. For more information, see Opening the System Log on page 51.

2 Right-click the **System Log** table.

3 Click an option.

To refresh the list of entries

- On the View menu or toolbar, click **Refresh**.

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 display all entries in the log

1 Right-click on a record or row.

2 On the shortcut menu, click **Expand All**.

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 hide all entries in all groups

1 Right-click on a record or row.

2 On the shortcut menu, click **Collapse All**.

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 below the table header.

2 Repeat step 1 for each column.

Clearing System Log Entries

You can remove the entire system log from the database.

- On the File menu, click **Clear System Log**.

System Log Messages

The system log provides a list of information and error system messages for actions. Actions appear in the following table in alphabetical order. Each message includes an explanation.

To troubleshoot an error message, use the following table to find the error and action. Provide your IT system administrator the information in the Description and the Possible Issues and Solutions columns.

Log Type	Action	Description	Possible Issues and Solutions
Information	Delete patient record	Deleted patient record for Patient ID: {Incident ID}	All received data for the patient was successfully deleted.
Error	Delete patient record	Failed to delete patient record for Patient ID: {Incident ID}	Delete request failed. Possible reasons for failure might be: Database connection failure Another user might ave already deleted the patient record. Click **Refresh**.
Information	Email 12-Lead	Emailed 12-Lead report for Patient ID: {Incident ID} with recorded time: {date and time} to email address: {email address}, file name: {file name}	The 12-lead report was successfully sent to the email queue. Check the queue for the email client or the SMTP server for blocked transmissions.
Error	Email 12-Lead	Failed to email 12-Lead for Patient ID: {Incident ID} with recorded time: {date and time} to email address: {email address}, file name: {file name}	Invalid 12-lead report. Possible reasons for failure might be: SMTP is not set up Invalid 12-lead data Missing Incident ID Missing acquired date and time
Information	Email trigger event report	Emailed trigger event report for Patient ID: {Incident ID}, transmission ID: {Transmission ID}, file name: {file name}	The trigger event report was successfully sent to the email queue. Check the queue for the email client or the SMTP server for blocked transmissions.
Error	Email trigger event report	Failed to email trigger event report for Patient ID: {Incident ID}, transmission ID: {Transmission ID}, file name: {file name}	The email client or SMTP server is not set up.
Information	Email patient record	Emailed patient report for Patient ID: {Incident ID}, file name: {file name}	The patient report was successfully sent to the email queue. Check the queue for the email client or SMTP server for blocked transmissions.

Log Type	Action	Description	Possible Issues and Solutions
Error	Email patient record	Failed to email patient report for Patient ID: {Incident ID}, file name: {file name}	The email client or SMTP server is not set up.
Information	Email vital trends report	Emailed vital trends report for Patient ID: {Incident ID}, transmission ID: {Transmission ID}, file name: {file name}	The patient vital trends report was successfully sent to the email queue. Check the queue for the email client or the SMTP server for blocked transmissions.
Error	Email vital trends report	Failed to email Vital trends report for Patient ID: {Incident ID}, transmission ID: {Transmission ID}, file name: {file name}	The email client or SMTP server is not set up.
Information	Export trigger event report	Exported trigger event report. Patient ID: {Incident ID} transmission ID: {transmission ID}, file name: {file name}	The trigger event report successfully saved in PDF format.
Error	Export patient report	Failed to export patient report for Patient ID: {Incident ID}, file name: {file name}	Possible reasons for failure might be: Patient report failed to save. The disk is full. The path is no longer available. The path does not have write permission.
Information	Export trigger event report	Exported trigger event report for Patient ID: {Incident ID} transmission ID: {transmission ID}, file name: {file name}	The trigger event report was successfully saved in PDF format.
Error	Export trigger event report	Failed to export trigger event report for Patient ID: {Incident ID}, transmission ID: {transmission ID}, file name: {file name}	Possible reasons for failure might be: The trigger event report failed to save. The disk is full. The path is no longer available. The path does not have write permission.
Information	Export vital trends report	Exported vital trends report for Patient ID: {Incident ID}, transmission ID: {Transmission ID}, file name: {file name}	Successfully saved the patient vital trends report in PDF format.
Error	Export vital trends report	Failed to export vital trends report for Patient ID: {Incident ID}, transmission ID: {Transmission ID}, file name: {file name}	Possible reasons for failure might be: The disk is full. The path is no longer available. The path does not have write permission.

Log Type	Action	Description	Possible Issues and Solutions
Information	Fax 12-Lead	Faxed 12-Lead for Patient ID: {Incident ID} with recorded time: {date and time} to fax number: {Fax number}	The 12-lead report was successfully sent to the FAX queue. Check the queue in FAX Console for blocked transmissions.
Error	Fax 12-Lead	Failed to fax for Patient ID: {Incident ID} with recorded time: { date and time } to fax number: {Fax number}	Invalid 12-lead data. Possible reasons for failure might be: Missing Incident ID Missing acquired date and time
Information	Print 12-Lead	Printed 12-Lead for Patient ID: {Incident ID} with recorded time: {Date and Time} to printer name: {printer name}	The 12-lead report was successfully sent to the printer queue. Check the queue for blocked printer jobs.
Error	Print 12-Lead	Failed to print 12-Lead for Patient ID: {Incident ID} with recorded time: {Date and Time} to printer name: {printer name}	Invalid 12-lead data. Possible reasons for failure might be: Missing Incident ID Missing acquired date and time
Information	Print patient report	Printed patient report for Patient ID: {Incident ID} to printer name: {printer name}	The patient report was successfully sent to the printer queue. Check the queue for blocked printer jobs.
Error	Print patient report	Failed to print patient report for Patient ID: {Incident ID} to printer name: {printer name}	Possible reasons for failure might be: Invalid patient data Missing Incident ID
Information	Print trigger event report	Printed trigger event report for Patient ID: {Incident ID}, transmission ID: {Transmission ID} to printer name: {printer name}	The trigger event report was successfully sent to the printer queue. Check the queue for blocked printer jobs.
Error	Print trigger event report	Failed to print trigger event report for Patient ID: {Incident ID}, transmission ID: {Transmission ID} to printer name: {printer name}	Possible reasons for failure might be: Invalid patient data Missing Incident ID
Information	Print vitals trend report	Printed vitals trend report for Patient ID: {Incident ID}, transmission ID: {Transmission ID} to printer name: {printer name}	The patient vital trends report was successfully sent to the printer queue. Check the queue for blocked printer jobs.

Log Type	Action	Description	Possible Issues and Solutions
Error	Print vitals trend report	Failed to print vitals trend report for Patient ID: {Incident ID}, transmission ID: {Transmission ID} to printer name: {printer name}	Possible reasons for failure might be: Invalid patient vitals data Missing Incident ID
Information	Save 12-Lead	Saved 12-Lead for Patient ID: {Incident ID} with recorded time: {Date and time} imported from {Source} file name: {File name}	The 12-lead report was successfully saved to database. **Note:** HeartStart Telemedicine System uses Incident ID, Patient ID and acquired date and time to identify a duplicate ECG. If the 12-lead reports are duplicates, the newly arrived 12-lead report overwrites the older 12-lead report.
Error	Save 12-Lead	Failed to save 12-Lead. Missing Patient ID: {Incident ID}, imported from file name: {File name}	Possible reasons for failure might be: The 12-lead report is invalid. the 12-lead report is missing an Incident ID. **Note:** All MRx 12-lead reports contain a valid Incident ID, but 12-lead reports from other devices might not. Incident ID is required field for use in HeartStart Telemedicine System.
Error	Save 12-Lead	Failed to save 12-Lead. Missing recorded time: {Data and time} imported from file name: {File name}	Possible reasons for failure might be: The 12-lead report is invalid. The 12-lead or missing the date and time that 12-lead report was acquired.
Error	Save patient data	Failed to save the periodic clinical data transmission.	HeartStart Telemedicine Classic 12-Lead Edition does not support periodic clinical data transmissions.
Information	Save trigger event	Saved trigger event for Patient ID: {Incident ID}, transmission ID: {Transmission ID}	The trigger event and associated ECG successfully saved to database.
Error	Save trigger event	Failed to save trigger event for Patient ID: {Incident ID}, transmission ID: {Transmission ID}	Possible reasons for failure might be: The trigger event might be corrupted. The trigger event is missing the Incident ID or Transmission ID.
Error	Save trigger event	Failed to save trigger event, unsupported MRx version: {version number} imported from file name: {File name}	The trigger event might be generated from MRx version that is not supported by HeartStart Telemedicine System.

Log Type	Action	Description	Possible Issues and Solutions
Information	Save vital	Saved vital for Patient ID: {Incident ID}, transmission ID: {Transmission ID}	The patient vitals were saved to the database successfully.
Error	Save vital	Failed to save vital for IncidentID: {Incident ID}, transmission ID: {Transmission ID}	Possible reasons for failure might be: The patient vitals might be corrupted. The patient record might be missing the Incident ID or Transmission ID.
Information	Send 12-Lead	Sent 12-Lead for Patient ID: {Incident ID} with recorded time: {Date and Time} to application name: {folder name}	The 12-lead report was saved successfully to the destination folder.
Error	Send 12-Lead	Failed to send 12-Lead for Patient ID: {Incident ID} with recorded time: {Date and Time} to application name: {folder name}	Possible reasons for failure might be: The disk is full. The target folder is not accessible or does not have write permission.
Information	Send 12-Lead	Sent 12-Lead for Patient ID: {Incident ID} with recorded time: {Date and Time} to application name: {URL}	The 12-lead report was sent successfully to the destination URL.
Error	Send 12-Lead	Failed to connect to application name: {URL} for Patient ID: {Incident ID} with recorded time: {Date and Time}	Possible reasons for failure might be: The sender cannot access the internet. The destination URL is not ready to receive data. If destination is either HeartStart 12-Lead Transfer Station or HeartStart Telemedicine, check the test page http://<domainName>/ems/MRxPost.mrx?SourceName=test where <domainName> is the destination URL. If image shows, the destination is ready.
Error	Send 12-Lead	Rejected by application name: {URL} for Patient ID: {Incident ID} with recorded time: {Date and Time}	Possible reasons for failure might be: TraceMasterVue rejected the 12-lead report because the schema validation failed. Updated TraceMasterVue software might be required to support newer 12-lead report schema.
Information	Send patient data	Sent patient data for Patient ID: {Incident ID} to application name: {URL}	Successfully sent patient data to another HeartStart Telemedicine System

Log Type	Action	Description	Possible Issues and Solutions
Error	Send patient data	Failed to send patient data for Patient ID: {Incident ID} to application name: {URL}	Possible reasons for failure might be: The sender cannot access the internet. The destination is not ready to receive data. Check the test page: http://<domainName>/ems/MRxPost.mrx?SourceName=test where <domainName> is the destination URL. If image shows, the destination is ready.
Information	Start HeartStart Telemedicine Bluetooth Monitor	Started HeartStart Telemedicine Bluetooth Monitor	HeartStart Telemedicine successfully started HeartStart Telemedicine Bluetooth Monitor.
Information	Stop HeartStart Telemedicine Bluetooth Monitor	Stopped HeartStart Telemedicine Bluetooth Monitor	HeartStart Telemedicine successfully stopped HeartStart Telemedicine Bluetooth Monitor.
Information	Start HeartStart Telemedicine Service Manager	Started HeartStart Telemedicine Service Manager	Windows successfully started HeartStart Telemedicine Service Manager.
Information	Stop HeartStart Telemedicine Service Manager	Stopped HeartStart Telemedicine Service Manager	Windows successfully stopped HeartStart Telemedicine Service Manager.
Information	Start PDTSInboxMonitor	Started PDTSInboxMonitor	HeartStart Telemedicine or Windows successfully started PDTSInboxMonitor.
Information	StopPDTSInboxMonitor	Sopped PDTSInboxMonitor	HeartStart Telemedicine or Windows successfully stopped PDTSInboxMonitor.

8

Using Auto Send Lists

The primary function of HeartStart Telemedicine is to send 12-lead transmissions (12-lead reports) from HeartStart MRx Monitor/Defibrillator (HeartStart MRx) to one or more external destinations. HeartStart Telemedicine System can also process and store patient events and periodic vital trends from HeartStart MRx, which you can manually forward to another configured HeartStart Telemedicine.

In HeartStart Telemedicine, you can configure an Auto Send List to send 12-lead reports to multiple destinations at one time. Each destination name on HeartStart MRx can be a single destination on HeartStart Telemedicine or the name of an Auto Send List. If the name of the HeartStart MRx destination is the name of the Auto Send List, HeartStart Telemedicine sends the 12-lead report to each destination in the Auto Send List.

This section describes Auto Send Lists and how you can use an Auto Send List to send 12-lead reports from a HeartStart MRx to one or more destinations.

This section has the following topics:

Understanding Auto Send Lists

In HeartStart Telemedicine, an Auto Send List has a multi-dimensional use. You can configure an Auto Send List to send 12-lead reports to as many as 10 destinations. You can also configure as many as 20 Auto Send Lists on one HeartStart Telemedicine. For example: One Auto Send List can consist of only one destination. And, the same destination can also appear on 19 other Auto Send Lists.

You configure a destination individually and then assign it to an Auto Send List. During the Auto Send List configuration process, you can select one list to be the default Auto Send List. HeartStart Telemedicine sends the 12-lead report to the default Auto Send List when the site name for the HeartStart MRx hub does not match the name of a configured Auto Send List. For more information, see Sending a 12-Lead Report Automatically on page 61.

Sending a 12-Lead Report Automatically

You can use an Auto Send List to send a 12-lead report to as many as 10 destinations.

An Auto Send List can send a 12-lead report to the following types of destinations:

- HeartStart 12-Lead Transfer Station

- TraceMasterVue
- DatamedFT
- HeartStart Telemedicine
- Fax machine
- Printer
- Email address

NOTE In HeartStart Telemedicine, you can process and store 12-lead reports from HeartStart 12-Lead Transfer Station version 2.8 or later. However, you can only send encrypted 12-lead reports to the current version of HeartStart Telemedicine.

You can configure an Auto Send List to be the default list.

- If the HeartStart MRx hub name matches the name of a configured Auto Send List, HeartStart Telemedicine sends the 12-lead report to each destination in that Auto Send List.
- If the HeartStart MRx hub name does not match the name of a configured Auto Send List, HeartStart Telemedicine sends the 12-lead report to each destination in the configured default Auto Send List.
- If the default Auto Send List names another HeartStart Telemedicine as a destination, the originating default Auto Send List sends a 12-lead report to the HeartStart Telemedicine destination. The destination in turn sends the 12-lead report to each destination the default Auto Send List for that HeartStart Telemedicine.

If you do not configure a default Auto Send List and the HeartStart MRx hub does not match the configured Auto Send List, HeartStart Telemedicine adds the 12-lead report to the database. You can then use **Forward 12-Lead** to send the 12-lead report manually.

Sending a 12-Lead Report Manually

You can also send a selected 12-lead report manually to the following types of destinations:

- Auto Send List
- HeartStart 12-Lead Transfer Station
- TraceMasterVue
- DatamedFT
- HeartStart Telemedicine
- Fax machine
- Printer
- Email address

Use the File menu to send a selected 12-lead report. Use the **Forward Selected 12-Lead** menu option to send a selected 12-lead report to one of the configured Auto Send Lists or destinations.

Use the **Fax 12-Lead**, **Print Report**, and **Email PDF** menu options to send a selected 12-lead report to a fax machine, printer, or email address that is not configured as a destination in HeartStart Telemedicine. For more information, see the appropriate topic:

- Forwarding Patient Data on page 38
- Faxing 12-Lead Reports on page 40

- Printing Reports on page 48
- Emailing Patient Data on page 41

9

Configuring HeartStart Telemedicine System

This section is only for use when you log on to a HeartStart Telemedicine Server machine.

HeartStart Telemedicine provides the following services:

- Automatically processes and stores 12-lead reports from HeartStart MRx Monitor/Defibrillators (HeartStart MRx)
- Automatically sends 12-lead reports to multiple destinations through Auto Send Lists
- Processes, stores, and displays patient 12-lead reports, events and waveforms, and periodic vital trends as HeartStart Telemedicine receives it
- Supports manually sending 12-lead reports to a single destination, or to multiple destinations through an Auto Send List
- Supports manually sending events and waveforms, and periodic vital trends to a configured HeartStart Telemedicine
- Support printing and emailing patient data and selected transmissions

This section describes how to configure HeartStart Telemedicine to send 12-lead reports to multiple destinations at one time.

For information on how to complete the following tasks:

- Set up HeartStart Telemedicine Server machine, see Setting Up the HeartStart Telemedicine Monitoring Service on page 95
- Manually send 12-lead reports to destinations, see Working with HeartStart MRx Data on page 37
- Manage the configured destinations, see Managing Patient Data and Destinations on page 77

This section has the following topics:

- Managing Auto Send Lists on page 75

Configuring the System

Before you can process, store, and send 12-lead reports, you must specify how to store, fax, print, and email 12-lead reports. The installation process automatically installs the database server on the HeartStart Telemedicine Server machine for you.

NOTE The MSDE 2000 is the database that stores the 12-lead reports, events, periodic vital trends, and configuration information. It can store up to 2 GB of data. For information on how to estimate the number of days to save patient data, see Storage Requirements on page 99.

At any time, you can start and stop the Bluetooth Monitor feature from HeartStart Telemedicine Server. Bluetooth Monitor enables HeartStart Telemedicine to receive patient periodic clinical data transmissions automatically. The feature starts after you log on to HeartStart Telemedicine Server machine. You do not need to start HeartStart Telemedicine Server.

You can set up the HeartStart Telemedicine Monitoring Service to automatically start Bluetooth Monitor when you log on to the HeartStart Telemedicine Server machine. For more information, see Using the Bluetooth Monitor Feature on page 105.

Use the following topics to configure how HeartStart Telemedicine processes and stores HeartStart MRx data.

Configuring General Settings

Use the  **General Configuration** workspace to configure HeartStart Telemedicine.

By default, HeartStart Telemedicine formats 12-lead reports with grids and in the time sequential format, and saves 12-lead reports in the database for 30 days. The default paper size is “letter”. You can change these settings.

For information on how to change the paper size, see Selecting a Page Size on page 43.

For information on how to estimate the number of days, see Storage Requirements on page 99.

HeartStart Telemedicine displays a prompt when the reports are stored for the set number of days.

You can also specify the following for the Email and *Bluetooth* features:

- Send the email through a specific SMTP server
- Receive a reply email at a specific email address
- Password protect email attachments
- Specify the location of Bluetooth Exchange Folder
  The Bluetooth Monitor feature refers to the location of the Bluetooth Exchange Folder. The default Bluetooth Exchange Folder location is typically: C:\Documents and Settings\<user name>\My Documents\Bluetooth Exchange Folder.

CAUTION While you can change the location for the Bluetooth Exchange folder, do so only after careful planning and coordination with your organization. Change the Bluetooth Exchange Folder location in your Bluetooth vendor’s configuration before you change the Bluetooth Exchange Folder location in HeartStart Telemedicine. For more information, see Using the Bluetooth Monitor Feature on page 105.

To configure HeartStart Telemedicine

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **General Configuration**.
HeartStart Telemedicine displays the **General Configuration** workspace.

3 In **HeartStart Telemedicine Server**, type the name of the database or click **Change** to navigate to the database server on the Internet.

- If you select a database that is not on the HeartStart Telemedicine Server machine, set up the same printers for your machine logon and for the HeartStart Telemedicine database machine.
- If you need to set up a database on the Intranet, contact the IT person for the HeartStart Telemedicine site.

HeartStart Telemedicine opens the HeartStart Telemedicine Database Server window.

4 Select **Integrated Security** if the database is installed on your machine. Clear **Integrated Security** if the database is not installed on your machine.

5 Click **Save** to close the window.

6 In the 12-lead report area, select **Print with grid** to send the 12-lead reports to a fax machine, printer, or email address with grid lines.
Clear **Print with grid** when you use pre-printed grid paper.

7 In **12-lead layout**, select how to fax or print the 12-lead reports. The default is time sequential format.

- Select **Simultaneous** to fax or print the 12-lead reports in the simultaneous format. It is the preferred 12-lead report format used in the Europe.
- Select **Time sequential** to fax or print the 12-lead reports in the time sequential format. It is the preferred 12-lead report format used in the United States.

8 In **Previous history**, enter the number of days you want to save Patient records in the database. The default number of days is 30.
You can type a number or click the up and down arrows to change a number.
For information on how to estimate the number of days, see Storage Requirements on page 99.
For information on how to delete data, see Managing HeartStart Telemedicine Destinations on page 79.

9 In **SMTP server name**, type the IP address or name of the email server. HeartStart Telemedicine uses this setting for emails that are sent through an Auto Send List.
The SMTP server can be installed on HeartStart Telemedicine Server or another machine on the Intranet.

10 In **Reply email address**, type the return email address. HeartStart Telemedicine uses this setting for emails that are sent through an Auto Send List.

11 Select **Password protect attachment** to manually send an email attachment that is password protected.
HeartStart Telemedicine uses this setting when you manually send emails from the File menu.

12 On the File menu or toolbar, click **Save**.

Setting Up Application Destinations

In HeartStart Telemedicine, you can send a 12-lead report to an application destination.

Use the procedures in this topic to send 12-lead reports from HeartStart MRx to one or more of the following applications automatically through an Auto Send List or manually from the **Forward Selected 12-Lead** option.

- HeartStart 12-Lead Transfer Station
- TraceMasterVue
- DatamedFT
- HeartStart Telemedicine

If you use the TraceMasterVue or DatamedFT destinations, check with your sales representative to ensure that your version of these applications are compatible with HeartStart Telemedicine and HeartStart MRx.

Sending 12-Lead Reports to Applications

Use the  **Application Destinations** workspace to set up an application destination. An application destination requires a name and location.

To set up an application destination

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **Application Destinations**.
HeartStart Telemedicine displays the **Application Destinations** workspace.

3 On the File menu or toolbar, click **New**.

4 In **Name**, type a name for the application destination. For example, you might name the destination “Rosenberg hospital” or “Evergreen cath lab.”

5 In **Description**, you can type a brief description that describes the use of the application.
In **Type**, select one of the following applications from the list:

- HeartStart 12-Lead Transfer Station
- TraceMasterVue
- DatamedFT
  The DatamedFT software supports ECG hosts, such as GE MUSE.
- HeartStart Telemedicine

6 The label of the next field changes depending on the application type that you select.
In **URL** or **Location**, type the location for the application.
The location can be where the application is installed, network address for the application, or Internet address for the application. Refer to the example to the right of the field for the correct format.

7 If you select DatamedFT, type the location of the DatamedFT Inbox.
You can click **Browse** to navigate to the location of the DatamedFT Inbox. For example: c:\DatamedFT\Inbound. Click **OK** to add the location in the **Location** field.

8 On the File menu or toolbar, click **Save** to save the destination.

9 Repeat steps 2 through 8 to add application destinations.

Setting Up Fax Destinations

In HeartStart Telemedicine, you can send a 12-lead report using the Fax feature in the following ways:

- Sending a Fax from HeartStart MRx
- Sending a 12-Lead Report to Fax Machines

You can send 12-lead reports from HeartStart MRx to one or more fax machines automatically through an Auto Send List or manually from the **Forward Selected 12-Lead** option.

Use the procedures in the following topics to send 12-lead reports:

- Fax Option Requirements on page 69
- Configuring the Microsoft Fax Console on page 69
- Sending a Fax from HeartStart MRx on page 70
- Sending a 12-Lead Report to Fax Machines on page 70

Fax Option Requirements

To use the Fax feature in HeartStart Telemedicine, complete the following tasks:

- Connect HeartStart Telemedicine to a fax modem.
- Install Microsoft Fax Service on the HeartStart Telemedicine machine.
- Configure the retry settings in the Microsoft Fax Console window.
- Complete the fax settings using the **Auto Send Lists** workspace.

Configuring the Microsoft Fax Console

To ensure that faxed 12-lead reports are received in a timely manner, change the fax retry defaults in Windows Fax Console. Follow the steps below to minimize the number of retries and the amount of time between retries so that the fax queue does not fill up.

To set up Fax Console for Windows Server 2003

1 From the HeartStart Telemedicine machine, log on as the user who will run HeartStart Telemedicine as either a console application or as a service.

2 From the Windows Start menu, click **All Programs** > **Accessories** > **Communications** > **Fax** > **Fax Console**.

3 On the left pane, right-click on **Fax (Local)**.

4 In the Fax Console window, click **Properties.**

5 In the Fax (Local) Properties window, click **Outbox**.

6 In **Number of retries**, enter 2.

7 In **Retry after**, enter 0 or 1.

8 On the File menu in the Fax Service Manage window, click **Exit**.

9 On the Tools menu in the Fax Console window, click **Fax Printer Configuration**.

10 Click the **General** tab, and then **Printing Preferences**.

11 In the Fax Printing Preferences window, select **Landscape**, and then click **OK**.

12 Click **OK** to close the Fax Properties window.

13 On the File menu in the Fax Console window, click **Exit**.

To set up Fax Console for Windows XP

1 From the Windows Start menu, click **Printers & Faxes**.

2 On the right pane, right-click on the Fax printer and click **Properties**.

3 In the Fax Properties window, click **Devices**, and then **Properties**.

4 Click the **Send** tab.

5 In **Number of retries,** enter 2.

6 In **Retry after**, enter 0 or 1.

7 Click **OK**.

8 In the Fax Properties window, click the **General** tab, and then click **Printing Preferences**.

9 In the Fax Printing Preferences window, select **Landscape**, and then click **OK**.

10 In the Fax Properties window, click **OK**.

11 On the File menu in the Fax Console window, click **Exit**.

Sending a Fax from HeartStart MRx

You can send 12-lead reports directly from HeartStart MRx through HeartStart Telemedicine. Select **Fax** as the Site Type in the HeartStart MRx configuration screens. You do not need to configure any settings on the HeartStart Telemedicine. The HeartStart MRx routing file contains the dialing information.

It is important that the HeartStart MRx user knows the dialing rules for the HeartStart Telemedicine machine. For example, does the HeartStart Telemedicine machine need to dial a 9 for an outside line or a 1 in addition to the number? If it does, the number sent by the HeartStart MRx must include these digits.

Sending a 12-Lead Report to Fax Machines

Use the  **Auto Send Lists** workspace to send 12-lead reports to one or more fax machines automatically. HeartStart Telemedicine does not list fax numbers that you might have added to the address book for Microsoft Fax Console.

You use the  **Fax Destinations** workspace to add each phone number to the **Fax** list. A fax destination requires a name and a fax number.

To add a fax machine to the Fax list

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **Fax Destinations**. HeartStart Telemedicine displays the **Fax Destinations** workspace.

3 On the File menu or toolbar, click **New**.

4 In **Name**, type a name for the fax destination. For example, you might name the destination "Rosenberg hospital fax" or "Evergreen cath lab fax."

5 In **Description**, you can type a brief description that describes the use or location of the fax machine.

6 In **Fax number**, type the phone number for the fax machine.

7 On the File menu or toolbar, click **Save** to save the destination.

HeartStart Telemedicine displays the fax destination in the Summary area.

8 Repeat steps 2 through 7 to add fax machines.

Setting Up Printer Destinations

In HeartStart Telemedicine, you can set up one or more of the printers to send 12-lead reports automatically through an Auto Send List. You can also set up a default printer for the HeartStart Telemedicine machine.

All printers must be on the same network as HeartStart Telemedicine. You must define each printer in Windows. If you use a database that is not on the HeartStart Telemedicine machine, you must set up the same printers for your machine login and for the HeartStart Telemedicine machine.

Use the procedures in the following topics to configure a printer for the following uses:

- Manually print a report from HeartStart Telemedicine.
- Automatically print *a specific report* sent from HeartStart MRx to the printers listed in the Auto Send List
- Automatically print *all reports* sent from HeartStart MRx to the printers listed in the Auto Send List

To send 12-lead reports to a printer directly from HeartStart MRx, you must define the printer in Windows.

Use the following topics to set up printers for use with HeartStart Telemedicine:

- Adding a Printer in Windows on page 71
- Sending 12-Lead Reports from HeartStart MRx on page 72
- Sending 12-Lead Reports to Printers on page 72

Adding a Printer in Windows

The first step is to add a printer in the Windows operating system.

To add a printer to the Windows operating system

1 From the Windows **Start** menu, click **Printers and Faxes**.

2 In the Printers and Faxes window, select **Add a printer** on the left pane. Windows displays the Add Printer Wizard window.

3 Follow the on-screen instructions.

4 Repeat steps 1 through 3 to add printers.

After you add printers in Windows, add each printer in HeartStart Telemedicine. For more information, see To add printers to the Auto Send List on page 72.

Sending 12-Lead Reports from HeartStart MRx

To send 12-lead reports to a printer directly from HeartStart MRx, you must define the printer in Windows. For more information, see Adding a Printer in Windows on page 71.

Sending 12-Lead Reports to Printers

To automatically send 12-lead reports to a printer or multiple printers, complete the following tasks:

- Select the print style on the **General Configuration** workspace.
- Select the page size on the View menu.
- Select the printers to add to or remove from the Auto Send List on the **Auto Send Lists** workspace. For more information, see Selecting a Page Size on page 43.

To display the Administration pane

- On the navigation pane, click the **Administration** navigation button.

To select the print style

1. On the **Administration** navigation pane, click **General Configuration**.
2. On the **General Configuration** workspace, complete the fields in the 12-lead report area. For more information, see Configuring the System on page 66.
3. On the File menu or toolbar, click **Save**.

To add printers to the Auto Send List

1. On the **Administration** navigation pane, click **Auto Send Lists**.
2. On the File menu or toolbar, click **New**.
3. On the **Auto Send Lists** workspace, select or type an Auto Send List name in the **Name** field.
4. In **Destinations**, select a printer name from the list. If the printer you want is not in the list, see Adding a Printer in Windows on page 71.
5. Repeat step to add printers to the Auto Send List. HeartStart Telemedicine will automatically send all 12-lead reports to the printers you chose in **Destinations**.
6. On the File menu or toolbar, click **Save**.

To remove printers from the Auto Send List

1. On the **Administration** navigation pane, click **Auto Send Lists**.
2. In the Summary area, select the Auto Send List that you want to edit.
3. In **Destinations,** clear the check box for the printer you want to remove from the Auto Send List.
4. On the File menu or toolbar, click **Save** to save the Auto Send List.
5. Repeat step 2 and 4 to remove additional printers from the Auto Send List.

Setting Up Email Address Destinations

In HeartStart Telemedicine, you can send a 12-lead report using the Email PDF feature. You can send 12-lead reports from HeartStart MRx to one or more email addresses automatically through an Auto Send List or manually from the **Forward Selected 12-Lead** option. For more information, see Sending 12-Lead Reports to Email Addresses on page 73.

Use the following topics when you are logged on to the HeartStart Telemedicine Server machine:

- Email Requirements on page 73
- Sending 12-Lead Reports to Email Addresses on page 73

Email Requirements

To use the Email feature in HeartStart Telemedicine, complete the following tasks:

- Install the email application on the HeartStart Telemedicine. For more information, see the instructions for your email application.
- Install the SMTP server for use with IIS, if you want to email 12-lead reports through an Auto Send List. For more information, see Setting up Internet Information Services (IIS) on page 100.
- Configure the email settings on the **General Configurations** workspace. For more information, see Configuring the System on page 66.
- Complete the email settings using the **Email Destinations** workspace. For more information, see Sending 12-Lead Reports to Email Addresses on page 73.

Sending 12-Lead Reports to Email Addresses

Use the  **Auto Send Lists** workspace to send 12-lead reports to one or more email addresses. HeartStart Telemedicine does not list email addresses that you might have added to the email address book.

You use the  **Email Destinations** workspace to add each email address to the list in the Summary area. An email address destination requires a name and an email address.

You can also assign a password to the attached 12-lead report.

NOTE Make sure to tell the recipient the password you assign to an attachment in a separate communication or email.

To add an email address to the Email list

1 On the **Administration** navigation pane, click **Email Destinations**.
HeartStart Telemedicine displays the **Email Destinations** workspace.

2 On the File menu or toolbar, click **New**.

3 In **Name**, type a name that is associated for the email address. For example, you might name the destination “Rosenberg hospital email” or “Evergreen cath lab email.”

4 In **Description**, you can type a brief description that describes the use for the email address.

5 In **Add an email address**, type the email address. Refer to the example format to the right of “Add an email address.”

6 To email password protected 12-lead reports, select **Password for attachment** and type a password. HeartStart Telemedicine assigns the password to each 12-lead report that the Auto Send List sends to this email address.

7 On the File menu or toolbar, click **Save**.
HeartStart Telemedicine lists the destination in the Summary area.

8 Repeat steps 2 through 6 to add email addresses.

Configuring Auto Send Lists

HeartStart MRx can send a 12-lead report to one destination a time.

In HeartStart Telemedicine, an Auto Send List has a multi-dimensional use. You can configure an Auto Send List to send a 12-lead report to as many as 10 destinations.

You can also configure as many as 20 Auto Send Lists on one HeartStart Telemedicine. The name of the Auto Send List can be the user-assigned site name of the HeartStart MRx hub. You can provide a unique name and description for additional Auto Send Lists.

An Auto Send List can send a 12-lead report automatically to the following types of destinations:

- HeartStart 12-Lead Transfer Station
- TraceMasterVue
- DatamedFT
- HeartStart Telemedicine
- Fax machine
- Printer
- Email address

For each Auto Send List, you provide information to identify the list and specify the destinations that receive the 12-lead report. The Summary area of the **Auto Send Lists** workspace lists each destination that you add to the Auto Send List.

Using a Default Auto Send List

You can also configure an Auto Send List to be the default list from the **Administration** navigation pane. A default Auto Send List automatically sends 12-lead reports to the destinations specified in the list.

- If the HeartStart MRx hub name matches the name of a configured Auto Send List, HeartStart Telemedicine sends the 12-lead report to each destination in that Auto Send List.
- If the HeartStart MRx hub name does not match the name of a configured Auto Send List, HeartStart Telemedicine sends the 12-lead report to each destination in the configured default Auto Send List.
- If the default Auto Send List names another HeartStart Telemedicine as a destination, the originating default Auto Send List sends a 12-lead report to the HeartStart Telemedicine destination. The destination then sends the 12-lead report to each destination in the matching Auto Send List name or default Auto Send List.

You can use email as a notification service. Add an email address in the default Auto Send List. HeartStart Telemedicine sends an email to the email address each time the application receives a 12-lead report.

NOTE If you do not configure a default Auto Send List and the HeartStart MRx hub name does not match configured Auto Send Lists, HeartStart Telemedicine adds the 12-lead report to the database. You can then send the 12-lead report manually.

Creating an Auto Send List

You can use the  **Auto Send Lists** workspace to complete the following tasks:

- Name an Auto Send List
- Add destinations to the Auto Send List
- Remove destinations from the Auto Send List

TIP You can send the 12-lead report to as many as 20 Auto Send Lists on one HeartStart Telemedicine Server.

If you occasionally send 12-lead reports to a specific destination, use the appropriate option on the **Administration** navigation pane to configure the destination. For more information, see Managing HeartStart Telemedicine Destinations on page 79. The destination appears in the Forward lists. The **Forward** option is available on the File menu and toolbar.

To create an Auto Send List

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **Auto Send Lists**.

3 On the File menu or toolbar, click **New**.

4 In **Name**, type a name. The HeartStart MRx can use this name when specifying a destination.

5 In **Description**, type a brief description of the destinations or use of the Auto Send List.

6 Select **Set as the default Auto Send List** to use the Auto Send List as the default list.
If the HeartStart MRx hub name does not match the name of a configured Auto Send List, HeartStart Telemedicine sends the 12-lead report to each destination in the configured default Auto Send List.
If you do not configure a default Auto Send List and the HeartStart MRx hub name does not match the configured Auto Send Lists, HeartStart Telemedicine adds the 12-lead report to the database. You can then send the 12-lead report manually.

7 In **Destinations**, select the name of each destination that you want to add to the Auto Send List. You can assign as many as 10 destinations for the Auto Send List. For more information on how to configure a destination, see the following topics:

- Sending 12-Lead Reports to Applications on page 68
- Sending a 12-Lead Report to Fax Machines on page 70
- Sending 12-Lead Reports to Printers on page 72
- Sending 12-Lead Reports to Email Addresses on page 73

8 On the File menu or toolbar, click **Save**.
HeartStart Telemedicine adds the Auto Send List in the Summary area.

Managing Auto Send Lists

In HeartStart Telemedicine, you can manage an Auto Send List through the **Auto Send Lists** workspace on the **Administration** pane in the following ways:

- Add and delete individual destinations

- Add, edit, and delete destinations in Auto Send Lists
- Add, edit, and delete Auto Send Lists

To add an Auto Send List

◆ Complete the same steps that you used to configure an Auto Send List. For more information, see Creating an Auto Send List on page 75.

To edit an Auto Send List

You can add or delete a destination from the Auto Send List. To edit a destination, use the appropriate option on the **Administration** navigation pane. For more information, see Managing HeartStart Telemedicine Destinations on page 79.

TIP You can rename the default Auto Send List from the HeartStart MRx to a more meaningful name.

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **Auto Send Lists**.

3 In the Summary area, select an Auto Send List.

4 In the Details area, change each setting that you want to edit.

5 To add a destination, select the appropriate destination type in **Destinations**.

6 To delete a destination, clear the check box for the destination in **Destinations.**

7 On the File menu or toolbar, click **Save.**

HeartStart Telemedicine updates the Auto Send List in the Summary area.

To delete an Auto Send List

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **Auto Send Lists**.

3 In the Summary area, select the name of the Auto Send List.

4 On the File menu or toolbar, click **Delete**.

5 Click **Yes** to delete the Auto Send List or **No** to cancel the deletion.

6 Repeat steps 2 through 4 to delete additional Auto Send Lists.

7 On the File menu or toolbar, click **Save.**

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Managing Patient Data and Destinations

This section is only for use when you log on to a HeartStart Telemedicine Server machine.

In HeartStart Telemedicine you can import and manage the patient data saved in the database. Patient data from HeartStart MRx can include 12-lead report, trigger event and waveform, and periodic vital trend transmissions.

You can also manage the configured destinations that were set up using the options available on the **Administration** navigation pane.

This section has the following topics:

Importing HeartStart MRx Data

If you receive HeartStart MRx 12-lead reports data on a data card, you can use HeartStart Telemedicine to import the data.

TIP If you configured HeartStart Telemedicine with a default Auto Send List, HeartStart Telemedicine automatically sends the imported 12-lead reports to all the destinations in the default Auto Send List. If you do not want HeartStart Telemedicine to send an imported 12-lead report to a destination, clear the check box for the destination in **Destinations.** For more information, see Managing Auto Send Lists on page 75.

You can import reports using the following sources:

Importing 12-Lead Reports from a HeartStart MRx Data Card

When you insert a HeartStart MRx card into the card reader, HeartStart Telemedicine automatically detects the card and begins to process the data.

HeartStart Telemedicine searches the card for a 12-lead folder. It displays a message informing you of the number of 12-lead reports in the folder and asks if you want to import the 12-lead reports. Click **Yes** to import all 12-lead reports in the folder. Click **No** to cancel the process.

You cannot select specific 12-lead reports. After the import is complete, you can delete any unwanted 12-lead reports from the **Patients** pane or workspace. For more information, see To delete a patient record on page 78.

After HeartStart Telemedicine imports or you reject to import the 12-lead reports, HeartStart Telemedicine searches for another folder. When HeartStart Telemedicine finds a folder, the application repeats the process for each folder.

Importing 12-Lead Reports from Additional Sources

Use the **Import** option to import a 12-lead report manually from other sources, such as additional data cards, memory sticks, or another location.

To import and display a 12-lead report

1 Insert the data card into the appropriate reader.

2 Click the **Patients** navigation button.

3 On the File menu or toolbar, click **Import**. HeartStart Telemedicine displays the Windows standard Open window.

4 Navigate to the location of the 12-lead report.

5 Click the 12-lead report name.

6 Click **Open**. HeartStart Telemedicine displays the 12-lead report on the **Patients** pane.

7 Double-click the 12-lead report on the **Patients** pane.
HeartStart Telemedicine lists the 12-lead report in the **12-Lead** pane.

Deleting Patient Data

You can manage the patient data saved in the database. You can delete a selected patient record on the **Patients** navigation pane and on the **View All Patients** workspace manually. Patient data can include all the 12-lead report, trigger event and waveform, and periodic vital trend transmissions associated with the patient record.

By default, HeartStart Telemedicine keeps 12-lead report entries for 30 days. You can change this setting on the **General Configuration** workspace available from the **Administration** navigation pane. After the set number of days expire, HeartStart Telemedicine displays a prompt when you start the software. HeartStart Telemedicine does not automatically delete the entries from the database.

To delete a patient record

1 On the navigation pane, click the **Patients** navigation button.

2 Use one of the following methods to select a patient record:

- On the **Patients** navigation pane, click a patient record.

- On the **Patients** navigation pane, click **View All Patients** to display the list of all patient records. Then, click a patient record.

3 On the File menu or toolbar, click **Delete**.

4 Click **Yes** to delete the patient record; **No** to cancel the process.

When you delete the selected data, HeartStart Telemedicine deletes all the data associated with the selected patient record.

Managing HeartStart Telemedicine Destinations

You can add and edit destinations without attaching the destination to an Auto Send List. You can also remove the destination from the Auto Send List.

Use the appropriate option on the **Administration** navigation pane to add, edit, and delete individual destinations.

To manage a destination

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click a destination option.

HeartStart Telemedicine displays the appropriate workspace for the type of destination.

Managing Applications

Use the procedures in this topic to add, edit, or delete application destinations on the **Application Destinations** workspace.

To manage applications

◆ On the navigation pane, click the **Administration** navigation button.

To add an application

◆ Complete the same steps as you used to set up an application destination. For more information, see To set up an application destination on page 68.

To edit an application

You can change the name, description, type, and location of the destination. When you change the fields in the Details area, HeartStart Telemedicine updates the current destination.

1 On the Administration navigation pane, click **Application Destinations**.

2 On the **Application Destinations** workspace, select a destination name from the Summary area.

3 In the Details area, change each settings that you want to edit.

4 On the File menu or toolbar, click **Save**.

HeartStart Telemedicine updates the destination to the Summary area.

5 Repeat steps 1 through 4 to edit another application destination.

To delete an application

When you delete an application destination, you remove the destination from the HeartStart Telemedicine database and Auto Send List.

1 On the **Application Destinations** workspace, select a destination name from the Summary area.

2 On the File menu or toolbar, click **Delete**.

3 Click **Yes** to delete the destination or **No** to cancel the process.

4 Repeat steps 1 and 2 to delete another application destination.

Managing Fax Machines

Use the procedures in this topic to add, edit, or delete fax machines on the **Fax Destinations** workspace.

To manage fax machine destinations

◆ On the navigation pane, click the **Administration** navigation button.

To add a fax machine destination

1 On the **Administration** navigation pane, click **Fax Destinations**.

2 In **Name**, type a name for the fax destination. For example, you might name the destination "Rosenberg hospital fax" or "Evergreen cath lab fax."

3 In **Description**, type a brief description that describes the use or location of the fax machine.

4 In **Fax number**, type the phone number for the fax machine. Refer to the example phone format to the right of "Fax number."

5 On the File menu or toolbar, click **Save**.

6 Repeat steps 2 through 5 to add another fax machine to the Summary area.

To edit a fax machine destination

You can change the name, fax number, and description for a fax machine. When you change a field, HeartStart Telemedicine updates the current destination in the Summary area.

1 On the **Administration** navigation pane, click **Fax Destinations**.

2 On the **Fax Destinations** workspace, select a destination name from the Summary area.

3 In the Details area, change each settings that you want to edit.

4 On the File menu or toolbar, click **Save**.

5 Repeat steps 2 through 4 to edit another fax machine destination.

To delete a fax machine destination

When you delete a fax machine destination, you remove the destination from the HeartStart Telemedicine database and Auto Send List.

1 On the **Administration** navigation pane, click **Fax Destinations**.

2 On the **Fax Destinations** workspace, select a destination name from the Summary area.

3 On the File menu or toolbar, click **Delete**.

4 Click **Yes** to delete the destination or **No** to cancel the process.

5 Repeat steps 1 through 4 to delete another fax destination.

Managing Printers

You can add or remove a printer for use in HeartStart Telemedicine from Windows.

You can also add or remove a printer from an Auto Send List.

For more information, see the following topics:

- Adding a Printer in Windows on page 71
- Sending 12-Lead Reports to Printers on page 72
- To edit an Auto Send List on page 76

Managing Email Addresses

Use the procedures in this topic to add, edit, or delete email addresses on the **Email Destinations** workspace.

To manage email addresses

- On the navigation pane, click the **Administration** navigation button.

To add an email address destination

1. On the **Administration** navigation pane, click **Email Destinations**.
2. In **Name**, type a name for the email address. The name must be the name that is associated with the email address. For example, you might name the destination “Rosenberg hospital” or “Evergreen cath lab.”
3. In **Description,** type a brief description that describes the use or location of the email address.
4. In **Add email address**, type the email address.
5. To email password protected 12-lead reports, select **Password for attachment** and type a password.
6. On the File menu or toolbar, click **Save**.
7. Repeat steps 2 through 6 to add another email address to the Summary area.

To edit an email address destination

You can change the name, description, email address, and Auto Send List name for an email address destination. You can also enable or disable a password. When you change the a field, HeartStart Telemedicine updates the current destination.

1. On the **Administration** navigation pane, click **Email Destinations**.
2. On the **Email Destinations** workspace, select a destination name from the Summary area.
3. On the Details area, change each settings that you want to edit.
4. On the File menu or toolbar, click **Save**.
5. Repeat steps 2 through 4 to edit another fax machine destination.

To delete an email address destination

When you delete an email address destination, you remove the destination from the HeartStart Telemedicine database.

1 On the **Administration** navigation pane, click **Fax Destinations**.

2 On the **Email Destinations** workspace, select a destination name from the Summary area.

3 On the File menu or toolbar, click **Delete**.

4 Click **Yes** to delete the destination or **No** to cancel the process.

5 Repeat steps 1 through 4 to delete another fax destination.

A

Installing HeartStart Telemedicine

You can install HeartStart Telemedicine System 4.0 (HeartStart Telemedicine) as a new installation. You can install and run the new version for 60 days while you purchase a license. HeartStart Telemedicine stops working if you do not activate the software within 60 days of installation.

You can install HeartStart Telemedicine System on the HeartStart 12-Lead Transfer Station 3.0 machine. If you do, HeartStart Telemedicine migrates the HeartStart 12-Lead Transfer Station 3.0 database to HeartStart Telemedicine. However, HeartStart Telemedicine does not migrate TraceMaster data.

If you used TraceMaster as a destination in a previous version of HeartStart 12-Lead Transfer Station, check with your sales representative to upgrade to TraceMasterVue.

NOTE HeartStart Telemedicine System can have two types of installations: HeartStart Telemedicine Server and HeartStart Telemedicine Viewer. Philips Healthcare strongly recommends that you install the HeartStart Telemedicine Server on the Windows 2003 Server and install the HeartStart Telemedicine Viewer on the Windows XP SP3 or later machine.

HeartStart Telemedicine Viewer connects to the HeartStart Telemedicine database through a local area network (LAN). When you start HeartStart Telemedicine Server, you can configure and manage the HeartStart Telemedicine system. When you start HeartStart Telemedicine Viewer, you can edit patient data, view data, and manually forward data to configured destinations. You cannot change the system configurations.

Philips Healthcare recommends that Information Technology (IT) personnel install and configure the HeartStart Telemedicine system. To understand the transmission options, read *Data Transmission Implementation Guide*, which is included with the HeartStart MRx Monitor/Defibrillator or your upgrade package. *Data Transmission Implementation Guide* provides information about implementing the complete solution.

The information in the *Data Transmission Implementation Guide* and *HeartStart Telemedicine System User Guide* assume that an IT professional performs the installation and configuration tasks. The information in these guides highlight only the configuration required to support HeartStart Telemedicine. Please refer to Microsoft documentation for all Internet connection, operating software installation, and configuration details.

HeartStart Telemedicine Server requires a static IP address that is connected to the Internet, to Internet Information Services (IIS), and to a database. The connection to the Internet must be on at all times. If you use Web Service, confirm that IIS is installed and running before you install HeartStart Telemedicine. Configure the HeartStart Telemedicine system as an Application Server and install Internet Information Services (IIS). The Internet Service Provider (ISP) must allow communication on TCP Port 80.

- For full details about hardware and software requirements, see System Requirements on page 84.
- For help with downloading and installing HeartStart Telemedicine, see Downloading the Application on page 88.
- For more information about installing the HeartStart Telemedicine services, see Setting up Internet Information Services (IIS) on page 100.

This section includes the following topics:

Before You Begin

Before you install HeartStart Telemedicine System, confirm that the following components are set up.

- Confirm that a static IP address is assigned to HeartStart Telemedicine Server and connected to the Internet.
- Confirm that the Internet connection is on all the time.
- Confirm that each HeartStart Telemedicine Viewer machine connects to the network.
- Confirm that HeartStart Telemedicine Server and HeartStart Telemedicine Viewer machines are set up according to the instructions in HeartStart Telemedicine System Set Up Requirements on page 96.
- Confirm that IIS is installed and running on HeartStart Telemedicine Server. For more information, see Setting up Internet Information Services (IIS) on page 100.
- Confirm that the Internet Service Provider (ISP) allows inbound communication on TPC port 80.

System Requirements

HeartStart Telemedicine operates on a computer running a Microsoft® Windows 2003 server SP2 or later, or Microsoft® Windows XP Professional SP 3 or later operating system. Please be sure that any hardware you choose is certified as Microsoft compatible.

Confirm that your hardware and software support the following minimum system requirements.

This table has the following sections:

- Software Requirements
- Hardware Requirements
- Accessories

System Requirements

Component	Requirements
Software Requirements	
Operating system	For HeartStart Telemedicine Server: Required: Microsoft Windows Server 2003 SP 2 or later
	For HeartStart Telemedicine Viewer: Required: Microsoft Windows XP Professional SP 3 or later
Server software	For HeartStart Telemedicine Server: To configure the HeartStart Telemedicine system, database, and web service IIS Server 6.0 or later for Windows 2003 server, included with 2003 Server Standard Edition IIS Server 5.1 or later for Windows XP Pro, included with XP Pro
Browser	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: Recommended: Microsoft Internet Explorer 7.0 or later
Hardware Requirements	
Processor speed	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: Minimum: 1 GHZ or higher
Display	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: Minimum: 1024 x 768 Recommended: 1280 x 1024 or higher
Memory	For HeartStart Telemedicine Server: Minimum: 2 GB
	For HeartStart Telemedicine Viewer: Minimum: 1 GB
Disk storage space	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: Required: 2 GB of available disk space for database storage Hard disk space requirements vary depending on usage. Variables affecting disk space requirements include the number of HeartStart MRx patient cases archived and the number of years to store data. Philips Healthcare recommends to back up your data and store the data at an off site location. For more information, see Storage Requirements on page 99.
CD-ROM drive	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: Required

System Requirements

Component	Requirements
Internet connection	For HeartStart Telemedicine Server: To activate the application software To forward patient transmissions to destinations To receive software updates and send email To connect with HeartStart MRx and to HeartStart Telemedicine Server on the local area network (LAN)
	For HeartStart Telemedicine Viewer: To forward patient transmissions to destinations To send email To connect to the HeartStart Telemedicine database and HeartStart Telemedicine Server machines
Telephone line	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: To fax patient data to destinations and dial in to the Internet Required: 1 analogue telephone line
Pointing device	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: To navigate throughout the application; for example: a mouse or tablet stylus Required
Accessories	
PDF Reader	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: To view *HeartStart Telemedicine System User Guide* Recommended: Adobe Reader, latest version. For more information, see the following website: www.adobe.com
Back up and restore tool	For the HeartStart Telemedicine Server: To prevent data loss
Email application	For HeartStart Telemedicine Server: To send email through an Auto Send List Recommended: SMTP server or relay To activate the software or to send patients using email, configure a MAPI-compliant email client Recommended: Microsoft® Outlook or Microsoft® Outlook Express
	For HeartStart Telemedicine Viewer: To activate the software or to send patients using email, configure a MAPI-compliant email client Recommended: Microsoft® Outlook or Microsoft® Outlook Express
Fax modem	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: To fax patient data to destinations Recommended

System Requirements

Component	Requirements
Printer	For HeartStart Telemedicine Server and HeartStart Telemedicine Viewer: To print 12-lead and periodic vital trends reports Required
Bluetooth® adapter	For HeartStart Telemedicine Server: To transfer HeartStart MRx patient data using *Bluetooth* wireless transfer
Bluetooth stack	For HeartStart Telemedicine Server: To transfer patient periodic clinical data from HeartStart MRx to your computer *Bluetooth* Version: 1.1 or higher • Windows XP: Microsoft Bluetooth stack • Windows XP: Widcomm Bluetooth stack 5.1 *Bluetooth Class* 1 maximum transmission range: 100 meters, approximately 300 feet. The transmission range is dependent upon the transmission range of the lowest class *Bluetooth* device. Most *Bluetooth* devices are Class II with a maximum transmissions range of up to 10 meters, approximately 33 feet. Required

Philips Healthcare recommends that you store backup information at a separate location on an installed tape or other backup device. You should have a plan for recovering information in the case of a software or hardware failure.

Microsoft Windows references and catalogues

- URL to Windows XP Pro requirements:
  http://www.microsoft.com/windowsxp/pro/evaluation/sysreqs.mspx
- URL to Windows 2003 Server requirements:
  http://www.microsoft.com/windowsserver2003/evaluation/sysreqs/default.mspx
  Use the “Standard Edition” column.
- Link to Windows catalogues:
  http://www.microsoft.com/whdc/hcl/default.mspx
  Lists compatible hardware and software for Windows XP and Windows 2003 servers.

Configuring Microsoft Fax Console

HeartStart Telemedicine can fax 12-lead reports automatically to fax machines set up in HeartStart Telemedicine. Users can also fax a selected 12-lead report manually to a fax machine. Fax users should configure the Microsoft Fax Console for landscape printing.

Configure Microsoft Fax Console for the same account that runs the HeartStart Telemedicine service.

- If you run HeartStart Telemedicine as a service, this “account” must configure the Fax Console.
- If you run HeartStart Telemedicine as a console application, the user who is logged on must configure the fax printer.

For more information, see Running HeartStart Telemedicine Service Manager as a Service on page 101.

To configure Microsoft Fax Console

Complete the following steps for each HeartStart Telemedicine Server and HeartStart Telemedicine Viewer machine. You might need the operating system installation CD.

1 From the Windows Start menu, click **Control Panel**, and then **Printers and Faxes**.

2 Double-click **Fax** to display the Fax Console window.

3 On the Tools menu, click **Fax Printer Configuration**.

4 Click the **General** tab.

5 Click **Printing Preferences** and select **Landscape Orientation**.

6 Click **OK** to close the Fax Printing Preference window.

7 Click **OK** to close the Fax Properties window.

8 On the File menu, click **Exit**.

If the fax printer clips portions of the 12-lead report, consult your fax machine user's manual for the subject "Reducing Faxes to Fit," "Image Resizing," or "Scaling." This item is most often located on the menu under Fax options, Incoming faxes.

Downloading the Application

You can download and use HeartStart Telemedicine System on a trial basis for 60 days before purchasing and activating the software.

Important Note

When you download HeartStart Telemedicine, save the application on the HeartStart Telemedicine machine. You can also save the application on a CD, DVD, or other media such as a USB memory stick or secure digital (SD) data card.

CAUTION You cannot run HeartStart 12-Lead Transfer Station 3.0 and HeartStart Telemedicine System 4.0 on the same machine. If you are using HeartStart Telemedicine on a trial basis, install HeartStart Telemedicine on a machine other than the machine with HeartStart 12-Lead Transfer Station 3.0 installed. When you are ready to activate HeartStart Telemedicine, uninstall the application on the evaluation machine and install it on the HeartStart 12-Lead Transfer Station 3.0 machine.

Downloading an Update

If you are a current HeartStart Telemedicine application user, you can use the Check for Updates feature that is available on the Help menu. If you are a HeartStart 12-Lead Transfer Station user, you cannot download HeartStart Telemedicine from the HeartStart 12-Lead Transfer Station 3.0 Help menu. For more information, see Downloading HeartStart Telemedicine on page 89.

If you install an upgrade version of HeartStart Telemedicine, the installation process migrates the previous configuration for the new release. For more information, see HeartStart Telemedicine System Set Up Requirements on page 96.

Before you install the application software on the machine, make sure that you have Windows Administrator privileges for the machine.

To download the update

1 Open the application that you want to upgrade.

2 On the Help menu, click **Check For Updates.**
The application connects to the website.

3 Click **Show Updates.**
The website displays a list of available updates.

4 Click **Get Update** for the application.

5 Click **Download**.
Note the name and location of the download.

6 When the file finishes downloading, close the Update Service window.

7 Close the older version of the application.

Downloading HeartStart Telemedicine

You can download the application that you purchase or receive from your sales representative. Use the instructions that you receive to download the application from the Internet. Save the application file to your computer. You can use the application on a trial basis and activate the software later.

To download the application

1 Close all currently running programs, including virus checkers.

2 Start Windows.

3 Start Internet Explorer.

4 Navigate to the URL provided on your Proof of Purchase Certificate or by your sales representative.

5 On the left pane, select the product.

6 On the right pane, click the link in **Software Download**.

7 Navigate to the download link.

8 Save the installation file to your machine. You can also save the application on a CD, DVD, or other media such as a USB memory stick or secure digital (SD) data card.

Installing HeartStart Telemedicine

You can install the software from the file that is saved on your computer or saved on a CD, DVD, or other media such as a USB memory stick or secure digital (SD) data card.

The HeartStart Telemedicine installation process migrates the previous version but keeps the database.

The person who installs HeartStart Telemedicine has the HeartStart Telemedicine administrator role by default.

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

To install the HeartStart Telemedicine software

1 Navigate to the directory where you saved the downloaded installation file with the *exe* extension.

2 Double-click installation file.

3 Read the on-screen messages. Follow the on-screen instructions.

Starting the Application

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

The features that you can use depend on the location where you log on to the HeartStart Telemedicine machine. If you start HeartStart Telemedicine at the HeartStart Telemedicine Server machine, HeartStart Telemedicine displays the Administration features. If you start HeartStart Telemedicine at the HeartStart Telemedicine Viewer machine, HeartStart Telemedicine does not display the configuration features on the Administration pane. Also, if you later connect HeartStart Telemedicine Server to a different HeartStart Telemedicine database, HeartStart Telemedicine does not display the configuration features on the Administration pane.

To start HeartStart Telemedicine

1 Click the Windows **Start** button.

2 Click **All Programs**.

3 Click **Philips HeartStart Telemedicine System 4.0**.

4 Click **Telemedicine**.

HeartStart Telemedicine displays the **Getting Started** pane and workspace.

NOTE The first time you start the application, HeartStart Telemedicine displays the Philips HeartStart Activation Wizard. HeartStart Telemedicine keeps track of the number of days before the pre-registration period expires. HeartStart Telemedicine **stops working if you do not activate the software within 60 days of installation.**

Activating the Software

After you install the software, activate the product. Activation is a Philips Healthcare antipiracy technology designed to verify that software products are licensed legitimately. The activation process migrates the data for the previous version to the current installation. Depending on your data, the migration might take a few minutes. For more information, see Installing HeartStart Telemedicine on page 89.

You can use the Internet or email to activate the software within 60 days after you install the application. Until you complete the activation, you will see the Philips HeartStart Activation Wizard window when the application starts.

NOTE Save the serial number in a safe place that you can access in case you need to re-install the software.

Email activation support is available in English only at: activation.support@philips.com

Email product support is available in English only at: telemedicine.support@philips.com

For telephone support in English only, you can call the following numbers between 9:00 AM and 5:00 PM, Pacific Time:

- 1 (800) 263-3342, inside the United States
- 01 (206) 664-7745, outside the United States

This topic includes the following methods:

Activate Over the Internet

You can activate the software by the Internet when you first install the application or within 60 days of installation.

The activation wizard sends encrypted information to the Philips server to validate that the serial number you enter has not already been used for the allowed number of installations and to activate your software. If you are not connected to the Internet, the wizard alerts you that there is no connection.

To activate the software by the Internet

1 Start the application.
The application opens HeartStart Activation Wizard.

2 Type the serial number that you received. Do not type the activation code.

3 Click **I want to activate the software over the Internet**.

4 Click **Activate**.
The wizard starts the application.

Activate by Email

You can request to activate the software by email after you first install the application or within 60 days of installation. The email activation involves exchanging emails with Philips Customer Support. The activation wizard attaches an encrypted file when it sends the activation request. Customer Support sends the activation code.

An email application must be installed on this machine or you must have access to an installed email application. You can continue to use the software for up to 60 days before you complete the activation.

If an email application is not installed on this machine, you can contact your sales representative or local sales office.

Email activation support is available in English only at: activation.support@philips.com

Email product support is available in English only at: telemedicine.support@philips.com

For telephone support in English only, you can call the following numbers between 9:00 AM and 5:00 PM, Pacific Time:

- 1 (800) 263-3342, inside the United States
- 01 (206) 664-7745, outside the United States

TIP The Activation Wizard online Help includes the steps on how to activate the software by email.

To activate the software by email

1 Start the application.
The application opens HeartStart Activation Wizard.

2 Type the serial number that you received.

3 Click **I want to activate the software by email**.

4 Click **Next.**

5 Click **Request Activation Code** to open your email application with a pre-addressed email activation request.

6 Click **Send**.
Customer Support will send you an email with the activation code.

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

1 Start the application.
The application opens the HeartStart Activation Wizard.

2 Verify or type the serial number that you received.

3 Click **I want to activate the software by email**.

4 Click **Next** to access the Activate by Email page.

5 Type the activation code in the **Enter your activation code here** field.

6 Click **Activate**.
The wizard validates your entry and displays a congratulations message.

7 Click **OK**.
The wizard starts the application.

Activate Later

If you do not want to activate your copy of the application when you start it, you can activate the software within 60 days when you start the application. At the end of the 60 days, you cannot download the application on the same machine.

During the 60 days, you can use the application and save your work.

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

To use the application without activating the software

1 Start the application.

2 When HeartStart Activation Wizard opens, click **Skip**.
The wizard starts the application.

Registering HeartStart Telemedicine

You can register your copy of the application to help Philips Healthcare to provide you with information and software updates. Registration is optional and not the same as the activation, which is required. You can register by the Internet.

To register the software

1 Start Windows.

2 Start Internet Explorer.

3 Navigate to the following URL http://www.medical.philips.com/main/products/resuscitation/software_registration/index.wpd

4 Select a language.

5 On the language page, select the product.

6 Complete the registration form.

Configuring HeartStart Telemedicine

You can complete the general configuration of the application machine now or at a later time. For more information, see Configuring the System on page 66.

If you install an upgrade version of HeartStart Telemedicine, the installation process migrates the previous configuration and data for the new release. For more information, see Setting Up the HeartStart Telemedicine Monitoring Service on page 95.

Configuring HeartStart Telemedicine Service Manager

By default, HeartStart Telemedicine Service Manager starts after HeartStart Telemedicine Server starts. HeartStart Telemedicine Service Manager can also run as a window service. For more information, see Running HeartStart Telemedicine Service Manager as a Service on page 101.

Uninstalling HeartStart Telemedicine

If you need to remove the application, use **Add/Remove Programs** in Windows Control Panel.

The removal process contacts the Philips activation server and releases your serial number for installation on another machine. The removal process will not remove the application database.

To uninstall HeartStart Telemedicine

1 Stop Bluetooth Monitor. Complete the following steps:

   a On the System tray, right-click the Bluetooth Monitor icon  .

   b Click **Exit HeartStart Telemedicine Bluetooth Monitor**.

   HeartStart Telemedicine stops Bluetooth Monitor and removes the icon from the system tray.

2 Stop the HeartStart Telemedicine services. Complete the following steps:

   a From the Start menu, click **Control Panel**.

   b Double-click **Administrative Tools**.

   c Double-click **Services.**

   d On the **Standard** tab, right-click **HeartStart Telemedicine Service Manager** and click **Stop**.

   e On the File menu, click **Exit**.

3 Remove HeartStart Telemedicine System. Complete the following steps:

a From the **Start** menu, click **Control Panel**.

b Click **Add or Remove Programs**.

c Click **HeartStart Telemedicine** and click **Remove.**

Product Compatibility

HeartStart Telemedicine supports HeartStart MRx Monitor/Defibrillator version B.04 or later for 12-lead reports only, and HeartStart MRx Monitor/Defibrillator version F.00 or later for 12-lead reports and periodic clinical data transmissions (PCDT).

HeartStart Telemedicine migrates HeartStart 12-Lead Transfer Station 3.0 data during the installation process. You can also import 12-lead reports from HeartStart 12-Lead Transfer Station 3.0 installations using a data card.

When you import data from HeartStart 12-Lead Transfer Station 3.0, the import process includes all the data and the 12-lead reports. However, HeartStart Telemedicine does not migrate TraceMaster data

If you use the TraceMasterVue or DatamedFT destinations, check with your sales representative to ensure that your version of these applications are compatible with HeartStart Telemedicine and HeartStart MRx.

B

Setting Up the HeartStart Telemedicine Monitoring Service

This section is only for use when you log on to a HeartStart Telemedicine Server machine.

This section provides an overview of setting up a machine to support the HeartStart Telemedicine System web service. Recommended security practices appear in the appropriate topics.

Philips Healthcare recommends that Information Technology (IT) personnel install and configure the HeartStart Telemedicine system. The information highlights only the configuration required to support HeartStart Telemedicine. Please refer to Microsoft documentation for all Internet connection, installation, and configuration details.

To understand the transmission options, read *Data Transmission Implementation Guide*, which is included with the HeartStart MRx Monitor/Defibrillator or your upgrade package. *Data Transmission Implementation Guide* provides information about implementing the complete solution.

NOTE HeartStart Telemedicine can have two types of installations: HeartStart Telemedicine Server and HeartStart Telemedicine Viewer. Philips Healthcare strongly recommends that you install the HeartStart Telemedicine Server software on the Windows 2003 Server and install the HeartStart Telemedicine Viewer software on the Windows XP SP3 or later machine.

HeartStart Telemedicine Viewer connects to the HeartStart Telemedicine database through a local area network (LAN). When you start HeartStart Telemedicine Server, you can configure and manage the HeartStart Telemedicine system. When you start HeartStart Telemedicine Viewer, you can edit patient data, view data, and manually forward data to configured destinations. You cannot change the system configurations.

HeartStart Telemedicine Server requires a static IP address that is connected to the Internet, to Internet Information Services (IIS), and to a database. The connection to the Internet must be on at all times. If you use Web Service, confirm that IIS is installed and running before you install HeartStart Telemedicine. Configure the HeartStart Telemedicine system as an Application Server and install Internet Information Services (IIS). If you do not use Web Service and do not use IIS, the installation displays an error message. Click **Ignore** to continue. The Internet Service Provider (ISP) must allow communication on TCP Port 80.

For more information, see the topic Setting up Internet Information Services (IIS) on page 100.

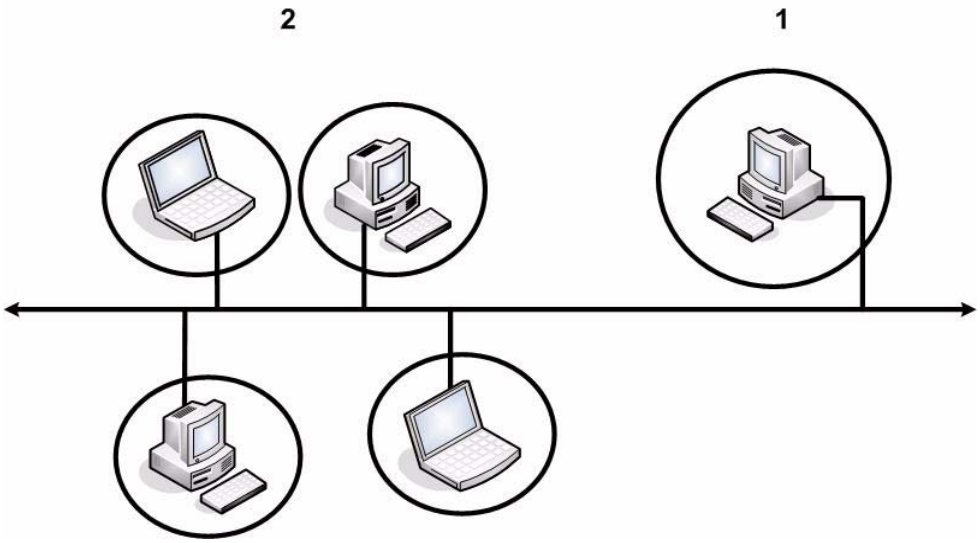
This section has the following topics:

HeartStart Telemedicine System Set Up Requirements

The HeartStart Telemedicine system requires specific tasks for HeartStart Telemedicine Server and HeartStart Telemedicine Viewer installations. This section highlights the tasks involved.

The location where the user logs on to HeartStart Telemedicine determines the available features. HeartStart Telemedicine Server is where the HeartStart Telemedicine database is installed. HeartStart Telemedicine Viewer is connected to the HeartStart Telemedicine database through the LAN.

Users who log on to HeartStart Telemedicine Server (1) and HeartStart Telemedicine Viewer (2) can view and forward HeartStart MRx patient data. However, only users who log on to HeartStart Telemedicine Server can configure the HeartStart Telemedicine system including destinations and Auto Send Lists.



To set up the HeartStart Telemedicine Server machine

1 Log on to the HeartStart Telemedicine Server machine.

2 Provide Internet connection services on the machine.

3 Install the operating system on the machine.

4 Install Microsoft Internet Information Services (IIS).

5 Install a modem, printer, and fax on the machine.

6 Install and set up the SMTP server relay.

7 Install and set up the *Bluetooth* software and appropriate adapter.

8 Download the HeartStart Telemedicine Server software.

You can also save the software on a CD, DVD, or other media such as a USB memory stick or secure digital (SD) data card.

9 Install the HeartStart Telemedicine Server software.

Read the on-screen messages. Follow the on-screen instructions.

10 Run HeartStart Telemedicine as a service on the machine.

11 Start the HeartStart Telemedicine application.

12 Activate the HeartStart Telemedicine Server software.

13 (Optional) Register HeartStart Telemedicine.

To set up each HeartStart Telemedicine Viewer machine

1 Log on to the HeartStart Telemedicine Viewer machine.

2 Provide Internet access on the machine.

3 Provide the same access to the network destinations as the HeartStart Telemedicine Server machine.

4 Install a modem, printer, and fax on the machine.

5 Install and set up the MAPI-compliant email client on the machine.

6 Download the HeartStart Telemedicine Viewer software.

You can also save the software on a CD, DVD, or other media such as a USB memory stick or secure digital (SD) data card.

7 Install the HeartStart Telemedicine Viewer software.

Read the on-screen messages. Follow the on-screen instructions.

8 Start the HeartStart Telemedicine Viewer application.

9 Activate the HeartStart Telemedicine Viewer software.

10 (Optional) Register HeartStart Telemedicine.

11 On the lower-right corner of the application window, click **HeartStart Telemedicine Server** and select the server location of the database.

Providing the HeartStart Telemedicine Web Service

HeartStart MRx communicates with HeartStart Telemedicine through the Internet. To receive 12-lead reports from HeartStart MRx, you need to have a web server. The HeartStart Telemedicine Server machine requires the following services:

- **Internet Service Provider (ISP):** The ISP provides a connection to the Internet. The ISP must supply a static or permanent IP address to support your domain name.

- **Domain Name Service (DNS):** The DNS provides a domain name for the IP address. Many ISPs can obtain and register a domain name for you, or you can do it yourself. For more information, see the Accredited Registrar Directory at the InterNIC Web site (http://www.internic.net).
- **Internet Information Services (IIS):** The IIS sends and receives information from the Internet. Although IIS ships with the Windows application, Windows does not automatically install IIS when you install the operating system. You must install IIS separately. The Microsoft Web site at http://www.microsoft.com/iis has additional information. For more information, see Setting up Internet Information Services (IIS).
- **Simple Mail Transfer Protocol (SMTP):** The SMTP service delivers outgoing email messages. If you want to send 12-lead reports through the Email feature, Philips Healthcare recommends that you name an SMTP address on the **General Configuration** workspace when you configure the HeartStart Telemedicine system. In most cases, you can use the SMTP address supplied by your IPS or network.

  If you install SMTP, you must install SMTP separately from the Windows Control Panel. The SMTP installation creates a default SMTP configuration. You can use IIS Manager to customize the SMTP configuration.

  For more information, see Configuring the System on page 66.

TIP Microsoft provides an SMTP service. For more information on how to deploy and configure the SMTP service, search for "smtp" on the Microsoft Developer Network (MSDN) Web site at http://msdn2.microsoft.com/en-us/worldwide/default.aspx.

Choosing an Operating System

The HeartStart Telemedicine Server machine can use either of the following operating systems:

- Windows XP Professional, SP 3 or later, running IIS 5.1 or later
- Windows Server 2003 Standard Edition, SP2 or later running IIS 6 or later

The HeartStart Telemedicine Viewer machine can use Windows XP Professional, SP3 or later, running IIS 5.1 or later.

Philips Healthcare recommends that you name an SMTP address on the **General Configuration** workspace when you configure the HeartStart Telemedicine Server. You can install SMTP on the same machine as HeartStart Telemedicine or on the Intranet.

Reading the Release Notes

The ReadMe file, which is included in the HeartStart Telemedicine installation, contains any changes to the documentation that is too new to be included in this manual. These changes might influence your installation. Read the ReadMe file before you install HeartStart Telemedicine System.

Confirming System Hardware Requirements

Review Microsoft documentation to ensure that your hardware supports the chosen operating system. Please check with Microsoft for their current recommendations.

For HeartStart Telemedicine software and hardware requirements, see System Requirements on page 84.

Storage Requirements

Storage requirements depend on the volume and frequency of patient transmissions, and on the type of data you send to HeartStart Telemedicine.

The MSDE 2000 is the default database that stores the demographic patient information, 12-lead reports, events, periodic vital trends, and configuration information. It can store up to 2 GB of data.

NOTE Philips HealthCare recommends that you adjust the number of days that HeartStart Telemedicine stores data on the **General Configuration** workspace based on your network traffic.

- HeartStart Telemedicine Classic 12-Lead Edition – Storage requirements depend on the volume of 12-lead reports you send to HeartStart Telemedicine. If you assume that an average 12-lead report is approximately 60 KB, the MSDE database can store approximately 30,000 12-lead reports (2 GB/60 KB =30,000, approximately).
- HeartStart Telemedicine Critical Care Edition – Storage requirements depend on the frequency of patient transmissions and the type of data you send to HeartStart Telemedicine. The following table provides an estimate of the storage required for one month and one year per HeartStart MRx defibrillator. Multiple the estimated storage required for the transmission data type and interval by the number of HeartStart MRx units used.

Data to Transmit	Data in Kilobytes	Transmission Interval For One HeartStart MRx	Approximate Storage Required per Year	Approximate Storage Required per Month
Periodic vital trends	5 K	1-minute interval	2.63 GB	.22 GB
	1 K	5-minute intervals	.53 GB	.04 GB
Events and periodic vital trends	15 K	1-minute interval	7.9 GB	.66 GB
	3 K	5-minute intervals	1.58 GB	.13 GB
12-lead reports, events, and periodic vital trends	45 K	1-minute interval	23.65 GB	2 GB
	9 K	5-minute intervals	4.73 GB	.4 GB

Optional Hardware

Depending on your needs, you might want to use additional hardware such as a tape backup device, fax modem, and printer.

- **Tape or other backup device:** Philips Healthcare recommends that you install a tape or other backup device. Store the backup information at a separate location. Create a plan to recover information in the case of a software or hardware failure.

- **Modem or fax machines:** If you plan to use Fax Service to forward 12-lead reports from HeartStart MRx, Philips Healthcare recommends that you dedicate a modem to the HeartStart Telemedicine. If multiple applications on the same computer use the same modem, you might experience service conflicts. For example, a HeartStart Telemedicine trying to fax a 12-lead report and a workstation trying to fax a scanned document could create a conflict. The modem must be on the same computer as the HeartStart Telemedicine. For more information, refer to the Microsoft catalogues at the following URL: http://www.microsoft.com/whdc/hcl/default.mspx.
- **Printer:** If you plan to print 12-lead reports, install a printer on the same computer or network as HeartStart Telemedicine.

Installing the Operating System

The purpose of this section is to provide you with instructions specific to setting up the machine to support the HeartStart Telemedicine Server. You are responsible for making all decisions for supporting your business and security needs. The Microsoft installation documentation and Web site provide instructions for installing and configuring a secure machine. After installing the operating system, make sure that you install all the latest security patches and updates.

In addition to configuring the system to meet your business and security needs, include the following configurations:

- Configure the system as an Application Server and install Internet Information Services (IIS). For more information, see Setting up Internet Information Services (IIS) on page 100.
- Do not delete or rename the IIS default Web site page. HeartStart Telemedicine uses its settings.
- You do not need to install Active Directory service, DHCP server, or DNS server, Front Page extensions, or ASP.

To set up email for use with Auto Send Lists, set up the SMTP server.

To receive 12-lead reports on a system running Windows XP Professional SP3 or later, change the Firewall settings. For more information, see Additional Instructions for Windows XP Professional SP3 on page 101.

Setting up Internet Information Services (IIS)

HeartStart Telemedicine uses Internet Information Services (IIS) to send and receive information from the Internet. Although IIS ships with the Windows application, Windows does not automatically install IIS when you install the operating system. You must install IIS separately. You might need your Windows Server 2003 or Windows XP installation file to complete the setup.

During IIS installation, IIS installs optional components such as Common Files, Documentation, and the Internet Information Services snap-in. You can choose not to install the optional components. However, not installing some components can decrease IIS functionality or disable IIS services. If you are unfamiliar with the optional components, install IIS with the default settings. After you install IIS, you can view “Installing IIS Optional Components” in the IIS online documentation for more information.

To install IIS

1 From the Windows Start menu, click **Control Panel**, and then double-click **Add or Remove Programs**.

2 Click **Add/Remove Windows Components**. Windows displays the Windows Components Wizard window.

3 Select **Internet Information Services** and click **Next**.

4 Follow the on-screen instructions.

Additional Instructions for Windows XP Professional SP3

To receive 12-lead reports on a system running Windows XP Professional SP3 or later, make the following changes to the Firewall settings.

If you use a different firewall, refer to the documentation for that product.

To change Firewall settings

1 From the Windows Start menu, click **Control Panel**.

2 Double-click **Security Center**.

3 Click **Windows Firewall**.

4 Click the **Exceptions** tab.

5 Click **Add Port**.

6 In **Name**, type `HTTP-Telemedicine`, or another name of your choice.

7 In **Port number**, type `80`.

8 Select **TCP**.

9 Click **OK**.

10 In the Windows Firewall window, click **OK**.

11 Exit from the Security Center window.

Running HeartStart Telemedicine Service Manager as a Service

The default installation processes HeartStart MRx data to HeartStart Telemedicine only when a user is logged on and running HeartStart Telemedicine. If you need to receive HeartStart MRx data on a 24 hour/7 days schedule, you must set up HeartStart Telemedicine Service Manager. You can configure the service from Windows.

To set up the service from Windows

1 Complete the normal installation.

2 From the Windows Start menu, click **Control Panel**.

3 In the Control Panel window, double-click **Administrative Tools**.

4 Double-click **Services**.

5 In the Service window, click the Standard tab.

6 Right click **HeartStart Telemedicine Service Manager**.

7 Click **Properties**.

8 In **Startup type** on the **General** tab, select **Automatic**.

9 In the **Log on as** on the **Log On** tab, select **This account**.
The account must have administrator privileges on this machine.

It must require a password.
If HeartStart Telemedicine forwards 12-lead reports to a printer or fax, the devices must be configured for this account.
CAUTION: If the Windows administrator password for this machine expires and it is changed, you must also change the administrator password for **HeartStart Telemedicine Service Manager**.

10 Complete the account and password information.

11 Unless you have a specific reason, do not change the entries in the **Recovery** or **Dependencies** tabs.

12 (Optional) If you want to start the service now, click the **General** tab and click **Start**.

13 Click **OK**.

14 Close the Services window.

15 Reboot the computer. The service will start.

Installing a Modem, Printer, and Fax

You can install a modem, printer, or fax machine on the HeartStart Telemedicine Server machine to print or fax a 12-lead report.

You will need your modem installation, printer installation, and fax installation files to install the components.

Make sure that HeartStart Telemedicine has the latest drivers installed. See the Microsoft Web site at: http://www.microsoft.com for additional information.

To install a modem, printer, and fax

1 Install the modem software driver from your modem installation file.

2 Install the printer software driver from your printer installation file.

3 Install the fax component from your Windows installation media.

4 Test each installation.

5 Once the fax component is installed and set up, start an application, such as Microsoft Word, and fax a file. The first time you fax a file, the Setup wizard runs and provides instructions on correctly faxing a file. Make sure to set up the default fax orientation to landscape.

6 Set up the printer through the Windows Control Panel. Once the printer is set up, verify printing by printing a file.

Using Bluetooth Wireless Transmissions

To transfer the information from the defibrillator to HeartStart Telemedicine Server, you must set up the *Bluetooth* wireless data transmission on HeartStart MRx and the receiving machine that has HeartStart Telemedicine installed.

If the computer is not equipped with *Bluetooth*, the computer requires a *Bluetooth* dongle with an USB connector. The dongle connects the computer with HeartStart Telemedicine installed and the defibrillator.

CAUTION HeartStart MRx is capable of communicating via *Bluetooth* with nearby devices such as computers, laptops, tablets, and mobile devices. Each device has a unique set of features and configuration options. In order to ensure reliable transmissions, familiarize yourself with the *Bluetooth* configuration choices of each. Some choices (either default or chosen by the user) could prevent receipt of data from HeartStart MRx. 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 on the receiving computer. The configuration creates the folder based on the logon of the user who configured *Bluetooth*. The default *Bluetooth* folder depends on the *Bluetooth* device. For example, the folder for user1 is typically: C:\Documents and Settings\<user name>\My Documents\Bluetooth Exchange Folder

When HeartStart MRx transmits the data to HeartStart Telemedicine, the defibrillator creates sub-folders on HeartStart Telemedicine Server to store the transmitted data.

HeartStart MRx 12-Lead Reports might contain information which could be considered Patient Healthcare Information (PHI) or patient identifiable data. This information can be transferred from the HeartStart MRx. Please handle the information in accordance with HIPAA or your local patient privacy requirements.

This section includes the following topics:

HeartStart MRx Bluetooth Option Prerequisites

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.

For detailed information on setting up the HeartStart MRx defibrillator for *Bluetooth* wireless transmission, see the following documentation:

- *HeartStart MRx M3535A/M3536A Instructions for Use,* for use with version F.00 and later
- *Data Transmission Implementation Guide*

Setting Up the Bluetooth Software and Adapter

NOTE Install the *Bluetooth* software and adapter on the HeartStart Telemedicine Server machine. You do not need to install it on the HeartStart Telemedicine Viewer machine.

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

- Installing the *Bluetooth* software and adapter
- Pairing the HeartStart MRx *Bluetooth* option with HeartStart Telemedicine Server
- Testing the connection

HeartStart MRx supports File Transfer Profile Server 1.1 and was tested with the following *Bluetooth* stacks: Toshiba™ 4.20.01, IVT™ 2.1.2.0 (Product)/05.04.11.20060301 (stack) and Widcomm™ 4.0.1.2400. For other *Bluetooth* stacks, review your user documentation to see if File Transfer Profile Server 1.1 is supported. If not, it is recommended that you install drivers that support File Transfer Profile Server 1.1.

During the following tasks, make sure that the defibrillator is within *Bluetooth* transmission range, usually within 30 feet of each other.

To install the Bluetooth software and adapter

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

NOTE The *Bluetooth* configuration creates the folder based on the logon of the user who configured *Bluetooth.* For example, if you have the administrator logon, the default folder location is typically: C:\Documents and Settings\<user name>\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 Bluetooth Exchange Folder

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

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 menu, select **Bluetooth Devices.**
3. Scroll to **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.
4. Select your computer and press the **Enter** button.
5. Enter a passkey for the *Bluetooth* option.

   The passkey is a user-defined character sequence, such as 000, or 1234, etc. Use the HeartStart MRx documents listed for HeartStart MRx Bluetooth Option Prerequisites on page 103.
6. In the notification area of the taskbar, immediately watch for a pop-up message.
7. Click the pop-up message.
8. Enter the same *Bluetooth* passkey that you entered on HeartStart MRx in Step 5.

   HeartStart MRx and the computer have a *Bluetooth* connection. You are ready to test the *Bluetooth* connection.
9. On the Data Management menu, select **File Transfer** and then press the **Enter** button.

   HeartStart MRx displays the transmission test passed message.
10. Scroll to Exit and press the **Enter** button.

Sending the Bluetooth Wireless Transmission

You can download a 12-lead report to the computer through *Bluetooth* wireless transmission while HeartStart MRx is in the Data Management mode or while HeartStart MRx monitors the patient's 12-lead. For more information, see the appropriate chapters in *HeartStart MRx M3535A/M3536A Instructions for Use ,* for use with version F.00 and later.

Using the Bluetooth Monitor Feature

Use the Bluetooth Monitor feature to watch for patient periodic clinical data transmissions automatically that are received from HeartStart MRx. Bluetooth Monitor monitors the activity, and stores the data in the specified Bluetooth Exchange Folder location, and imports the data into the database.

HeartStart Telemedicine starts Bluetooth Monitor when you start the application. You can stop Bluetooth Monitor from the system tray section on the operating system task bar or the application. The system tray is located in the right or lower corner of the task bar.

TIP Right-click the **Bluetooth Monitor** icon  to display the Bluetooth Monitor status.

To stop Bluetooth Monitor

Use one of the following methods:

- System tray:
  a On the System tray, right-click the Bluetooth Monitor icon  .
  b Click **Exit HeartStart Telemedicine Bluetooth Monitor**.
- Stop the HeartStart Telemedicine application:
  - Click the window **Close** button  .
  - On the File menu, click **Exit**.

HeartStart Telemedicine stops the Bluetooth Monitor feature and removes the icon from the system tray.

To start Bluetooth Monitor

Start HeartStart Telemedicine from the Start menu.

HeartStart Telemedicine starts Bluetooth Monitor and displays the **Bluetooth Monitor** icon  on the system tray.

To change the location of Bluetooth Exchange Folder for Bluetooth Monitor

You can change the location for the Bluetooth Exchange folder. Do so only after careful planning and coordination with your organization.

1 Change the Bluetooth Exchange Folder location in your Bluetooth vendor's configuration before you change the Bluetooth Exchange Folder location in HeartStart Telemedicine.

2 On the **Administration** pane, click **General Configuration**.

3 In **Bluetooth Exchange Folder**, click **Change**.
HeartStart Telemedicine displays a message stating that the change will take effect only after you restart the HeartStart Telemedicine Server machine. Respond to the message.

4 Navigate to the folder location or click **Make New Folder** to create a folder.

5 If you created a folder, rename the folder:
  a Right-click **New Folder**.
  b Click **Rename**.
  c Click **OK**.
HeartStart Telemedicine displays a message.

6 On the File menu or toolbar, click **Save**.

Follow your organizational and IT notification procedures to notify HeartStart Telemedicine users that you will restart the HeartStart Telemedicine Server machine.

7 Restart the HeartStart Telemedicine Server machine.

To restore the default the Bluetooth Exchange Folder location

You can restore the default the Bluetooth Exchange Folder location. Do so only after careful planning and coordination with your organization.

1 Change the Bluetooth Exchange Folder location in your Bluetooth vendor's configuration before you change the Bluetooth Exchange Folder location in HeartStart Telemedicine.

2 On the **Administration** pane, click **General Configuration**.

3 In **Bluetooth Exchange Folder**, click **Default**.

HeartStart Telemedicine displays a message stating that the change will take effect only after you restart the HeartStart Telemedicine Server machine. Respond to the message.

4 Navigate to the folder location.

The default Bluetooth Exchange Folder location is typically: C:\Documents and Settings\<user name>\My Documents \Bluetooth Exchange Folder

HeartStart Telemedicine displays a message.

5 On the File menu or toolbar, click **Save**.

Follow your organizational and IT notification procedures to notify HeartStart Telemedicine users that you will restart the HeartStart Telemedicine Server machine.

6 Restart the HeartStart Telemedicine Server machine.

C

Troubleshooting

This section provides an overview of how HeartStart Telemedicine System works and information on troubleshooting.

This section has the following topics:

Using HeartStart Telemedicine

HeartStart Telemedicine runs on Windows Server 2003 or Windows XP Professional with an Internet Information Service (IIS) Web server.

HeartStart Telemedicine receives 12-lead reports, trigger events and waveforms, and periodic vital trends from the Philips HeartStart MRx Monitor/Defibrillator. HeartStart Telemedicine processes, stores, and displays the patient 12-lead reports, trigger events and waveforms, and periodic vital trends. HeartStart Telemedicine can send 12-lead reports to other applications, fax machines, printers, and email addresses automatically. You can also manually send trigger events and waveforms, and periodic vital trends to other HeartStart Telemedicine applications. You can also print and email selected patient data, 12-lead reports, trigger events and waveforms, and periodic vital trends to alternate destinations.

HeartStart MRx can use a cell phone or *Bluetooth* to send a stream of data containing patient and destination information to the HeartStart Telemedicine Server machine.

The HeartStart Telemedicine Server machine can use the Bluetooth Monitor feature to watch for periodic clinical data transmissions that are received from HeartStart MRx.

Running the Bluetooth Monitor Feature

Use the Bluetooth Monitor feature to watch for patient periodic clinical data transmissions automatically that are received from HeartStart MRx. Bluetooth Monitor monitors the activity, and stores the data in the specified Bluetooth Exchange Folder location, and imports the data into the database.

For more information, see Using the Bluetooth Monitor Feature on page 105.

Parts of HeartStart Telemedicine

There are four parts to the HeartStart Telemedicine Server:

- HeartStart Telemedicine application – Displays HeartStart MRx patient data and system log information, which shows the HeartStart Telemedicine activity. The application provides the ability to configure HeartStart Telemedicine to send 12-lead reports automatically and HeartStart MRx patient data manually. HeartStart MRx patient data includes 12-lead reports, trigger events and waveforms, and periodic vital trends.
- HTTP Service – IIS hands the data received from the HeartStart MRx or another HeartStart Telemedicine to the HTTP service. HTTP saves the data in the appropriate inbox.
- Inbox Watcher Service – Monitors the HeartStart Telemedicine inboxes. Inbox Watcher Service parses the data into separate files and moves the data from the inbox into the database and Backup folder.
- MSDE 2000 – The database stores the 12-lead report and configuration information.

HeartStart Telemedicine Inboxes

The HeartStart Telemedicine inboxes are installed on the HeartStart Telemedicine Server machine. The inboxes receive the data from the HeartStart MRx or another HeartStart Telemedicine. The Inbox Watcher Service monitors the HeartStart Telemedicine inboxes and checks for activity. Inbox Watcher Service parses the data into separate files and moves the data from the inbox into the database and Backup folder.HeartStart Telemedicine Server stores the original data files in the Backup folder.

The **TSInbox** default installation directory is C:\Program Files\Philips\HeartStart\Telemedicine\TSInbox. **TSInbox** receives 12-lead reports from HeartStart 12-Lead Transfer Station, versions 2.8, 2.9, and 3.0.

The **MRxInbox** default installation directory is C:\Program Files\Philips\HeartStart\Telemedicine\MRxInbox. **MRxInbox** receives all HeartStart MRx 12-lead reports.

The **TSXInbox** default installation directory is C:\Program Files\Philips\HeartStart\Telmedicine\TSXInbox. **TSXInbox** receives all *Bluetooth* transmissions.

The **PatientDataInbox** default location directory is: C:\Program Files\Philips\HeartStart\Telemedicine\PatientDataInbox. **PatientDataInbox** receives periodic clinical data transmissions from HeartStart MRx.

The **PDTSInbox** default location directory is C:\Program Files\Philips\HeartStart\Telemedicine\PDTSInbox. **PDTSInbox** receives periodic clinical data transmissions from HeartStart Telemedicine.

The **Inbox Watcher Service** monitors the inboxes and checks for activity. By default, Inbox Watcher Service checks for activity every 3 seconds.

- If HeartStart Telemedicine cannot decipher the 12-lead report or otherwise fails to process a 12-lead report, HeartStart Telemedicine displays an error message in the system log. HeartStart Telemedicine moves the 12-lead report to the backup folder and saves the 12-lead report. The backup folder is a sub-folder of MRxInbox.
- If HeartStart Telemedicine can process the 12-lead report, HeartStart Telemedicine imports the 12-lead portion into the database. HeartStart Telemedicine then processes the destination information and saves the 12-lead report in the Backup folder.
- If HeartStart MRx included instructions for an additional 12-lead destination, HeartStart Telemedicine forwards the 12-lead report according to the instructions.
- If HeartStart MRx forwards periodic clinical data transmissions, HeartStart Telemedicine saves the events and periodic vital trends to the database. Users can then forward the events and periodic vital trends manually.

TIP You can configure the Inbox Watcher Service to automatically send 12-lead reports when HeartStart Telemedicine Server is not running. For more information, see Running HeartStart Telemedicine Service Manager as a Service on page 101 and Running the Bluetooth Monitor Feature on page 108.

Troubleshooting Receiving and Forwarding Data

If you are troubleshooting the installation, see *Data Transmission Implementation Guide.*

When patient data was not sent to its destination, first check the system log for errors. For help using system log, see Troubleshooting with the System Log on page 114.

Use following instructions to guide you through troubleshooting HeartStart Telemedicine:

Are you connected to a database?

You can select the name of HeartStart Telemedicine Server that is on the Intranet. You change the HeartStart Telemedicine Server from the **Administration** navigation pane. You connect to a different HeartStart Telemedicine Server from the **HeartStart Telemedicine Server** field in lower right corner of the HeartStart Telemedicine window.

To set up the HeartStart Telemedicine Server

1 Click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **General Configuration**.

3 In the Server information area, click **Change**. HeartStart Telemedicine displays the HeartStart Telemedicine Server window.

4 In **HeartStart Telemedicine Server**, select the location of the HeartStart Telemedicine data.

5 Select **Integrated Security** if the database is installed on your machine. Clear **Integrated Security** if the database is not installed on your machine.

6 Click **Save**.

To set up a database on the Intranet, contact the IT person for the HeartStart Telemedicine site.

To connect to a different HeartStart Telemedicine Server

1 Locate the **HeartStart Telemedicine Server** field in the lower right corner of the HeartStart Telemedicine window,

2 In **HeartStart Telemedicine Server**, click the drop-down arrow and click **Change server**. HeartStart Telemedicine displays the HeartStart Telemedicine Database Server window.

3 In **Database server**, select the location of the HeartStart Telemedicine data.

4 Select **Integrated Security** if the database is installed on your machine. Clear **Integrated Security** if the database is not installed on your machine.

5 Click **Save**.

To set up a database on the Intranet, contact the IT person for the HeartStart Telemedicine site.

Did HeartStart Telemedicine System receive the patient data?

1 On the **Administration** navigation pane, click **System Log** to display the system log on the workspace. The log should show the appropriate **Saved** message for that transmission with the date and time when the action occurred.

2 If the transmission was received, check to see if there are error messages for the transmission. For more information, see Working with the System Log on page 51.

3 If the transmission was received and there are no messages, complete one of the following:

- If the transmission was a 12-lead report, continue with Does an Auto Send List exist? on page 110. If the transmission was a trigger event or periodic vital, complete step 3 in Is the destination configured? on page 111.

4 If the transmission was not received, continue with Confirm that the HTTP service is running. on page 113 and Determine that the HeartStart Telemedicine services are running. on page 113.

You can also review the following logs:

- IIS log
- IIS HTTP error logs
- Microsoft logs that are available from **Administration Tools** on the Control Panel window.

Does an Auto Send List exist?

If this is a destination other than one specified in the HeartStart MRx routing file, you configure an Auto Send List.

1 Click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **Auto Send Lists**.

3 On the **Auto Send Lists** workspace, look in the Summary area to confirm that an Auto Send List exists.

4 If an Auto Send List exists, continue with Is the destination configured? on page 111.

5 If an Auto Send List does not exist, configure one. For more information, see Configuring Auto Send Lists on page 74.

Is the destination configured?

You need to complete destination settings for all devices, whether they are HeartStart MRx specified or HeartStart Telemedicine specified.

Test each destination manually before you add the destination to an Auto Send List.

Review the appropriate workspace that is accessible from the **Administration** navigation pane.

1 Click the **Administration** navigation button.

2 On the **Administration** navigation, click the appropriate destination.

3 If the destination is an application, click **Application Destinations**. Telemedicine lists the configured application names in the Summary area.
See Is the destination a TraceMasterVue or HeartStart Telemedicine application? on page 112.

   a In the Summary area, locate the application name.

   b If the application name does not identify the type of destination, click the row and in **Location type** select the appropriate the application destination. See Setting Up Application Destinations on page 68.

   c If the application name does not appear in the list, or click **New** on the File menu or toolbar to create a fax destination. See Setting Up Application Destinations on page 68.

   d Confirm that the fields in the Details area are complete.

   e If the **Applications Destinations** workspace is complete, click **Save** on the File menu or toolbar.

4 If the destination is a fax, click **Fax Destinations**. Telemedicine lists the configured fax machine names in the Summary area.

   a In the Summary area, locate the fax machine name.

   b If the fax name does not identify the fax number, click the row and in **Fax number** enter the fax number. See Setting Up Fax Destinations on page 69.

   c If the fax name does not appear in the list, or click **New** on the File menu or toolbar to create a fax destination. See Setting Up Fax Destinations on page 69.

   d Confirm that the fields in the Details area are complete.

   e If the **Fax Destinations** workspace is complete, click **Save** on the File menu or toolbar.

5 If the destination is printer, is that specific printer name is not in the list? If not, configure the printer. See Adding a Printer in Windows on page 71.

6 If the destination is an email address, click **Email Destinations**. Telemedicine lists the configured email addresses in the Summary area.

   a In the Summary area, locate the email address.

b If the email name does not identify the email address, click the row and in **Add an email address** enter the email address. See Setting Up Email Address Destinations on page 72.

c If the email name does not appear in the list, or click **New** on the File menu or toolbar to create an email address destination. See Setting Up Email Address Destinations on page 72.

d Confirm that the fields in the Details area are complete.

e If the **Email Destinations** workspace is complete, click **Save** on the File menu or toolbar.

7 If the destination is an Auto Send List, click **Auto Send Lists**. Telemedicine lists the configured Auto Send Lists in the Summary area.

a In the Summary area, click the Auto Send List name.

b In **Destination**, verify that the check box is selected for each appropriate destination in the Auto Send List.

c Click the destination row to add it to the Auto Send List or click **New** on the File menu or toolbar to create an Auto Send List. See Configuring Auto Send Lists on page 74.

d If the **Auto Sends Lists** workspace is complete, click **Save** on the File menu or toolbar.

Is the destination a TraceMasterVue or HeartStart Telemedicine application?

If the destination is a TraceMasterVue, or HeartStart Telemedicine application, confirm the following setup:

1 Click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **Application Destinations**.

3 On the **Application Destinations** workspace, confirm that the fields in the Details area are complete.

If you have any doubts about the settings in the **Location type** and **URL** fields, contact the IT person at the receiving site.

4 If the **Application Destinations** workspace is complete, click **Save** on the File menu or toolbar.

If the steps in Is the destination configured? on page 111 did not solve the problem, the problem is probably on the receiving end. Contact the IT person for the site and request their help.

Is the destination DatamedFT software?

If the destination is DatamedFT, confirm that the location is correct for your installation. For example: C:\datamedFT\Inbound.

If the destination is correct, verify that a translated ECG was created in the DatamedFT outbox.

If the steps in Is the destination configured? on page 111 did not solve the problem, the problem is probably on the receiving end. Contact the IT person for the site and request their help to troubleshoot the DatamedFT application or associated ECG host, such as a GE MUSE application.

Is the destination a fax machine?

Confirm that the fax is set up in the Windows Fax Console. Confirm with the receiving site that the fax is ready to receive.

Is the destination a printer?

Confirm that the printer is ready to print.

- Does it have paper?

- Is it turned on?
- Is the printer name spelled correctly?
- Display the Windows Printer and Faxes window and confirm that the status is **READY**.

Is the destination an email address?

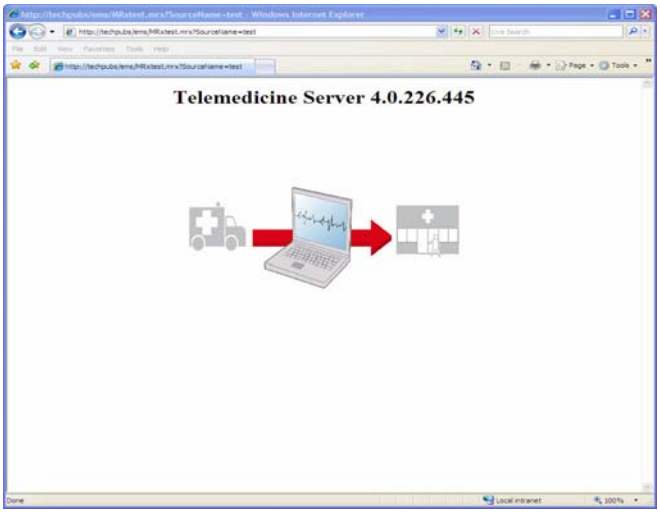
Confirm that the email application or email service is installed or configured for the HeartStart Telemedicine. Confirm that the SMTP server address is correct on the **General Configuration** workspace. Contact the IT person for the SMTP site and request their help.

Confirm that the HTTP service is running.

Type the following URL in the browser **Address** field:

`http://`*`machinename`*`/ems/MRxtest.mrx?SourceName=test`
where *machinename* is the domain name or IP address of the computer running HeartStart Telemedicine.

If you see the following window, HTTP service is set up properly.



If the service is not running, restart IIS or check the IIS log to make sure that the IIS is configured properly.

If the service is running and the 12-lead report was not received, the problem might be in the HeartStart MRx transmission or that the Inbox service is not running.

Determine that the HeartStart Telemedicine services are running.

On the HeartStart Telemedicine Server machine, confirm that the HeartStart Telemedicine service is running on the Services window.

The Services window is available from **Administration Tools** on the Control Panel window. You can also see Running HeartStart Telemedicine Service Manager as a Service on page 101.

Determine the source of the Inbox service error.

1 Navigate to the MRxInbox folder.
The default path to the MRxInbox is C:\Program Files\Philips\HeartStart\Telemedicine\MRxInbox.

2 If the 12-lead report is in the inbox, the Inbox service might not be running. See step 3 for help.
- or -
If the 12-lead report is not in the inbox, the problem might be with the HeartStart MRx transmission.

3 Verify that the Inbox service is running
   a From the Windows Start menu, click **Control Panel**.
   b Double-click **Administrative Tools**.
   c Double-click **Services**.
   d Find **Telemedicine Service Manager**.
   e If the status is Stopped, right-click **Transfer Station Service Manager** and click **Start**.
   If the status is Started, the problem is with the HeartStart MRx transmission.

Troubleshooting with the System Log

The system log displays two types of messages: Information and Error.

The system log also has tools to change the way HeartStart Telemedicine displays information. You can sort and group the list of entries.

You change the way the system log displays information when you want to assess data or search for specific information. For help using the tools, see Working with the System Log on page 51.

To view HeartStart Telemedicine activity

1 On the navigation pane, click the **Administration** navigation button.

2 On the **Administration** navigation pane, click **System Log.**

Restoring the HeartStart Telemedicine System Configuration

HeartStart Telemedicine saves the system configuration and destinations in the database as you save them on the **Administration** workspaces.

To restore the HeartStart Telemedicine system configuration

1 Set up HeartStart Telemedicine. For more information, see Setting Up the HeartStart Telemedicine Monitoring Service on page 95.

2 Use your back up and restore tool to restore the HeartStart Telemedicine database and configuration.

3 Start HeartStart Telemedicine and test the configuration and destinations.

D

HeartStart MRx Trigger Events

The type of information sent in a periodic clinical data transmission (PCDT) depends on the event which triggers the transmission. The following table identifies the event and the data that HeartStart MRx sends to HeartStart Telemedicine and to destinations. For more information, see *HeartStart MRx M3535A/M3536A Instructions for Use*, for use with version F.00 and later.

NOTE All transmitted personal patient-identifiable data is encrypted to insure patient confidentiality. Please handle in accordance with HIPAA or your local patient privacy requirements. To de-identify patient data, you must delete the event summary.

Event	When	What data is sent
Vital signs updated	Every 1 to 5 minutes (based on configuration)	• Patient vital data for pulse, heart and AwRR rates, NBP, $EtCO_2$, SpO_2, Invasive Pressures and temperature for the parameters that are turned on; timestamp of vitals • HeartStart MRx device ID • HeartStart MRx incident ID
12-lead acquired	When obtained	• 12-lead ECG (may include ACI-TIPI and TPI information)
Marking an event	When Mark Event button is pressed	• All data with Vital signs update • Event label and time • Mark event description **Note:** If a label is not selected within five seconds of pressing the HeartStart MRx Mark Event button, the event is labeled as generic and sent. • A segment consisting of the 10 seconds prior to and the five seconds following the Mark Event, inclusive, for each of the waveforms configured to be printed

Event	When	What data is sent
Pacing change	When pacing is started, stopped or a pacing control is changed (mode, rate or output)	• Event label and time • Pacer mode (Fixed or Demand), rate and output • A segment consisting of the 10 seconds prior to and the five seconds following the pacing change, inclusive, for each of the waveforms configured to be printed **Note:** Stop pacing does not transmit pacing mode, rate or output
Delivering a shock	After shock is delivered or aborted due to impedance or other issues	• All data with Vital signs update • Event label and time • Shock number* • Number of Joules* • Data on impedance and peak current* • A segment consisting of the 10 seconds prior to and the five seconds following the shock, inclusive, for each of the waveforms configured to be printed * Not sent with an aborted shock PCDT
Physiological alarm including: Asystol, VFIB/VTACH, VTACH, Extreme Tachy, Extreme Brady, Apnea, Extreme Desat, Invasive pressure Disconnect, PVC/min high, Pacer Not Captured, Pacer Not Pacing, Pacer Output Low and alarm limits for HR, NBP, $EtCO_2$, SpO_2, Pulse rate, AwRR, Invasive Pressure, CPP, and Temperature	When trigger event occurs	• All data with Vital signs update • Event label and time • A segment consisting of the 10 seconds prior to and the five seconds following the event trigger, inclusive, for each of the waveforms configured to be printed **Note:** End PCDT does not send vitals or waveform data
Print button is pressed		
Start/End PCDT		

E

Customer Support

Philips Healthcare strives to provide you with excellent customer service and technical support. Software updates are available from the Help menu. Open the Help menu, and then select **Check for Updates** .

Customer Support

Customer support is available through email and telephone.

Email product support is available in English only at: telemedicine.support@philips.com

For telephone assistance outside the United States, please call your sales representative or local sales office. You can also navigate to technical support telephone numbers for data management products at the following address:

http://www.healthcare.philips.com/main/products/resuscitation/products/data_management/index.wpd

For telephone support in English only, you can call the following numbers between 9:00 AM and 5:00 PM, Pacific Time:

- 1 (800) 263-3342, inside the United States
- 01 (206) 664-7745, outside the United States

Comments or Suggestions?

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

Supported Help

Customer support technicians provide help for the following:

- Explaining the proper use of HeartStart Telemedicine features and answering your questions about how HeartStart Telemedicine works.
- Explaining the proper installation and maintenance of HeartStart Telemedicine.
- Assisting you in selecting and configuring card readers.
- Answering questions about managing the HeartStart Telemedicine database.
- Troubleshooting data transmission issues, and determining root cause

Unsupported Help

Customer support technicians do not provide help for the following:

- Interpreting ECG or medical data. Please call your medical director or clinical specialist.
- Repairing hardware.
- 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 Have HeartStart Telemedicine started.

3 Have the following information:

- HeartStart MRx information, including model number, serial number, software revision, and option. This information is available from the HeartStart MRx menu. From the menu, select **Other,** then **Print Device Info**.
- Windows version.
- HeartStart Telemedicine version number. This is available from the Help menu. Click **About HeartStart Telemedicine System**.
- HeartStart Telemedicine installed options. Click **About HeartStart Telemedicine.**
  a Classic 12-Lead Edition or Critical Care Edition. or Enhanced.
  b HeartStart Telemedicine Server or HeartStart Telemedicine Viewer.
- A written copy of the error message text.
- The activity and task you did when the error occurred.

F

Glossary

#

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 (V_1, V_2, V_3, V_4, V_5, and V_6), 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.
ACI-TIPI	For *acute cardiac ischemia time insensitive predictive instrument.* A Philips software tool in that can provide a second opinion and decrease the time between the onset of a patient's acute cardiac ischemia (ACI) symptoms and the treatment of interventional cardiology. The ACI-TIPI feature computes a patient's likelihood of having an ACI based on the patient's age, gender, chest pain status, and acquired 12-lead ECG. When the defibrillator runs the ACI-TIPI analysis, the interpretative block on the 12-lead report includes ACI-TIPI data.
Administration	A feature set that allows a user logged on to the HeartStart Telemedicine Server machine to configure the HeartStart Telemedicine system features, destinations, and Auto Send Lists.
AED	For *Automated External Defibrillator.* A defibrillator that automatically performs rhythm analysis of the patient's surface electrocardiogram.
archive	To store or save information.
Automatic transfer	The process where the HeartStart Telemedicine forwards the 12-lead ECG report according to instructions received from the HeartStart MRx and Auto Send Lists.
Auto Send List	The lists configured on the Auto Send Lists workspace. An Auto Send List designates the destinations that receive 12-lead ECG reports automatically.

B

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.

D

DNS	For *Domain Name Service.* 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	Data Management mode is a set of HeartStart MRx features used to manage data, such as to send *Bluetooth* wireless transmissions.
defibrillator event	Information received from a defibrillator. Examples are alarms, shocks, measurements, and error conditions.
Destination	The intended recipient of a 12-lead report. The destination can be a HeartStart 12-Lead Transfer Station application, TraceMasterVue system, DatamedFT software, a HeartStart Telemedicine application, an email address, a printer, and a fax machine.
device	A generic term in HeartStart Telemedicine used for defibrillators 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 address	The address of a device connected to the Internet or any other TCP/IP network, in the hierarchical system that uses words to identify servers, organizations, and types, such as www.logos.net. See also TCP/IP.
Domain Name Service	See DNS.

E

ECG	For *electrocardiogram*. The electrical rhythm of the heart as detected through defibrillator pads.
elapsed time	The time since the responder turned on the defibrillator.
EMS	For *Emergency Medical Services*.
encryption	The HeartStart Telemedicine feature that sets a password for exported HeartStart Telemedicine files. Encryption ensures privacy by making the attachment unreadable to anyone other than the intended recipient.
export	Saving an ECG and its associated information as a file outside the database. This is typically done to share a case with other HeartStart Telemedicine users or to back up information. HeartStart Telemedicine gives these files an extension of *mic*. Exporting does not update the database information; however, you can save and export the same case.

F

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.

G

(No glossary terms for this letter.)

H

HeartStart MRx	For *HeartStart MRx Monitor/Defibrillator*. A HeartStart defibrillator that is designed to meet monitoring and resuscitation needs by providing advanced, multi-parameter monitoring functions and a full range of defibrillation therapies. The HeartStart MRx is intended for use in hospital and pre-hospital 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 Monitor/ Defibrillator 12-lead report transmissions.
HeartStart Telemedicine Critical Care Edition	A HeartStart Telemedicine software option that receives HeartStart MRx Monitor/ Defibrillator data transmissions. Data can include 12-lead reports, trigger events and waveforms, and periodic vital trends. See also *PCDT*.
HTTP	For *Hypertext Transfer Protocol*. The set of rules for exchanging files (text, graphic images, sound, video, and other multimedia files) on the World Wide Web.
HUB	In HeartStart MRx Monitor/Defibrillator, the central or default HeartStart Telemedicine destination. In HeartStart Telemedicine, the Auto Send List that is configured as the default list.

I

IP	For *Internet Protocol.* 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	Opening an HeartStart MRx XML file that is not stored in Telemedicine.
incident	The series of events involved in treating a patient with a defibrillator.
Internet Information Service (IIS)	Microsoft's brand of Web server software, utilizing 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 *HeartStart MRx.*
Manual transfer and view	The process where a HeartStart Telemedicine user sends the 12-lead report to an Auto Send List, a TraceMasterVue system, a GE MUSE System, a HeartStart Telemedicine, or HeartStart 12-Lead Transfer Station 3.0 application. This process is separate from the Automatic Transfer.
Microsoft Fax Console	The 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 e-mail messages.

N

NSA	For *no shock advised.* A decision that is made by the defibrillator based on analysis of the patient's heart rhythm.

O

(No glossary terms for this letter.)

P

Patients	A feature set that allows Telemedicine users to view the list of available patient data records that are stored in the HeartStart Telemedicine database.
PCDT	For *Periodic Clinical Data Transmission.* An HeartStart MRx Monitor/Defibrillator data transmission option. Data can include 12-lead reports, events, and periodic vital trends.
PEA	For *Pulseless Electrical Activity*.
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, EtCO2, invasive pressure values, and temperature.
PR	For *perfusing rhythm.*
proxy server	A firewall component that manages Internet traffic to and from a local area network (LAN) and 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 the responder turned on the defibrillator.

(No glossary terms for this letter.)

S

save	Adding the information and its associated details to the HeartStart Telemedicine database.

serial number	The number of the defibrillator used during the response. HeartStart Telemedicine 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.
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	A feature available on the **Administration** navigation pane. The system log lists all monitored HeartStart Telemedicine activity. Use the system log to review HeartStart Telemedicine 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.
TPI	For *thrombolytic predictive instrument*. A Philips software tool that can help physicians make thrombolytic therapy (TT) decisions when treating acute myocardial infarction (AMI). The TIPI algorithm generates a predictive probability score of a patient's outcome with or without thrombolytic therapy. The TIPI algorithm is based on demographic patient data applied to the acquired 12-lead ECG. Demographic patient data includes information such as the patient's age, gender, blood pressure, weight, and history of diabetes and hypertension. When the defibrillator runs the TPI analysis, the interpretative block on the 12-lead report includes TPI data.
TT	For *thrombolytic therapy*. The use of drugs to break up or dissolve blood clots, which are the main cause of both heart attacks and stroke.
trigger event	An HeartStart MRx event that initiates the transmission to HeartStart Telemedicine.

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	The HeartStart Telemedicine option that displays tabulated HeartStart MRx measurements for the recorded patient periodic vitals. Vital trends are available for 12 hours at 1-minute to 60-minute resolutions and display in descending order. HeartStart Telemedicine displays 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.
Web	See World Wide Web.
wireless transmission	Use of an optional FR3 Bluetooth wireless technology transceiver module to transmit data from the FR3 to a Bluetooth wireless technology-enabled computer or from such a computer using HeartStart Configure software to the FR3.
workspace	The right pane of the application window. It displays the active window for entering and viewing information.
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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