HeartStart Telemedicine System
User Guide

PHILIPS

About this edition

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EC REP

Philips Medizin Systeme
Boeblingen GmbH
Hewlett-Packard Strasse 2
71034 Boeblingen, Germany
(+49) 7031 463-2254

Device Manufacturer

Philips Medical Systems
22100 Bothell Everett Highway
Bothell, WA 98021-8431, USA

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Getting started

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

If you are new to Telemedicine, read the following topics to learn about the product and how it is used:

- Who uses Telemedicine on page 8
- How Telemedicine is used on page 8

Learn how information is presented in this guide by reviewing the following topics:

- How this guide is organized on page 18
- Conventions used in this guide on page 20

Philips recommends that you review this entire guide before you begin to install or use Telemedicine.

New in this release

This version of the *HeartStart Telemedicine System user guide* has been reorganized from previous versions.

You can save up to 50 Auto Send Lists. Each Auto Send List can contain up to 20 destinations.

Additional configuration parameters are added for connecting to the SMTP server, allowing direct connections to corporate, ISP, or internet SMTP servers.

Intended use of Telemedicine

The Telemedicine software displays patient vitals, waveforms, and 12-lead ECG information transmitted from Philips HeartStart defibrillators in remote locations. The Telemedicine Server software allows viewing, diagnostic-quality printing, archiving, and further distribution of digitized clinical data. The Telemedicine Server software is also able to forward the 12-lead ECG data to compatible ECG management systems such as TraceMasterVue.

Who uses Telemedicine

Telemedicine is typically configured in one of the following environments:

At an EMS agency that serves multiple hospitals for a region

In this environment, the software commonly runs on one computer in a server room at the EMS agency. Telemedicine forwards 12-lead reports to receiving hospitals using fax, email, or other instances of Telemedicine that are installed at one or more hospitals. An Auto Send List can be used to notify a hospital at a number of fax or email destinations.

In a hospital that is served by multiple EMS agencies

In this environment, the software commonly runs in an IT server room with multiple copies of Telemedicine Viewer 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 a GE MUSE System (GE MUSE).

In a hospital where HeartStart MRx Monitor/Defibrillators are used to monitor patients

In this environment, HeartStart MRx Monitor/Defibrillators are used in chest pain rooms, overflow areas, or as transport monitors. Telemedicine runs at a central nurses' station, allowing centralized viewing and printing of the 12-lead reports from HeartStart MRx Monitor/Defibrillators. Clinicians can also forward the 12-lead reports to the cardiology department.

How Telemedicine is used

Users in different healthcare markets use Telemedicine in different ways, based on their unique workflow and existing infrastructure. For example, an organization can use Telemedicineto do the following:

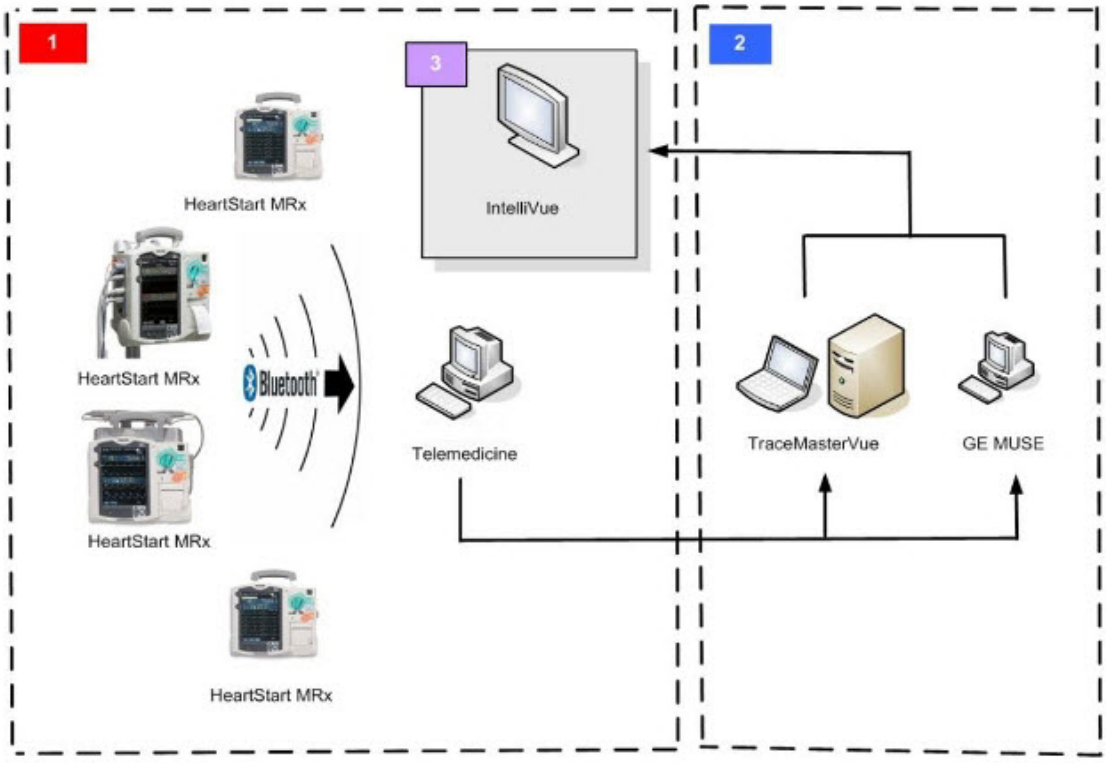
- Provide critical-care support to responders on an inbound ambulance who are transporting a patient to the emergency department (ED).

  You can view periodic clinical data (12-Lead reports, trigger events with waveforms, and vital trends) while responders transport a patient to the receiving emergency department or hospital.

- Prepare an Emergency Department for the arrival of a critical-care patient.

  You can triage a patient who is in route to the ED, access a patient's medical history, make decisions about where to assign a patient, or summon specialists in advance of the patient's arrival.

Telemedicine system receiving HeartStart MRx periodic clinical data at a central station



Telemedicine can be used to prepare for the next level of care inside the hospital.
Some examples (refer to the previous image):

- Emergency departments 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 Telemedicine System can receive HeartStart MRx 12-lead reports at a central station (1) and forward them to a TraceMaster ECG management system (TraceMasterVue) and to an ECG host such as GE MUSE in Cardiology (2), or to an IntelliVue information console (3) at another location.

- Hospitals locate the Telemedicine System in a central location in the hospital, or in the emergency department.

  From the Telemedicine computer, you can manually select clinical data and fax or email the data to another department such as Surgery, Radiology, or the ICU. You can also manually print the patient report on a printer that is at another location in the hospital.

Sample workflows

The following sample workflows are provided for learning purposes. Your usage may differ from these workflows.

Example workflows for clinicians and medical staff

Scenario	Task	Topic
EMS responders are sending the HeartStart MRx data transmissions for you to assess.	View patient data	Review Using the Patients workspaces on page 47.
	Change the way information appears in a patient report	Review Using Report Preview on page 54, and Working with data tables on page 42.
The ED medical staff receives a patient transmission and needs to send it to a physician at a different location on the network.	Forward the HeartStart MRx patient data	See How Telemedicine forwards HeartStart MRx data on page 31.
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	See Working with the system log on page 69.

Example workflows for IT personnel

Scenario	Task	Topic
IT personnel need to set up the Telemedicine system hardware and software.	Configure Telemedicine Server (and Telemedicine Viewer, if applicable)	Use Administration of Telemedicine on page 70 as a reference. Review the entire User Guide, starting with Getting started on page 6 and Overview of Telemedicine software on page 21.

Scenario	Task	Topic
After installing the Telemedicine System, your Medical Director gives your IT personnel information about the destinations that will receive the patient data transmissions.	Configure destinations for patient data	See Configuring destinations on page 103.
	Set up Auto Send Lists	See Setting Up Auto Send Lists on page 112.
Medical staff needs to access patient data stored in another Telemedicine System on the network.	Connect to a different Telemedicine System on the network	See Configuring the Telemedicine Viewer on page 117
You receive the HeartStart MRx data on a data card and need to add it the Telemedicine database.	Import the HeartStart MRx patient data to the Telemedicine database from a data card	See Importing HeartStart MRx 12-lead reports from a data card on page 66.
Your Medical Director sent you an email that lists changes to the Auto Send List destinations.	Edit Auto Send Lists	See Editing or deleting Auto Send Lists on page 115.
You received an email stating that several printers and fax machines were upgraded. You need to change several destinations and Auto Send Lists.	Edit printer, fax, and Auto Send List destinations	See Setting up for printing 12-lead reports on page 111 and Add, edit, or delete fax destinations on page 107. Also see Editing or deleting Auto Send Lists on page 115.
You received 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	See Backing up your data on page 84, and Deleting patient data on page 67.

System requirements

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

The entries in the following tables are requirements unless they are labeled as recommendations, or unless a choice is provided.

These requirements are included in this topic:

Software requirements

Component	Requirements
Operating system for Telemedicine Server	Microsoft Windows Server 2008 R2* -or- Microsoft Windows 7* * Running with the corresponding Microsoft Internet Information Service (IIS)
Operating system for Telemedicine Viewer	Microsoft Windows 7
Database server software for Telemedicine Server	Microsoft SQL Server 2008 R2 Express Edition that can store up to 10 GB of data **NOTE:** The Microsoft SQL Server software is installed automatically with the Telemedicine Server software.

Hardware requirements

Component	Requirements
Processor speed for Telemedicine Server and Telemedicine Viewer	Minimum: 1 GHZ or higher
Display	Minimum: 1024 x 768 Recommended: 1280 x 1024 or higher
Memory for Telemedicine	Minimum: 2 GB

Component	Requirements
Server	
Memory for Telemedicine Viewer	Minimum: 1 GB
Disk storage space for Telemedicine Server and Telemedicine Viewer	20 GB of available disk space for database storage **NOTE**: 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 recommends that you back up your data and store the data at an offsite location. For more information, see Data storage requirements on page 101.
Internet connection for Telemedicine Server and Telemedicine Viewer	Required
Telephone line for Telemedicine Server	Analog telephone line To send faxes

Accessories

Component	Requirements
PDF Reader for Telemedicine Server and Telemedicine Viewer	Recommended: Adobe Reader, latest version. For more information, see the following Web site: www.adobe.com To view the *HeartStart Telemedicine System user guide*.
Backup-and-restore tool for Telemedicine Server	To prevent data loss
Email application for Telemedicine Server	Recommended: SMTP server or relay To send email through an Auto Send List Recommended: Microsoft® Outlook or Microsoft® Outlook Express To activate the software using email, or to send patients using email, configure a MAPI-compliant email client.

Component	Requirements
Email application for Telemedicine Viewer	Recommended: Microsoft® Outlook or Microsoft® Outlook Express To activate the software or to send patient data using email, configure a MAPI-compliant email client.
Fax modem for Telemedicine Server	Recommended To fax 12-lead and periodic vial trends reports
Printer for Telemedicine Server and Telemedicine Viewer	To print 12-lead and periodic vital trends reports
Bluetooth® adapter for Telemedicine Server	To transfer the HeartStart MRx patient data using *Bluetooth* wireless transfer
Bluetooth stack for Telemedicine Server	*Bluetooth* Version: 1.1 or higher • Widcomm *Bluetooth* stack **Note**: You can use any *Bluetooth* stack supported for the HeartStart MRx. See the *HeartStart MRx M3535A/M3536A instructions for use*.

Recommended IT skills

Philips recommends that information technology (IT) personnel with the following skills set up your Telemedicine system.

Implementation tasks and skills table

Task	Skill Level
Set up networks	Understand basic networking, and the theory for the following: • Internet Information Services (IIS) • SQL (must be able to install and configure SQL Server 2008 R2) • Cellular telephony, including dial-up networking, data tethering, and mobile data applications • SMTP servers (email), including SMTP command set • Firewalls • Proxy servers, including HTTP proxy (HTTPS proxy) • Faxing technology • Internet Service Providers (ISP) • Domain names
Identify application requirements	Familiarity with the *HeartStart Telemedicine System user guide* (before beginning the implementation)
Set up servers, and services	Experience setting up Web server and Windows Service Controller
Set up HTTP connectivity	Experience implementing the HTTP connection
Set up data card connectivity	Experience setting up data-card adapters
Set up *Bluetooth* connectivity	Experience installing and setting up *Bluetooth* software and adapters
Test and troubleshoot the implementation	Understand the troubleshooting process, and have experience with the following: • Knowledge of the data transmission methods from HeartStart MRx to Telemedicine

Task	Skill Level
	For more information, see the "Working with defibrillators" section in the *HeartStart MRx M3535A/M3536A instructions for use*. • Experience troubleshooting an IIS server • Experience troubleshooting security issues, such as firewalls, antivirus software, authentication, and encryption • Experience troubleshooting networks

How this guide is organized

This guide is primarily for the everyday users of Telemedicine. These are users who view the patient data received by Telemedicine, supplement this data with demographic information, and forward this data. Forwarding patient data includes printing, faxing, and emailing reports, as well as forwarding data to a computer running another software application, or another Telemedicine Server.

Material in the "Administration of Telemedicine" section is for the IT personnel who install the Telemedicine software, configure the system for the display and forwarding of patient data, maintain the system, and administer the database.

This guide is available as a PDF document that you can view and search on your computer, and that you can also print. In that document, you can view the overall organization of the guide in the table of contents, and then click a topic to go directly to that information. To open a PDF file of the user guide, on the **Help** menu, click **User Guide**.

The information is also provided as online help from within the software. See Using online help on page 20.

This version of *HeartStart Telemedicine System user guide* has been reorganized from previous versions.

Section summary

1. This section, "Getting started," provides essentials such as system requirements, the formal Intended Use Statement, and an introduction.
2. Overview of Telemedicine software on page 21 assists all readers in understanding the Telemedicine products and the environments in which they are used.
3. Everyday use of Telemedicine on page 39 is directed to the everyday users of Telemedicine. This section introduces working areas and provides procedures for viewing and forwarding data.

Philips strongly recommends that the installation, configuration, and maintenance of your Telemedicine system, and the administration of the Telemedicine database, be done by experienced IT personnel.

4. Administration of Telemedicine on page 70 is directed to IT personnel. This section contains information about installing the software, configuring the system, setting up communication with the peripheral devices and other computers, and maintaining the Telemedicine system and database.
5. Implementation supplement—Using Telemedicine with Data Messenger on page 122 provides IT personnel with technical information about configuring Data Messenger and Telemedicine to work together, so that they can communicate HeartStart MRx data to Telemedicine.
6. Customer support on page 141 provides you with telephone, Internet, and email contact information for getting product and technical support.
7. The Glossary on page 145 gives definitions for terms and acronyms.

Conventions used in this guide

This document uses the following conventions to help identify information.

A yellow box with a triangular caution icon and exclamation mark identifies circumstances that can result in data corruption or information loss.

A blue box with a note icon contains information on how features are used.

A green box with a light-bulb-tip icon contains information to complete a task.

Using online help

Use the online help system to search for information using the full-text search feature, the glossary, or the index.

You can access online help in these ways:

- Press F1 to open online help.
- On the **Help** menu, click Telemedicine System **Help**

2

Overview of Telemedicine software

The Telemedicine System consists of two software applications, the Telemedicine Server and the Telemedicine Viewer.

The Telemedicine Server is the essential piece of the system, and the Telemedicine Viewer is an optional addition.

With Telemedicine System software you can receive, store, display, and forward patient data transmitted from HeartStart MRx Monitor/Defibrillators. The patient data Telemedicine receives from the HeartStart MRx consists of periodic clinical data (12-Lead reports, trigger events with waveforms, and vital trends).

The Telemedicine Server software

The Telemedicine Server software is available in two editions. These editions vary from each other in the HeartStart MRx patient data that they store, display, and forward.

- **Telemedicine Classic 12-Lead Edition** stores, displays, and forwards 12-lead reports.
- **Telemedicine Critical Care Edition** stores, displays, and forwards 12-Lead reports, trigger events with waveforms, and vital trends.

These editions are licensed separately. The same software download becomes either Telemedicine Classic 12-Lead Edition or Telemedicine Critical Care Edition, depending on the license key entered.

The Telemedicine Viewer software

Telemedicine Viewer is an optional component, used with the Telemedicine Server. The Telemedicine Viewer is installed on a different computer from the Telemedicine Server. It allows users to interact remotely with, and perform tasks on, the patient data on the Telemedicine Server.

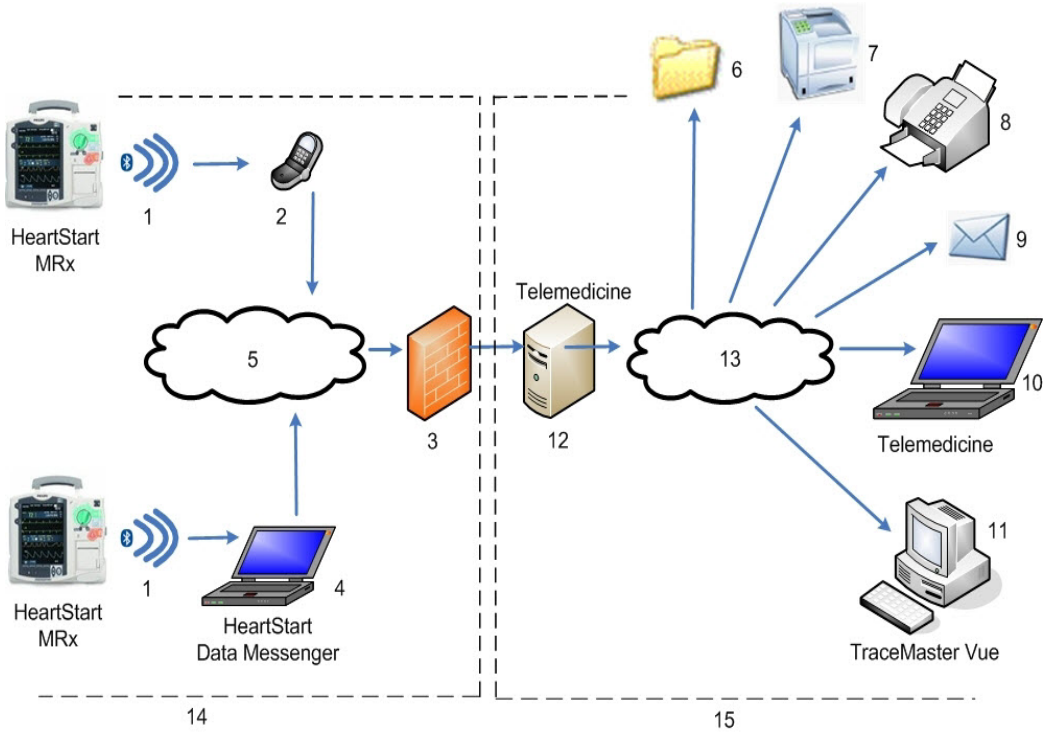
You can use Telemedicine Viewer with either the Telemedicine Classic 12-Lead Edition or Telemedicine Critical Care Edition of the Telemedicine Server.

Each copy of Telemedicine Viewer is licensed separately.

The Telemedicine System illustrated

You can configure the Telemedicine System in many ways, depending on your needs.

A high-level view of capabilities for a Telemedicine System



Telemedicine System elements	
1	*Bluetooth* wireless communication
2	Cell phone forwards data to Telemedicine
3	Firewall between the outside world and the Telemedicine Server
4	HeartStart MRx data through Data Messenger to Telemedicine **NOTE**: There are multiple options for setting up Data Messenger between the HeartStart MRx and Telemedicine. For setup information intended for IT personnel, see Implementation supplement—Using Telemedicine with Data Messenger on page 122, or contact customer support for more information.
5	Internet
6	Data saved to a folder on a computer

7	Data sent to a printer
8	Data sent to a fax machine
9	Data sent by email
10	Data forwarded to another instance of Telemedicine
11	Data forwarded to another ECG management system, such as TraceMasterVue
12	Telemedicine Server
13	Intranet or Internet
14	Setup for communication between HeartStart MRx devices and Telemedicineis represented in this portion of the workflow
15	Everyday use, and administration for everyday use, is represented in this portion of the workflow

Philips strongly recommends that the installation, configuration, and maintenance of your Telemedicine System be done by experienced IT personnel.

How HeartStart MRx data is transferred to Telemedicine

This section describes how data is transmitted from the HeartStart MRx to Telemedicine.

The following steps describe the process of sending an automatic transmission from the HeartStart MRx.

1. If it has not been done already, the operator configures a *Bluetooth* device (a cellphone or computer) and pairs it with the HeartStart MRx.
2. The operator selects Start Data Transmission on the HeartStart MRx, and selects the *Bluetooth* device for the PCDT transmissions.
3. The HeartStart MRx shows the *Bluetooth* icon indicating the automatic transmission mode, and sends out the "startPCDT" event.
4. The HeartStart MRx encrypts and transmits the following data automatically:
   - Vital trending values, every 1 to 5 minutes, as set in the configuration
   - Event data and the associated waveform data, when a trigger event occurs
   - If a 12-lead is acquired, 12-lead data, after the analysis is complete
5. When Telemedicine receives data from the HeartStart MRx, it decrypts and decodes the data, and then stores the data in the Telemedicine database.
6. Telemedicine then forwards the data, as set up in the Auto Send List.
7. Telemedicine also displays the data in the Telemedicine Viewer.
8. The operator selects End Data Transmission on the HeartStart MRx, causing the HeartStart MRx to send out the "endPCDT" event and exit the automatic transmission mode.

The following steps describe the manual transmission of data from the HeartStart MRx to Telemedicine.

Only the HeartStart MRx 12-lead data can be transmitted manually.

1. If it has not been done already, the operator configures a site, hub, or destination for transmission.

2. The operator ensures that the HeartStart MRx is not in PCDT automatic transmission mode.
3. The operator sets the HeartStart MRx to 12-lead mode.
4. The HeartStart MRx acquires 12-lead data.
5. The operator selects Send from the HeartStart MRx menu, and then selects the destination for the transmission. The transmission is sent.
6. When Telemedicine receives the 12-lead data from the HeartStart MRx, it decrypts and decodes the data, and stores the data in the Telemedicine database,
7. Telemedicine then forwards the data, as set up in the Auto Send List.

You can also use a data card to manually transfer the HeartStart MRx 12-lead data. For a description of this process, see Importing HeartStart MRx 12-lead reports from a data card on page 66.

Technical procedures for the IT personnel setting up the communication between the HeartStart MRx and Telemedicine are provided in Implementation supplement—Using Telemedicine with Data Messenger on page 122.

HeartStart MRx periodic clinical data

In a periodic clinical data transmission (PCDT), 12-Lead and vital data is transmitted automatically, and trigger event data is sent when a pre-configured trigger event happens. A trigger event initiates a HeartStart MRx data transmission.

The following table identifies trigger events and the data that the HeartStart MRx sends to Telemedicine and other destinations.

All transmissions between the HeartStart MRx and Telemedicine are encrypted. Transmitted data may contain personal patient-identifiable data. Be sure to handle this data in accordance with the patient privacy requirements of your organization, and with applicable local laws such as HIPPA.

For more information about HeartStart MRx trigger events, see *HeartStart MRx M3535A/M3536A instructions for use*.

Trigger events

Event	When	What data is sent
Vital signs updated	Every 1 to 5 minutes (based on the interval configuration on the HeartStart MRx)	Patient vital data for pulse, heart and AwRR rates, NBP, EtCO2, SpO2, 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 acquired	12-lead ECG (may include ACI-TIPI and TPI information)

Event	When	What data is sent
Mark Event (When a label is added, this is an Annotation Event)	When Mark Event button is pressed on the HeartStart MRx	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 Mark Event button on the HeartStart MRx, the event is labeled as generic and sent. A segment consisting of the 10 seconds before and the five seconds after the Mark Event, inclusive, for each of the waveforms configured to be printed
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 before and the five seconds after the shock, inclusive, for each of the waveforms configured to be printed * Not sent with an aborted-shock PDT
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 before and the five seconds after the pacing change, inclusive, for each of the waveforms configured to be printed **Note**: Stop pacing does not transmit pacing mode, rate, or output
Physiological alarms**	When trigger event occurs	Event label and alarm condition with Vital signs update. A segment consisting of the 10 seconds before and the five seconds after the alarm, inclusive, for each of the waveforms configured to be printed

Event	When	What data is sent
Print Event	When Print button is pressed	All data with vital signs update A segment consisting of the 10 seconds before and the five seconds after the alarm, inclusive, for each of the waveforms configured to be printed
Start/End PCDT	When trigger event occurs	**Note:** End PCDT does not send vitals or waveform data

** Physiological alarms: Asystole, 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, EtCO2, SpO2, Pulse rate, AwRR, Invasive Pressure, CPP, and Temperature

How Telemedicine inboxes process 12-leads and periodic clinical data

The Telemedicine inboxes are installed on the Telemedicine Server computer. The inboxes receive the data from the HeartStart MRx or another instance of Telemedicine. The Telemedicine Server stores the original data files in the backup folder.

Default installation directories for Telemedicine Inboxes

TSInbox

C:\Program Files\Philips\HeartStart\Telemedicine\TSInbox

TSInbox receives 12-lead reports forwarded from other instances of Telemedicine System or 12-Lead Transfer Station.

MRxInbox

C:\Program Files\Philips\HeartStart\Telemedicine\MRxInbox

MRxInbox receives all HeartStart MRx 12-lead reports.

TSXInbox

C:\Program Files\Philips\HeartStart\Telmedicine\TSXInbox

TSXInbox receives all *Bluetooth* transmissions.

PatientDataInbox

C:\Program Files\Philips\HeartStart\Telemedicine\PatientDataInbox

PatientDataInbox receives periodic clinical data transmissions from the HeartStart MRx.

PDTSInbox

C:\Program Files\Philips\HeartStart\Telemedicine\PDTSInbox

PDTSInbox receives periodic clinical data transmissions forwarded from another instance of Telemedicine.

The Inbox Watcher Service monitors the inboxes and checks for activity. There is a backup folder in each inbox. After original data is processed by the Inbox Watcher Service, it is saved to a backup folder in the corresponding inbox.

How Telemedicine forwards HeartStart MRx data

In 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.

This is an overview of what data can be forwarded.

For instructions on how to forward data, see Forwarding patient data on page 63.

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

Forwarding data automatically, in an Auto Send List

An Auto Send List can forward a 12-lead report automatically. An Auto Send List can include the following destination types:

- HeartStart 12-Lead Transfer Station 3.0
- TraceMasterVue
- DatamedFT
- Telemedicine
- Fax machine
- Email address

When forwarding a transmission to an email address, you can password-protect the email.

Telemedicine uses the printers that are set up for your network.

Forwarding data manually

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

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

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.

The following table lists the kinds of patient data transfer that are supported by the two Telemedicine Server editions, Classic 12-Lead and Critical Care. For more information, see Overview of Telemedicine software on page 21.

Supported patient data transfer, by edition

Task	HeartStart Telemedicine	
	Classic 12-Lead Edition	Critical Care Edition
Automatically forward 12-lead reports through an Auto Send List	Yes	Yes
Manually forward a selected patient record	No	Yes
Manually forward a selected 12-lead report	Yes	Yes
Manually forward a selected trigger event and waveform	No	Yes
Manually forward vital trends for a selected patient record	No	Yes
Fax a selected 12-lead report	Yes	Yes
Print a Patient Report for a selected patient record	No	Yes
Print a selected 12-lead report	Yes	Yes

Print a selected waveform	No	Yes
Print vital trends for a selected patient record	No	Yes
Email a PDF of a Patient Report for a selected patient record	No	Yes
Email a selected 12-lead report	Yes	Yes
Email a selected waveform	No	Yes
Email vital trends for a selected patient record	No	Yes
Export a Patient Report for a selected patient record	No	Yes
Export a selected 12-lead report	Yes	Yes
Export a selected waveform	No	Yes
Export vital trends for a selected patient record	No	Yes

Introducing the application window

When you start Telemedicine, the navigation pane is on the left, Getting Started is at the top, and the Welcome screen is on the right.

The Welcome screen identifies the installed Telemedicine version (Telemedicine Server or Telemedicine Viewer), and the edition (Classic 12-Lead or Critical Care).

On the Welcome page the Introduction link opens the application help file.The other two links, Visit the HeartStart Telemedicine Server Web Site and Check for Software Updates, require an Internet connection.

The title bar displays the version of the application, Telemedicine Server or Telemedicine Viewer. Beneath the title bar, menus appear across the top of the window, and a toolbar with buttons appears below the menus.

Menu options and toolbar buttons change based on the navigation button and the 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 workspaces are on the right.

For complete instructions about controlling the navigation pane, see Using the navigation pane on page 40. A brief summary follows.

- The navigation buttons are Getting Started, Patients, and Administration. The navigation pane is the area above the navigation buttons. This area groups major application features by function. The navigation pane takes on the identity of the currently selected navigation option. For example, when you click the Administration navigation button, the Administration navigation pane appears.

  Click Hide  to hide the navigation buttons and the navigation pane, creating more space in which to view patient data. When navigation buttons are hidden, their icons persist on the top left window edge. Click an icon for a navigation button to display that specific navigation pane.

The navigation icons and the navigation panes they represent

 **Getting Started**

 **Patients**

 **Administration**

To redisplay all the navigation buttons, click Display  in the upper right corner of an individual open navigation pane. The navigation pane with all the navigation buttons reappears on the left side of the window.

- The workspaces are on the right side of the window. A workspace can contain one or more panes, depending on the function you select.

  The workspaces change appearance based on the navigation button and the feature that you select. For example, if you click the Patients navigation button, and click View All Patients, the View All Patients workspace appears on the right.

Viewing patient data in Telemedicine

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

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

Telemedicine Classic 12-Lead Edition

Stores, displays, and forwards 12-lead reports. The 12-lead reports can be viewed in the View Patient work area, and viewed, printed, or exported from the Report Preview window.

Telemedicine Critical Care Edition

Stores, displays, and forwards 12-lead reports plus periodic clinical data. Periodic clinical data can include trigger events, waveforms, and periodic vitals.

Telemedicine Viewer

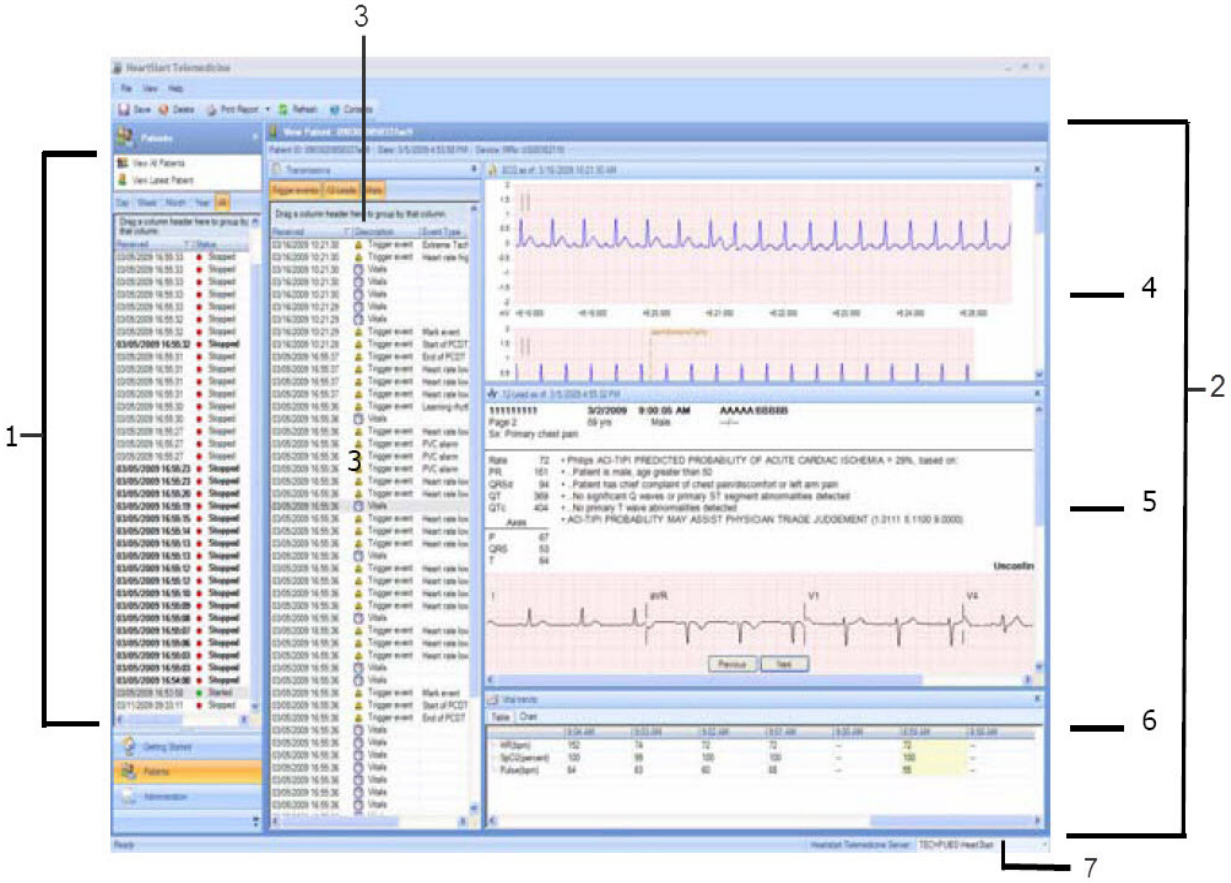
Depending on the version of Telemedicine Server that it is connected to, Telemedicine Viewer displays data from a remote location, either Telemedicine Classic 12-Lead Edition or Telemedicine Critical Care Edition.

For a reference to trigger events, see HeartStart MRx periodic clinical data on page 27.

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

- 12-lead reports to Telemedicine, automatically or manually
- Periodic vitals to Telemedicine in 1- to 5-minute intervals, automatically
- Trigger event data, when triggered

The Patients navigation area and Patients workspace



This screen illustrates the Patients navigation area (1) and the Patients workspaces (2).

The Patients navigation pane (1) lists patient information in the order that Telemedicine receives the HeartStart MRx data transmissions.

On the Patients navigation pane (1), below the Patients button, the View All Patients button and the View Latest Patient button control what appears in the Patients workspace, to the right.

The Patients workspace (2) makes up the right side of the screen, which is divided into panes. The information appears differently depending on selections users make.

In the Patients navigation pane (1), if the View All Patients button is clicked, the Patients workspace (2) shows the View All Patients list, with information for each patient. The list columns are configurable, and may include patient ID, the transfer method, institution, status, and other details, (not illustrated here; see Viewing all patients on page 48).

In the Patients navigation pane (1), if the View Latest Patient button is clicked, the Patients navigation pane (1) lists transmission details about the selected patient. On the right, in the Patients workspace (2), up to four panes appear:

- The Transmissions pane (3) displays all the transmissions for the selected patient and a brief description of each transmission type.
- The Waveform pane (4) to the right of the Transmissions pane, at the top of the screen, displays trigger events and waveforms, if the patient data includes a waveform.
- The 12-Lead pane (5), below the Waveform pane, displays 12-lead ECG reports.
- The Vital Trends pane (6), below the 12-Lead pane, displays the periodic vitals for the patient, in a table or chart format.

The Waveform pane (4) and the Vital Trends pane (6) exist only in Telemedicine Critical Care Edition.

On Telemedicine Viewer, the HeartStart Telemedicine Server field (7) is located in the lower right corner of the screen. The field shows the name of the database, and contains the Change Server selection, which is used to connect Telemedicine Viewer to a Telemedicine Server database.

Viewing the system log

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

To view Telemedicine activity in the system log

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

   The system log appears.

3

Everyday use of Telemedicine

This section is intended for users who work with patient data. This section tells you how to use the Telemedicine application to view patient data, format patient reports, and transfer patient data to destinations.

For information about installing and configuring Telemedicine, see Administration of Telemedicine on page 70.

Starting Telemedicine

The Telemedicine installation does not place an icon on your desktop. Use the Windows menus as described to open Telemedicine.

The features you see when you log on to Telemedicine depend on whether you log on to the Telemedicine Server or the Telemedicine Viewer.

- On the Telemedicine Server, configuration features are available on the Administration pane.
- On the Telemedicine Viewer, there are no configuration features on the Administration pane.

To start Telemedicine

1. On the Windows desktop, click **Start**.
2. Click **All Programs**.
3. Click **Philips HeartStart Telemedicine System**.
4. Click **Telemedicine**.

   The application opens, with the Getting Started navigation button activated. The Getting Started navigation pane and workspace appear.

The first time you start the application, Telemedicine displays the Philips HeartStart Activation Wizard. Telemedicine keeps track of the number of days before the preregistration period expires. Telemedicine stops working if you do not activate the software within 60 days of installation. For information about activating Telemedicine, see Activating Telemedicine on page 73.

To use Telemedicine

To use Telemedicine, start by clicking a navigation button on the left pane of the application window. Make your selection based on what you want to do.

Getting Started is the default view when you first start, and it offers general information useful to Telemedicine users.

Patients is where your work with patient data is performed.

Administration is where IT personnel find the tools to set up and maintain the Telemedicine system.

Using the navigation pane

The navigation pane provides centralized navigation and access to the application features.

Each navigation button opens a pane with access to features.

To display a set of features, grouped by function, click one of the navigation buttons.

The following icons and labels represent the main navigation buttons:

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

There are additional navigation panes on the Patients navigation pane, and also on the View Patient workspace. You can hide the navigation panes to increase the size of each workspace. You can return to a navigation pane while you work on the set of features.

To hide the navigation pane

- At the top of the navigation pane, click **Hide**  .

  Telemedicine hides the navigation pane and displays a tab along the left edge of the window, with icons for the navigation areas.

To temporarily display a navigation pane

1. Point to a tab icon along the left edge of the window.

   Telemedicine temporarily displays that navigation pane.

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

To restore the navigation pane

- Point to a tab icon along the left edge of the window to expand a navigation pane, and then click **Display**  on the navigation pane.

  All the navigation buttons appear at the bottom of the navigation pane.

By default, Telemedicine displays all navigation buttons.

You can display or hide navigation buttons on a navigation pane.

To show fewer or more 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 **Getting Started** navigation button.
3. Repeat steps 1 and 2 for each navigation button that you want to change.

If you hide all the navigation buttons, the options are still available for selection as small icons below the navigation pane. A tooltip appears when you point to an icon on the bottom navigation button.

Resizing panes and workspaces

You can change the default layout of the Telemedicine window. Telemedicine displays your layout the next time 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.

   Telemedicine adjusts the size of the adjacent panes.

Restoring the default view

From the Patients workspaces, you can restore the default (as-installed) layout of the Telemedicine application window.

To restore the default layout, on the **View** menu, click **Default View**.

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

Working with data tables

Telemedicine displays data in configurable tables. You can control how the data appears in the tables.

- The Patients table
- The View All Patients table
- The Transmissions table
- The System Log table

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, click and hold the column border, and then drag the border to the size you prefer.
- To size a column to fit the width of its current content, click the column border, and then double-click the mouse.
- To change the order in which columns appear, click and hold the column header, and then drag the column to the left or right to a new location.

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.

Sorting entries

You can sort the information by the column. A triangular symbol appears on the column header to indicate sort order. Click the symbol to reverse the order.

Grouping entries

In data tables, you can arrange entries for your convenience.

Displaying and hiding entries

Right-click any column to display a shortcut menu. The shortcut menu lists all columns available, with check marks next to those that currently display. Click the check boxes to display or hide any of the columns.

Sorting entries

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.

Grouping entries

You can group entries so as to sort them by multiple criteria. For example, you can select a primary (major) sort by Type and a secondary (minor) sort by Description, or a primary sort by Device and a secondary one by Event. Use the gray area above the entries to set up groups.

If you want to create further minor sorts, you can then drag more column headings into the gray area to create subgroups.

To group information

1. Click a column header and drag it to the grouping area labeled **Drag a Column Header Here to Group by That Column**.

   The column name moves to the grouping area, and the table displays the groups you create.

2. Repeat step 1 as necessary to create more groups. Each additional column name becomes a minor sort below the major sort that you created in step 1. To rearrange any of these column names in the grouping area, drag them to a new position. The table readjusts to the new sort order.

3. Click the column header to sort the order in which the grouped information appears.

To ungroup information

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

   If it is the only column head in the grouping area, the table then reverts to its original organization.

   If other column headers are still in the grouping area, the table readjusts the sort, according to the column heads that are still there.

Saving your work

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

To save your work

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

   Telemedicine might display a confirmation message.

2. If asked for confirmation, click **Yes**.

Telemedicine does not back up your database. Maintaining proper backups is the responsibility of your IT personnel. Protect your data by ensuring that appropriate database backup procedures are part of your organization's practices. For more information, see Backing up your data on page 84.

The Patients workspaces

This section describes the layout of the Patients tables and workspaces. For instructions on using the Patients workspaces, see Using the Patients workspaces on page 47

In the Patients navigation pane and the Patients workspace, Telemedicine lists patient information in tables.

The tables display information in a manner 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, periodic vital trends, or a system activity. Each column has values for a specific field.

Patients table

The Patients table is on the Patients navigation pane. It lists each incident of HeartStart MRx patient data received by Telemedicine.

These are the same patient entries that are listed in the View All Patients workspace.

The list of patient data is based on the date and time that the patient entry was first received by Telemedicine.

By default, the Patients table displays the Received, Reference ID, and Status columns.

View All Patients table

The View All Patient table is on the View All Patients workspace. It lists each incident of HeartStart MRx patient data received by Telemedicine. The list of patient data is based on the date and time that the patient was first received by Telemedicine. Telemedicine also lists the current patient status.

By default, Telemedicine lists the patients in descending order.

Transmissions pane and transmission detail panes

When you click View Latest Patient, Telemedicine opens 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 Telemedicine.

The following transmission detail panes are included in the Transmissions pane:

- Trigger Events
- 12-Leads
- Vital Trends

By default, Telemedicine lists the patient transmissions in descending order.

Using the Patients workspaces

This section explains how to use the Patients navigation pane and workspaces to view the patient data: HeartStart MRx 12-leads, trigger events, waveforms, and periodic vital trends.

Working with patient records

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

Patients navigation pane

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

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

Patients workspaces

Start from the Patients navigation pane to access the Patients workspaces.

Use the Patients workspaces to view all patient records, the latest patient record received, or a selected patient record.

Telemedicine 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: Received, Reference ID, and Status.

Patient data locations

In Telemedicine Server and Telemedicine Viewer, when you view patient data, you are seeing the data on a Telemedicine Server.

When you use Telemedicine Server, you always look at the same database, configured for that Telemedicine Server.

Telemedicine Viewer is an optional software application that works with Telemedicine Server in a system.

When you use Telemedicine Viewer, you are viewing the data that exists on a Telemedicine Server, in a location remote from Telemedicine Viewer.

If your workplace has multiple Telemedicine Servers, Telemedicine Viewer can be changed to view a different Telemedicine Server, to allow you to look at a different set of data.

For more information about Telemedicine Viewer, see Overview of Telemedicine software on page 21, and Connecting Telemedicine Viewer to Telemedicine Server on page 121.

Viewing all patients

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

You can control how the data appears in the table. See Working with data tables on page 42.

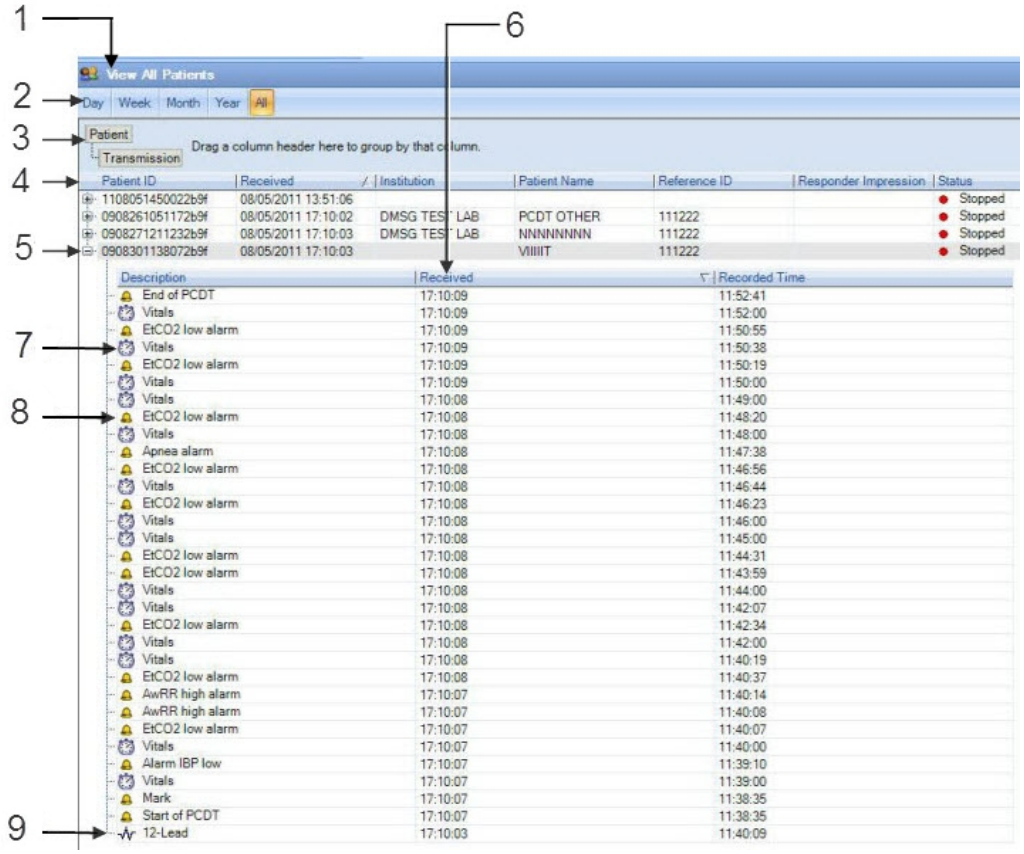
Telemedicine displays information received from the HeartStart MRx in the Reference ID and Institution columns. You can edit these fields and add information in the Patient Name and Responder Impression columns. See Adding and editing patient data on page 50.

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**.

Click **Expand**  to expand a patient record to list the transmissions received. Double-click a selected transmission to view transmission details.

The View All Patients workspace



1. Window title: View All Patients
2. Filter categories for viewing patient records: Day, Week, Month, Year, and All

   See To filter the number of patient records by time period on page 50.
3. Grouping area, for grouping the data by column

   See Grouping entries on page 43.
4. Patient record column headers
5. A patient record, with transmission details expanded
6. Transmission detail column headers
7. Patient vital trends transmission (Vitals)
8. Alarm transmission (trigger event); examples: AwRR high alarm, EtCO2 low alarm, Start of PCDT, End of PCDT

   See HeartStart MRx periodic clinical data on page 27
9. 12-lead transmission

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.

To display all patient transmissions

1. Right-click a record or row.
2. On the shortcut menu, click **Expand All**.

To hide a patient transmission

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

To hide all patient transmissions

1. Right-click a record or row.
2. On the shortcut menu, click **Collapse All**.

To filter the number of patient records by time period

1. On the **Patients** navigation pane, click **View All Patients** to display the **View All Patients** workspace.
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**.

Adding and editing patient data

On the View All Patients workspace, you can add and edit information about a patient in the Institution, Patient Name, Reference ID, and Responder Impression columns.

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

Telemedicine stores the most recent changes saved in the Institution, Patient Name, Reference ID, and Responder Impression columns.

To avoid overwriting the information by mistake, Philips recommends that you designate one person to change the field data.

To add or edit patient data

1. Click the **Institution**, **Patient Name**, or **Reference ID** field, and then type text.
2. Click the **Responder Impression** field, click the down arrow, and click **Other** from the menu; then type text in the field, Alternatively, you can click one of the provided entries: **Cardiac Arrest**, **Chest Pain**, **Poison/Overdose**, **Pediatrics**, **Respiratory**, **Stroke**, or **Trauma**. You can also type additional text in these provided fields.
3. On the **File** menu or toolbar, click **Save**.

The message **Save changes before continuing?** appears.

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

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 Telemedicine received it. You can filter the type of transmissions that appear in the list. You can also click a transmission to display the details to the right of the Transmissions pane.

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

The View Patient workspace

Features in the View Patient workspace

1. Window title: View Patient
2. List of transmissions for this patient
3. Expand to view transmission details
4. Waveform transmission details, for trigger events
5. 12-lead transmission details
6. Vital trends transmission details

To display the View Patient workspace

1. On the navigation pane, click **Patients**.
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, and then double-click a patient record.
   - On the **Patients** navigation pane, click a patient record, and then click **View Latest Patient**.

   The following information for the patient record appears above the **Transmission** pane: **patient ID**, **date and time**, and **device**.
3. On the **Transmissions** pane, click a transmission.

   The patient transmissions appear on the **Transmissions** pane and on the appropriate pane or tab: **Waveform**, **12-Lead**, or **Vital Trends**.
4. 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.

For more information about grouping and sorting the data, see Working with data tables on page 42.

Using Report Preview

The Report Preview window is available from the Print Report button, on the Telemedicine toolbar, and also from the File menu.

Print Report is available when the Patients workspace is active.

To open the Report Preview window

1. In the **Patient** workspaces, click the data you want to preview.
2. To preview a patient report, from the Telemedicine toolbar, or from the **File** menu, click **Print Report**. A preview of the patient report opens, with a viewing and printing toolbar.

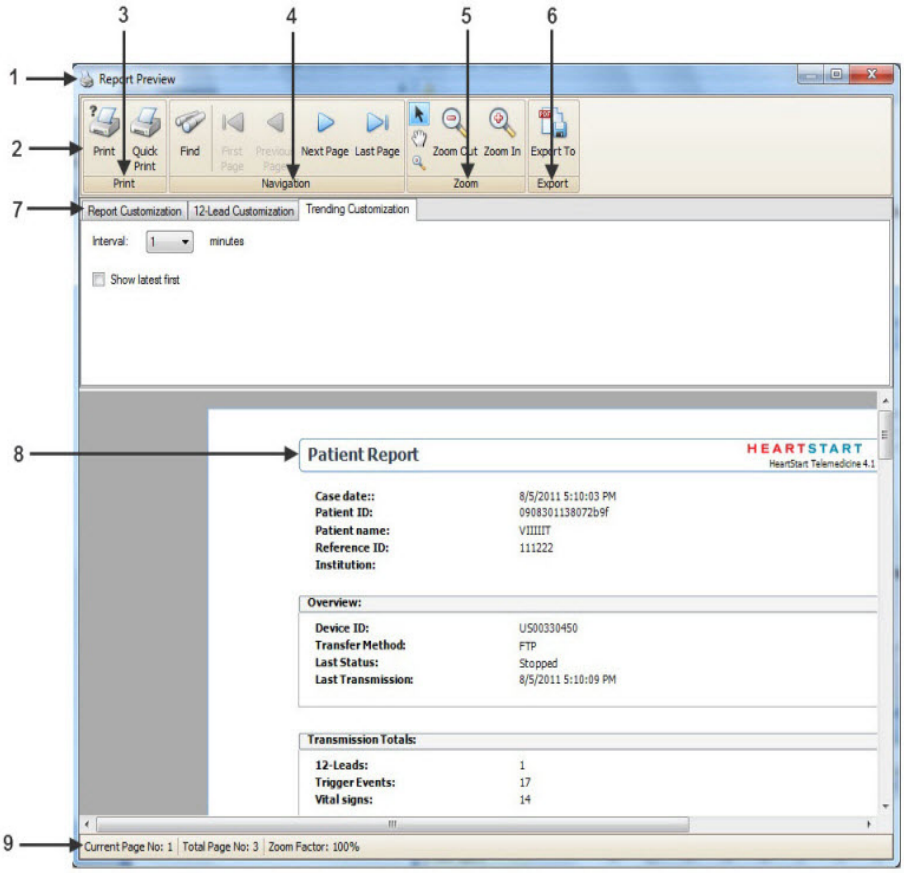
   You can also preview the patient report using the following method:

   To preview a report of selected data, click the arrow to the right of **Print Report**. A menu opens with the following selections:

   - **Patient Report**
   - **Selected 12-lead**
   - **Selected Waveform**
   - **Vital Trends**

   Click the selection to preview your selected report.

Report Preview window



1. Window title: Report Preview
2. Toolbar
3. Print tools
4. Navigation tools
5. Zoom tools
6. Export
7. Customization tabs: Report Customization, 12-Lead Customization, and Trending Customization (this tab is shown forward)
8. Report title
9. Current page of report, total number of pages, and zoom percentage

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** 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 the **Arrow** to select the pointer (to deselect the zoom tools).
	Click the **Hand** tool to manually move up, down, left, or right on the report pages.
	Click **Zoom Out** to see more of the page at a reduced size.
	Click **Zoom In** to get a close-up view of the document.
	Click **Export to PDF** to export the report as a PDF and save it.

Working with patient reports

You can generate a patient report for the selected patient in the View All Patients or View Patient workspaces.

When working from the View Patient workspace, in order to include trigger events and waveforms in the Patient Report, click a trigger event with a waveform, so the waveform is displayed in the View Patient workspace, before clicking Print Report.

To preview the patient report

- From **Print Report**, click the down arrow and click **Patient Report**.

  The Report Preview window opens.

To customize settings for a patient report in Report Preview

1. On the **Report Customization** tab, click the data types you want to include: **12 Lead**, **Waveforms**, and **Vitals Trending** are available. These options are selected by default. To exclude a data type, clear the checkbox.
2. On the **12-Lead Customization** tab, you can select options for how the 12-leads are shown. For more information, see Working with 12-lead reports on page 57.
3. On the **Trending Customization** tab, you can select options for how vital trends are shown. For more information, see Working with vital trends reports on page 58.

For an overview of the Report Preview window, see Using Report Preview on page 54. For printer setup instructions, see Setting up for printing 12-lead reports on page 111. For printing instructions, see Printing reports on page 61.

Working with 12-lead reports

You can generate a 12-lead report for the selected patient in the View All Patients or View Patient workspaces.

12-lead reports may contain personal patient-identifiable data. Be sure to handle this data in accordance with the patient privacy requirements of your organization, and with applicable local laws such as HIPPA.

To preview the 12-lead report

- From **Print Report** on the menu, click the down arrow and click **Selected 12-Lead**.

The Report Preview opens.

To customize settings for a 12-Lead report

1. Select a timing option. In the **Timing** field, click **Simultaneous** or **Time Sequential**.
   - Simultaneous 12-lead ECG report marks each segment with double vertical lines. It is the preferred 12-lead report format used in the Europe.
   - 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.
2. The 12-lead report can appear with or without a grid in the background of the ECG. Click **Display grid** to add a grid to the background of the 12-lead report. Clear **Display grid** to remove the grid.

For printer setup instructions, see Setting up for printing 12-lead reports on page 111. For printing instructions, see Printing reports on page 61.

Working with vital trends reports

You can generate a Vital Trends report for the selected patient in the View All Patients or View Patient workspaces.

This report is created from 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.

To preview the Vital Trends report

- From **Print Report** on the menu, click the down arrow and click **Vital Trends**.

  The Report Preview opens.

On the Trending Customization tab, you can customize settings in the Vital Trends report.

To customize the vital trends report

1. Set the vital trends time interval. In the **Interval** field, click **1**, **5**, **10**, **15**, **30**, or **60** minutes interval duration.

2. Change the display order. Click **Show latest first** to display the most recent vital trends interval first. Clear the selection to display the oldest vital trends interval first.

For an overview of the Report Preview window, see Using Report Preview on page 54. For printing instructions, see Printing reports on page 61.

Working with waveform reports

You can view Trigger Events and waveform data for the selected patient in the View All Patients or View Patient workspaces.

Not all trigger events include waveforms. For more information, see HeartStart MRx periodic clinical data on page 27.

The waveform for a trigger event appears in the Waveform pane or tab on the View Patient workspace.

To preview the waveform report

1. On the **View Patient** workspace, click the patient data with trigger events that include waveforms.
2. From **Print Report**, click the down arrow and click **Selected Waveform**.

   The Report Preview opens.

For an overview of the Report Preview window, see Using Report Preview on page 54. For printing instructions, see Printing reports on page 61.

Emailing patient data

You can email a PDF of a full patient report, or of a selected part of the report.

Emailing a PDF of selected patient data transmissions

When you send a 12-lead report to a configured email address manually, Telemedicine starts your default email application. For example, Telemedicine might start Microsoft Outlook, or Outlook Express.

To manually email a selected patient transmission

1. Click a patient record from the **View All Patients** workspace, or a selected patient transmission from the **View Patient** workspace.
2. On the **File** menu, click **Email PDF** and click an option: **Patient Report**, **Selected 12-Lead**, **Selected Waveform**, or **Vital Trends**.

   If the patient data you selected does not have some of the data types, those options will be unavailable.
3. Complete one of the following methods:

   If Telemedicine is set up to password-protect email:

   The **File Security** window appears.

   - 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.

   If you protect the file with a password, be sure to use a separate communication or email to tell the data recipient the password that you assigned to the file.

   If Telemedicine is not set up to password-protect email:

   - Click **OK** to email the attachment without a password.

     Telemedicine starts your default email application and attaches the PDF.
4. Address and send the email.

For information about email in Telemedicine, see Email requirements on page 109, and Editing or deleting email addresses on page 109.

Printing reports

Locate tools for printing reports from Print Report on the File menu, or from the Print Report button on the toolbar. Both locations include a submenu with print options: Patient Report, Selected 12-Lead, Selected Waveform, or Vital Trends.

Print Report is available only when the Patients workspace is active.

Some setup steps are required before printing a 12-lead report. See Setting up for printing 12-lead reports on page 111.

When you click a print option, the Report Preview window opens. For more information, see Using Report Preview on page 54.

You can customize the appearance of reports before printing. See Working with 12-lead reports on page 57, and Working with vital trends reports on page 58.

To print a report

To print the report, use one of the following **Report Preview** toolbar buttons:

1. Click **Quick Print**  to send the report directly to the default printer without making changes.

   Your print is made without additional steps.

or

1. Click **Print**  to select a printer, number of copies, and other printing options.

   The Windows **Print** window opens.
2. Make your selections in the Windows **Print** window, and then click **Print**.

Faxing 12-lead reports

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

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

Each Telemedicine Viewer computer 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.

Faxing 12-lead reports automatically

Telemedicine automatically faxes 12-lead reports to the fax numbers that you add to the default Auto Send List. For more information, see Using Auto Send Lists on page 65.

Faxing 12-lead reports manually

There are two ways to fax 12-lead reports manually: from a configured fax destination, or from the fax selection within the Print window.

Configured fax destination numbers are available from the Forward Selected 12-Lead option on the File menu. For more information, see Forwarding patient data on page 63.

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

- On the **File** menu, click the **Forward Selected 12-Lead** option to manually fax a 12-lead report to an alternate fax destination.

  The Microsoft Send Fax Wizard window appears. Follow the on-screen instructions.

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

1. Select a 12-lead report from one of the following areas:

- Display the **View All Patients** workspace. Click a patient record and click **Expand**  to the left of the row to open the list of patient transmissions, including 12-leads. For more information, see Viewing all patients on page 48.
- Display the **View Patient** workspace. Click a 12-lead from the **Transmissions** pane. For more information, see Viewing patient transmission details on page 52.

2. When you have a 12-lead report selected, on the **File** menu, click **Fax 12-Lead**.

   The **Print** window appears.

3. In the **Print** window, in the **Select Printer** area, click **Fax** and then click **Print**.

   The Microsoft Send Fax Wizard window appears. Follow the on-screen instructions.

Forwarding patient data

Use the Forward options on the File menu to send selected patient data manually.

The destinations that are available on the menus depend on the destinations configured in Telemedicine.

Telemedicine can forward the 12-lead reports to TraceMasterVue and to DatamedFT. DatamedFT converts HeartStart MRx 12-lead reports to another format, for example, to GE MUSE format. A location for DatamedFT is a directory that is monitored by the DatamedFT software.

For more information, see Setting up software applications as destinations on page 103.

To forward patient data from the View All Patients workspace

1. Display the **View All Patients** workspace. For more information, see Viewing all patients on page 48.
2. Click a patient row in the table.
3. Click **Expand**  to the left of the row.
4. Click a transmission.
5. On the **File** menu, click an option for forwarding.

If you click **Forward Selected 12-lead**, Telemedicine displays a menu of destinations.

- **Auto Send List**
- **Application**
- **Fax**
- **Printer**
- **Email**

Click a destination type.

or

If you click **Forward Patient**, **Forward Selected Waveform** , or **Forward Vital Trends**, Telemedicine displays a list of Web Server destinations. Click a destination.

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

You can also forward patient data from the View Patient workspace. To do so, first select the data from the Transmissions pane. For more information, see Viewing patient transmission details on page 52. Follow the instructions for forwarding in the previous procedure.

Using Auto Send Lists

With an Auto Send List, you can send patient data to a configured destination, or to a number of destinations, with one step.

Philips recommends that your Auto Send Lists be set up by experienced IT personnel.

You can configure an Auto Send List to send a 12-lead report to one or more of the following types of destinations:

- HeartStart 12-Lead Transfer Station 3.0
- TraceMasterVue
- DatamedFT
- Another Telemedicine System
- Fax machine
- Printer
- Email address

Each named destination on a HeartStart MRx can be a single destination on Telemedicine, or the name of an Auto Send List.

If the name of the HeartStart MRx destination is the same as the name of the Auto Send List, then Telemedicine sends the 12-lead report to each destination in that Auto Send List.

Auto Send List capabilities

You can save up to 50 Auto Send Lists. Each Auto Send List can contain up to 20 destinations.

Auto Send Lists can be configured in many ways, depending on user needs. An Auto Send List can consist of only one destination, or of many destinations. A destination can appear on more than one Auto Send List.

The default Auto Send List

During the Auto Send List configuration process, you can set one list to be the default Auto Send List.

If the site name for the HeartStart MRx hub does not match the name of a configured Auto Send List, Telemedicine sends the 12-lead report to the default Auto Send List.

If no default Auto Send List is configured, and the HeartStart MRx hub does not match the configured Auto Send List, Telemedicine adds the 12-lead report to the database. You can then use Forward Selected 12-Lead to send the 12-lead report manually. For more information, see Forwarding patient data on page 63.

To see which Auto Send List is set as the default

1. In the **Administration** workspace, click **Auto Send Lists** workspace.

   The Auto Send Lists workspace opens.

2. In the **Details** area, look at the **Set as the Default Auto Send List** checkbox.

   When this checkbox is checked, the displayed Auto Send List is the default Auto Send List.

3. To change the Auto Send List that is displayed, click a different Auto Send List from the **Summary** area of the Auto Send Lists workspace.

   The selected Auto Send List iappears in the Details area.

For information about configuring Auto Send Lists, intended for experienced IT personnel, see Setting Up Auto Send Lists on page 112.

Importing HeartStart MRx 12-lead reports from a data card

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

If Telemedicine is configured with a default Auto Send List, Telemedicine automatically sends the imported 12-lead reports to all the destinations in the default Auto Send List.

If you do not want to send an imported 12-lead report to a destination, clear the check box for the destination in Destinations. For more information, see Editing or deleting Auto Send Lists on page 115.

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**.

   The Windows Open window appears.
4. Navigate to the location of the 12-lead report.
5. Click the 12-lead report name.
6. Click **Open**.

   The 12-lead report appears on the Patients pane.
7. On the **Patients** pane, double-click the 12-lead report.

   The 12-lead report appears in the 12-Lead pane.

Deleting patient data

Telemedicine does not back up your database. Maintaining proper backups is the database administrator's responsibility. Ensure that your database administrator sets up appropriate database management tools and checks that they execute successfully. See Backing up your data on page 84.

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, 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, Telemedicine displays a prompt when you start the software. 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, and then click a patient record.

3. On the **File** menu or toolbar, click **Delete**.
4. Click **Yes** to delete the patient record, or click **No** to cancel the process.

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

Working with the system log

The system log lists Telemedicine activity.

For each action, 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

Users can view the system log to check whether a transmission occurred.

The system log can provide a customer support technician with information about your Telemedicine system.

Messages that appear while you are using Telemedicine are briefly explained in the section System log messages on page 132.

The system log should be maintained by experienced IT personnel. For more information, see Clearing system log entries on page 131.

Opening the system log

The system log is available from the Administration navigation pane.

You can control the way system log messages are displayed. For more information, see Working with data tables on page 42.

To display the system log

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

   The system log opens.

4

Administration of Telemedicine

This section is intended for IT personnel.

Philips strongly recommends that the installation, configuration, and maintenance of your Telemedicine system, and the administration of the Telemedicine database, be done by experienced IT personnel.

For more information, see Recommended IT skills on page 16.

For information about implementing data transfer between the HeartStart MRx and Telemedicine, see the *Data transmission implementation guide*, publication number 453564058751.

About the Telemedicine installation

There are two types of Telemedicine installations: Telemedicine Server and Telemedicine Viewer. You must install Telemedicine Server if you want to use Telemedicine Viewer. Telemedicine Viewer is optional.

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

You can install Telemedicine as an update to a previous version of Telemedicine, or as an update to HeartStart 12-Lead Transfer station. The Telemedicine installation process migrates the previous version and keeps the database.

For more information about updating, see Upgrading Server software and migrating data on page 77.

Before you install Telemedicine software

The Telemedicine Server software is available in two editions. The same download becomes either Telemedicine Classic 12-Lead Edition or Telemedicine Critical Care Edition, depending on the license key entered.

Until you activate your license key, the Telemedicine Server software opens as Telemedicine Critical Care Edition.

The optional Telemedicine Viewer software is available as a separate download. Telemedicine Viewer works with either edition of Telemedicine Server.

For more information, see Overview of Telemedicine software on page 21.

When you download Telemedicine software, save it on your computer. You can also save the downloaded software on a CD, DVD, or other media.

Confirm the following:

- A static IP address is assigned to the Telemedicine Server and connected to the Internet.
- The Internet connection is able to be on all the time.

- The Internet Service Provider (ISP) allows inbound communication on TCP port 80.
- Web services are set up.

Confirm that IIS is installed and running on the computer for Telemedicine Server before you install the Telemedicine Server software. For information about setting up Web Services, see Setting up the Telemedicine Web Service on page 96.

If you use HeartStart 12-Lead Transfer Station

You cannot run Telemedicine Server and HeartStart 12-Lead Transfer Station on the same computer.

For information about migrating your database from HeartStart 12-Lead Transfer Station to Telemedicine Server, see Upgrading Server software and migrating data on page 77.

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.

Installing Telemedicine

You need Windows administrator privileges to install Telemedicine software.

Confirm that IIS is installed and running on the computer for Telemedicine Server before you install the Telemedicine Server software. For information about setting up Web Services, see Setting up the Telemedicine Web Service on page 96.

Use the following procedure to install either Telemedicine Server or Telemedicine Viewer software.

To install the Telemedicine software

1. Navigate to the directory where you saved the downloaded Telemedicine installation file with the *.exe* extension.
2. Double-click the installation file.
3. Follow the on-screen instructions.

Activating Telemedicine

After you install the software, activate the product. Activation is a Philips 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.

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.

Save the serial number in a safe place that you can access in case you need to re-install the software.

Select one of these methods to activate your software:

- Activate over the Internet
- Activate by Email
- Activate Later

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. For information about starting the application, see Starting Telemedicine on page 39.

   The application opens the 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

Email activation support is available in English only at: activation.support@philips.com.

You can request software activation 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 computer, 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 computer, you can contact your Philips sales representative or local sales office. See Customer support on page 141.

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. In the **Enter your activation code here** field, type the activation code.
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 Telemedicine when you first start it, you can wait up to 60 days to activate the software.

Free trial period

You can use Telemedicine without activating it during the free trial period, which lasts for 60 days from the day you first install the software. During the 60 days, you can use the software and save your work. Until you activate the software, you will see the HeartStart Activation Wizard window each time that you start the application. After the 60 days ends, if you still have not activated Telemedicine, you can no longer use the software, and you cannot download the application for trial again on the same computer. You can purchase the license and activate the installed software to continue using it.

Until you activate your license key, the Telemedicine Server software opens as Telemedicine Critical Care Edition.

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 Telemedicine

You can register your copy of the Telemedicine application to help Philips 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. In Windows, start your Internet browser.
2. Navigate to the following URL: http://www.medical.philips.com/main/products/resuscitation/software_registration/index.wpd
3. Click a language.
4. On the language page, click the product.
5. Complete the registration form.

Uninstalling Telemedicine

The process is the same, whether you are uninstalling Telemedicine Server on the server computer or uninstalling Telemedicine Viewer on the viewer computer.

The uninstall process contacts the Philips activation server and releases your serial number for installation on another computer. The uninstall process will not remove the application database from the server computer.

You need Windows administrator privileges to uninstall Telemedicine software.

To uninstall Telemedicine

1. Stop the *Bluetooth* Monitor using the following steps:
   a. On the System tray, right-click the *Bluetooth* Monitor icon .
   b. Click **Exit Telemedicine Bluetooth Monitor**.

   Telemedicine stops the *Bluetooth* Monitor and removes the icon from the system tray.
2. Remove Telemedicine using the following steps:
   a. From the **Start** menu, click **Control Panel**.
   b. Navigate to **Uninstall or change a program**.
   c. Click **Philips HeartStart Telemedicine** and click **Uninstall**.

   The program is removed from the computer.

Restoring the system configuration for Telemedicine

Telemedicine stores the system configuration and destinations in the database.

You can restore your system configuration by restoring the database from backups.

If you restore the database from the backup, then all patient data reverts to the state it was in when the backup was made, and any changes since that time are lost.

To restore system configuration for Telemedicine

1. Set up Telemedicine. For more information, see The Telemedicine Monitoring Service on page 96.
2. Use your backup-and-restore tool to restore the Telemedicine database and configuration.
3. Start Telemedicine and test the configuration and destinations.

Upgrading Server software and migrating data

If you use a previous version of Telemedicine Server, or 12-Lead Transfer Station, follow these instructions to upgrade to the current version of Telemedicine Server software.

If you are planning to migrate data from an older system to the new system, Philips recommends that you do this before you configure the new system. This is because configuration changes saved on the 4.2 system before a data migration will be overwritten by configuration settings from the older system during the data migration.

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

Upgrading from Telemedicine 4.1 to Telemedicine 4.2

You can upgrade without cost from Telemedicine Server 4.1 to Telemedicine Server 4.2 by reusing the product serial number, also called the activation key.

If you are using the same computer, simply install the Telemedicine Server 4.2 software to convert your system to Telemedicine Server 4.2. No other changes are required.

If you currently have Telemedicine Server 4.1 and you want to install Telemedicine Server 4.2 on a new computer, follow the instructions in Upgrading from a previous version of Telemedicine to Telemedicine 4.2 on a different computer on page 78, and Migrating data to Telemedicine 4.2 on page 81.

Upgrading from Telemedicine 4.0 to Telemedicine 4.2

You can upgrade without cost from Telemedicine Server 4.0 to Telemedicine Server 4.2 by reusing the product serial number, also called the activation key.

You cannot install Telemedicine Server 4.2 on the same computer as Telemedicine Server 4.0. This is because Telemedicine Server 4.2 requires the Windows 7 or the Server 2008 R2 operating system, and Telemedicine Server 4.0 operates on the Windows XP and Windows Server 2003 operating systems.

To reuse your Telemedicine Server 4.0 product serial number for Telemedicine Server 4.2 on a new computer, see Upgrading from a previous version of Telemedicine to Telemedicine 4.2 on a different computer on page 78.

Upgrading from a previous version of Telemedicine to Telemedicine 4.2 on a different computer

You will temporarily use the previous version of Telemedicine Server software on the older computer while setting up Telemedicine Server 4.2 on the new computer.

After you install the Telemedicine Server 4.2 software, you can choose to migrate your existing data and configuration to Telemedicine Server 4.2. Alternatively, if you choose, you can start over, with only new data.

As part of your upgrade process, test your destinations, such as fax and printers, by sending information to the destinations. Software that is installed properly on the new server will work the same as the previous version of Telemedicine software. For information about the configuration process, see Configuring the Telemedicine Server on page 86.

To make your previous Telemedicine Server product serial number available for your upgrade, you must uninstall the previous version of Telemedicine Server software, so you can release the license and re-use the product serial number to activate the Telemedicine Server 4.2 software.

To reuse your product serial number

1. From your computer with a previous version of Telemedicine, use the **Check for Updates** option on the **Help** menu to download the Telemedicine 4.2 software and save it to a removable data storage medium.
2. Install Telemedicine Server 4.2 on the computer that is running Windows Server 2008 R2, or Windows 7.
3. (Optional) If you choose to import (migrate) your existing patient data and Telemedicine Server configuration, do that now. See Migrating data to Telemedicine 4.2 on page 81.
4. Validate and very your network connections. You can send an ECG from the HeartStart MRx to test destinations, such as a fax number or email address.
5. Make sure that your computer with a previous version of Telemedicine Server is connected to the Internet when you perform the next step, to release the product serial number for reuse.
6. Uninstall the previous version of Telemedicine. For more information, see Uninstalling Telemedicine on page 76.

   The product serial number is released for reuse on your new installation.
7. Activate the Telemedicine Server 4.2 software using the product serial number. See Activating Telemedicine on page 73.

You can find the product serial number on the Proof of Purchase Certificate for the previous version of Telemedicine. The serial number is the 18-character alphanumeric code that is below the barcode. If you cannot locate the Proof of Purchase Certificate, locate your sales order number or your purchase order number, and call the nearest response center for customer support.

Upgrading from 12-Lead Transfer Station 3.0 to Telemedicine 4.2

You cannot install Telemedicine Server 4.2 on the same computer as 12-Lead Transfer Station 3.0. This is because Telemedicine Server 4.2 requires the Windows 7 or the Server 2008 R2 operating system, and 12-Lead Transfer Station 3.0 operates on older operating systems.

If you are upgrading from 12-Lead Transfer Station 3.0, you must purchase an upgrade.

- Purchase #861441-A01 to upgrade from 12-Lead Transfer Station 3.0 to Telemedicine 12-lead Classic edition.
- Purchase #861441-A03 to upgrade from 12-Lead Transfer Station 3.0 to Telemedicine Critical Care edition.

This upgrade will give you a serial number to apply to your new software. You do not need to uninstall 12-lead Transfer Station software to begin using the Telemedicine system. You can use both of the serial numbers.

For more information about activating Telemedicine, and about the trial period, see Activating Telemedicine on page 73.

If you are interested in migrating your database from 12-lead Transfer Station to the Telemedicine, be sure to read the following section on database migration.

If your 12-Lead Transfer Station 3.0 sends data to TraceMaster, note that Telemedicine does not support TraceMaster as a destination, so it does not migrate TraceMaster destination data. Those destinations will not be included when your configuration data is migrated.

Migrating data to Telemedicine 4.2

At any time after you install the Telemedicine Server 4.2 software, you can migrate data to Telemedicine Server 4.2. You can migrate data from the 12-Lead Transfer Station 3.0, Telemedicine 4.0, or Telemedicine 4.1. (Migrating data from Telemedicine 4.1 is necessary only if Telemedicine 4.2 is installed on a different computer than Telemedicine 4.1. For more information, see Upgrading from Telemedicine 4.1 to Telemedicine 4.2 on page 78.)

The 12-Lead Transfer Station 3.0, or the previous version of Telemedicine, must be on the same intranet as Telemedicine Server 4.2.

During the migration, configuration data and patient data are migrated to Telemedicine Server 4.2. System log data is not migrated.

Before you perform the data migration, you need to open the firewalls on both computers to allow connection by the Telemedicine Server 4.2 computer to the computer with the database that is being migrated.

For guidelines on opening the firewalls, see the procedures in Configure access to the Telemedicine Server database on page 117. For this purpose, treat your Telemedicine Server 4.2 computer as a Telemedicine Viewer computer.

Complete the following steps for each database migration that you want to complete.

To ensure a complete migration of data, close the software application (12-Lead Transfer Station 3.0 or Telemedicine) on the older server while data is being migrated to the newer server.

To migrate your data to Telemedicine Server 4.2

1. Start Telemedicine Server 4.2.
2. Click the **Administration** navigation button.
3. On the **File** menu, click **Migrate Database**.

   The HeartStart Database Migration window opens. Click the down arrow to view a list of servers. The server shown at the top of the list is your current server.

4. From the list of servers, click the server with the data to be migrated. You can also type the IP address of the server, followed by /HEARTSTART.
5. Click **Test**.

   The data migration is tested, and a status message appears. When the migration test is successful, the Migration button becomes available.
6. Click **Migration**.

   Data migrates to the new server, and a new status message appears.
7. When the status message confirms that data migration is successful, click **Exit**.

   A warning message appears, prompting you to restart the Telemedicine application after database migration.
8. Restart Telemedicine Server.
9. Review the following to verify the results of the data migration:
   a. Verify that the configuration settings of the previous version of Telemedicine Server were migrated to Telemedicine Server 4.2 by reviewing the Administration workspaces. For more information, see Setting up the General Configuration area on page 86.
   b. Verify that all patient data is migrated to Telemedicine Server 4.2 by reviewing the data on the All Patients and Patients workspaces. For more information, see Working with patient records on page 47.
   c. On the **Administration** workspace, click **System Log** to check the system log for the status of the database migration process.
10. Test all of the previously configured transmission operations.

Upgrading Viewer software

If you have an earlier version of Telemedicine Viewer software, upgrade to Telemedicine Viewer 4.2 in order to use it with Telemedicine Server 4.2.

Upgrading from Telemedicine Viewer 4.1 to Telemedicine Viewer 4.2

You can upgrade without cost from Telemedicine Viewer 4.1 to Telemedicine Viewer 4.2 by reusing the product serial number, also called the activation key.

If you are using the same computer, simply install the Telemedicine Viewer 4.2 software to convert to Telemedicine Viewer 4.2. No other changes are required.

If you currently have Telemedicine Viewer 4.1 and you want to install Telemedicine Viewer 4.2 on a new computer, follow the instructions in Upgrading from a previous version of Telemedicine Viewer to Telemedicine Viewer 4.2 on a different computer on page 83.

Upgrading from Telemedicine Viewer 4.0 to Telemedicine Viewer 4.2

You can upgrade without cost from Telemedicine Viewer 4.0 to Telemedicine Viewer 4.2 by reusing the product serial number, also called the activation key.

You cannot install Telemedicine Viewer 4.2 on the same computer as Telemedicine Viewer 4.0. This is because Telemedicine Viewer 4.2 requires the Windows 7 operating system, and Telemedicine Viewer 4.0 operates on the Windows XP operating system.

You can reuse your Telemedicine Viewer 4.0 product serial number for Telemedicine Viewer 4.2 on a new computer. See To reuse your product serial number on page 83.

Upgrading from a previous version of Telemedicine Viewer to Telemedicine Viewer 4.2 on a different computer

You will temporarily use the previous version of Telemedicine Viewer software on the older computer while setting up the new Telemedicine Viewer on the new computer.

To make your previous product serial number available for your upgrade, you must uninstall the previous version of Telemedicine Viewer software.This releases the license so that you can re-use the product serial number to activate the new Telemedicine Viewer software.

To reuse your product serial number

From your computer with the previous version of Telemedicine Viewer, use the Check for Updates option on the Help menu to download the new Telemedicine Viewer software and save it to a removable data storage medium.

1. Install the new Telemedicine Viewer on the computer that is running Windows 7.
2. Make sure that your computer with a previous version of Telemedicine Viewer is connected to the Internet when you perform the next step, to release the product serial number for reuse.
3. Uninstall the previous version of Telemedicine Viewer. For more information, see Uninstalling Telemedicine on page 76.

   The product serial number is released for reuse on your new installation.
4. Activate the new Telemedicine Viewer software using the product serial number. See Activating Telemedicine on page 73.

You can find the product serial number on the Proof of Purchase Certificate for the previous version of Telemedicine. The serial number is the 18-character alphanumeric code that is below the barcode. If you cannot locate the Proof of Purchase Certificate, locate your sales order number or your purchase order number, and call the nearest response center for customer support.

5. Set up the new Telemedicine Viewer to communicate with the new Telemedicine Server, following the instructions in Configuring the Telemedicine Viewer on page 117.

Backing up your data

The Telemedicine database is low-maintenance compared to many other databases. Nonetheless, attention to routine maintenance tasks will help to ensure database integrity.

Telemedicine does not back up your database. Maintaining proper backups is the responsibility of your IT personnel.

Protect your data by ensuring that appropriate database backup procedures are part of your organization's practices. Set up appropriate database management tools and check that they execute successfully.

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

The database name is PDTS40.

Back up the 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 erasing a critical table, etc.).

Philips recommends that you store backup information at a separate location. You should have a plan for recovering information in the case of a software or hardware failure.

Configuring the Telemedicine Server

The computer running Telemedicine Server must be configured as part of Telemedicine setup. You need to perform several tasks, both before and after installing the Telemedicine software, to configure the Telemedicine Server.

Configuration includes the following four essential parts

- The Telemedicine Server application—Displays HeartStart MRx patient data (12-lead reports, trigger events [alerts] and waveforms, and vital trends), and stores the 12-lead reports, and periodic clinical data transmissions (alerts, vitals, waveforms), and configuration information, and system log information.
- Web Service—IIS transfers the data received from the HeartStart MRx, or from another instance of Telemedicine, to the Web service. The Web service saves the data in the appropriate inbox.
- HeartStart Telemedicine Service Manager—Monitors the Telemedicine inboxes. This service parses the data into separate files and moves the data from the inbox into the database and a backup folder.
- The database—The database, installed when Telemedicine Server software is installed, stores HeartStart MRx patient data (12-lead reports, alerts, vitals, waveforms), configuration information, and system log information.

This version of Telemedicine installs Microsoft SQL Server 2008 R2 Express Edition, which can store up to 10 GB of data in the database.

For information on how to estimate the number of days to save patient data, see Data storage requirements on page 101.

Setting up the General Configuration area

Use the General Configurations work area to begin your configuration of Telemedicine Server.

The Server information area

On the Administration navigation pane, in General Configuration, the HeartStart Telemedicine Server field shows the name of the HeartStart Telemedicine Server database.

The Days to Save Patient Records area

The settings in the Days to Save Patient Records area determine how many days of patient data that Telemedicine saves.

Also in this area is the Delete All button, used to delete all patient data from your database.

To set up patient data history behavior

- On the **Administration** navigation pane, in **General Configuration**, in the **Days to Save Patient Records** area, in the **Previous History** field, set the number of days you want to save patient records in the database. The default number of days is 30.

  For information on how to estimate the number of days, see Data storage requirements on page 101.

To delete patient data from the database

- On the **Administration** navigation pane, in **General Configuration**, in the **Days to Save Patient Records** area, click **Delete All** to delete all patient records from your database. For more information, see Deleting patient data on page 67.

Telemedicine does not back up your database. Maintaining proper backups is the database administrator's responsibility. Ensure that your database administrator sets up appropriate database management tools and checks that they execute successfully. See Backing up your data on page 84.

The 12-lead report settings

The settings made in the 12-lead Report area of the General Configuration workspace control how all 12-leads sent from Telemedicine are formatted. For example, the settings will be used to format 12-lead reports that you fax, or send from an Auto Send List.

In the Report Preview window, the 12-lead Customization tab also has settings for the formatting 12-leads. Those settings format only the 12-lead report generated in that preview. All other 12-lead formatting is controlled by the settings in General Configuration.

To set up 12-lead report format in General Configuration

1. On the **Administration** navigation pane, in **General Configuration**, in the **12-lead report** area, click **Print with Grid** to print a grid in the 12-lead reports.
2. If you do not want a grid printed with 12-lead reports, clear **Print with Grid**.
3. In **12-lead Layout** menu, click a timing option. The default selection is **Time Sequential**. The other option is **Simultaneous**.
   - Simultaneous 12-lead ECG Report marks each segment with double vertical lines. It is the preferred 12-lead report format used in the Europe.
   - 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.

   The default page size for 12-lead reports is "letter." The other option is A4. The Page Size settings are available in the View menu, in 12-Lead, when the Patients navigation area is selected. These settings control the format of the report, not the printer paper selection.

For more about setting up 12-lead reports, see Working with 12-lead reports on page 57, and Setting up for printing 12-lead reports on page 111.

The Email settings

The way that Telemedicine Server works with email is set in the Email area of the General Configuration workspace.

To set up email for Telemedicine Server

1. On the **Administration** navigation pane, in **General Configuration**, in the **Email** area, in **SMTP server name**, type the IP address or name of the email server. You can also configure the optional user name, password, and port number, as well as using the SSL appropriate with your SMTP server. 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 computer on the Intranet.

2. In **Reply Email Address**, type the return email address. Telemedicine uses this setting for emails that are sent through an Auto Send List.
3. Click **Password Protect Attachment** to manually send an email attachment that is password-protected.

   Telemedicine uses this setting when you manually send emails from the File menu.
4. On the **File** menu or toolbar, click **Save**.

The Bluetooth settings

The Bluetooth Exchange folder location used by Telemedicine Server is set in the Bluetooth field of the General Configuration workspace.

Although you can change the location for the Bluetooth Exchange folder, do so only after careful planning and coordination within your organization. Before you change the Bluetooth Exchange Folder location in Telemedicine, change the Bluetooth Exchange Folder location for your *Bluetooth* configuration.

To select a different Bluetooth Exchange folder location

1. On the **Administration** navigation pane, in **General Configuration**, in the **Bluetooth** field, click **Change...**.

   A message appears, asking if you want to change the monitored *Bluetooth* folder.
2. Click **Yes** to continue.

   The Browse for Folder window opens.
3. Depending on your needs, either click an existing folder or make a new folder. Click **OK** when you are done.

   A message appears instructing you to restart your machine to use the changed folder location.
4. Click **OK** to close the window.
5. On the **File** menu, click **Save**.
6. Restart your computer.

To reset to the default Bluetooth Exchange folder location

1. On the Administration navigation pane, in General Configuration, in the **Bluetooth** field, click **Default**.

   A message appears, asking if you want to change the monitored *Bluetooth* folder.

2. Click **Yes** to continue.

   A message appears instructing you to restart your machine to use the changed folder location.

3. Click **OK** to close the window.
4. On the **File** menu, click **Save**.
5. Restart your computer.

Starting the Telemedicine Service Manager

By default, Telemedicine Service Manager starts after Telemedicine Server starts. The Telemedicine Service Manager can also run as a Windows service. For more information, see Running Telemedicine Service Manager as a service on page 102.

HeartStart Telemedicine Bluetooth Monitor

The HeartStart Telemedicine *Bluetooth* Monitor feature enables Telemedicine to receive patient periodic clinical data transmissions automatically.

In the default software installation, the HeartStart Telemedicine *Bluetooth* Monitor feature starts when you start Telemedicine Server.

You can instead set up the Telemedicine Monitoring Service to automatically start the HeartStart Telemedicine *Bluetooth* Monitor feature when you log on to the Telemedicine Server computer (although the Telemedicine Server software is not yet running).

You can stop the HeartStart Telemedicine *Bluetooth* Monitor feature at any time.

To transfer the information from the defibrillator to Telemedicine Server, you must set up the *Bluetooth* wireless data transmission on the HeartStart MRx and the Telemedicine Server computer.

Install the *Bluetooth* software and adapter on the Telemedicine Server computer with the Windows 7 operating system.

If the computer is not equipped with *Bluetooth* wireless technology, and then the computer requires a *Bluetooth* dongle with an USB connector. The *Bluetooth* dongle enables the Telemedicine computer to connect with the defibrillator.

The HeartStart MRx with *Bluetooth* wireless technology can communicate 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 *Bluetooth* configuration choices (either default or chosen by the user) could prevent receipt of data from the 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 the HeartStart MRx.

When the HeartStart MRx transmits data to Telemedicine, the defibrillator creates subfolders on Telemedicine Server to store the transmitted data.

Bluetooth option prerequisites for the HeartStart MRx

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

For detailed information on setting up the MRx for *Bluetooth* wireless transmission, see the following documentation:

- *HeartStart MRx M3535A/M3536A instructions for use*
- *HeartStart data transmission implementation guide*

Setting up the Bluetooth software and adapter

Install the *Bluetooth* software and adapter on the Telemedicine Server computer with the Windows 7 operating system.

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

- Installing the *Bluetooth* software and adapter
- Pairing the HeartStart MRx *Bluetooth* with Telemedicine Server
- Testing the connection

For other *Bluetooth* stacks, review your user documentation to see if File Transfer Profile Server 1.1 is supported. If not, Philips recommends 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 the computer.

For information about installing the *Bluetooth* software and adapter, refer to your *Bluetooth* software and adapter documentation.

The *Bluetooth* configuration creates the folder based on the logon of the user who configured *Bluetooth* wireless communication. For example, if you have the administrator logon, the default folder location is typically: C:\Users\<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.

For information about specifying 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 the HeartStart MRx, place the defibrillator in the **Data Management** mode.
2. On the **Data Management** menu, click **Bluetooth Devices**.
3. On the computer, set *Bluetooth* to be discoverable.
4. On the HeartStart MRx, scroll to **Add Device** and then press **Enter**.

   The defibrillator searches for your computer.

   If your computer is not listed after the search, your computer *Bluetooth* is not enabled or set up correctly. Refer to your *Bluetooth* documentation to troubleshoot the setup.
5. Select your computer and then press **Enter**.
6. Enter a passkey for the *Bluetooth* option.

   The passkey is a user-defined character sequence, such as 000, or 1234.

   See the documents listed in Bluetooth option prerequisites for the HeartStart MRx on page 92.
7. In the notification area of the computer taskbar, immediately watch for a pop-up message.
8. Click the pop-up message.
9. Type the same *Bluetooth* passkey that you entered on the HeartStart MRx in Step 5.

   The HeartStart MRx and the computer have a *Bluetooth* connection. You are ready to test the *Bluetooth* connection.
10. On the **Data Management** menu, click **File Transfer** and then press **Enter**.

    The HeartStart MRx displays the "transmission test passed" message.
11. Scroll to **Exit** and then press **Enter**.

Using the HeartStart Telemedicine Bluetooth Monitor

Use the Telemedicine *Bluetooth* Monitor feature to watch for patient periodic clinical data transmissions that are received automatically from the HeartStart MRx. The *Bluetooth* Monitor monitors the activity, stores the data in the specified *Bluetooth* Exchange folder location, and imports the data into the database.

Click the Bluetooth Monitor icon in the Windows System tray to display a message with the name of the feature and a status message. (The system tray is located in the lower-right corner of the Windows task bar.)

The *Bluetooth* Monitor feature of Telemedicine runs whether or not your computer has *Bluetooth* wireless communication capability.

If you do not want to use *Bluetooth* monitoring, or if you do not have *Bluetooth* capability, you can stop the Bluetooth Monitor feature.

To stop the Bluetooth Monitor feature

1. On the System tray, right-click the **Bluetooth Monitor** icon .

   A button appears next to the icon.

2. Click **Exit HeartStart Telemedicine Bluetooth Monitor**.

   Telemedicine stops the *Bluetooth* Monitor feature and removes the icon from the system tray. Telemedicine continues to run.

To start or restart the Bluetooth Monitor feature

- From the **Start** menu, start Telemedicine.

  Telemedicine starts *Bluetooth* Monitor, and the *Bluetooth* Monitor icon appears 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. Before you change the *Bluetooth* Exchange folder location in Telemedicine, change the *Bluetooth* Exchange folder location for your *Bluetooth* configuration.
2. On the **Administration** pane, click **General Configuration**.
3. In **Bluetooth Exchange Folder**, click **>Change**.

   Telemedicine displays a message stating that the change will take effect only after you restart the Telemedicine Server computer. 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** and type a new name.
   c. Click **OK**.

   Telemedicine displays a message.
6. On the **File** menu or toolbar, click **Save**.

   Follow your organizational and IT notification procedures to notify Telemedicine users that you will restart the Telemedicine Server computer.
7. Restart the Telemedicine Server computer.

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. Before you change the *Bluetooth* Exchange folder location in Telemedicine, change the *Bluetooth* Exchange folder location for your *Bluetooth* configuration.
2. On the **Administration** pane, click **General Configuration**.
3. In **Bluetooth Exchange Folder**, click **Default**.

   Telemedicine displays a message stating that the change will take effect only after you restart the Telemedicine Server computer. 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

Telemedicine displays a message.

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

   Follow your organizational and IT notification procedures to notify Telemedicine users that you will restart the Telemedicine Server computer.

6. Restart the Telemedicine Server computer.

Sending the Bluetooth wireless transmission

You can download a 12-lead report to the computer through *Bluetooth* wireless transmission while the HeartStart MRx is in the Data Management mode, or while the HeartStart MRx monitors the patient's 12-lead. For more information, see the appropriate chapters in *HeartStart MRx M3535A/M3536A instructions for use*.

The Telemedicine Monitoring Service

This topic provides an overview of setting up a computer to support the Telemedicine Monitoring Service.

The Telemedicine Monitoring Service has two subservices.

- Telemedicine Web Service—Gets data from the Internet using HTTP, and saves incoming data into the corresponding inbox folder
- Telemedicine Inbox Monitoring Service—Monitors all inbox folders, and processes incoming data

Recommended security practices appear in the appropriate related topics.

For more information about the HeartStart MRx data transmission options, see Implementation supplement—Using Telemedicine with Data Messenger on page 122 in this guide. Also see the *HeartStart data transmission implementation guide*, which provides information about implementing a complete data transmission solution. Contact customer support to obtain the guide.

Setting up the Telemedicine Web Service

The HeartStart MRx communicates with Telemedicine through the Internet.

The Telemedicine Server computer requires the following services before you can use Telemedicine to communicate with over the Internet:

- 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. See Enabling Internet Information Services on page 97.

Enabling Internet Information Services

You must enable the IIS feature before installing the HeartStart Telemedicine Server software. For more information, see Before you install Telemedicine software on page 71.

More information about IIS is available from Microsoft.

When you enable IIS, the software automatically enables the default features.

Enable IIS on your operating system

To enable IIS on Windows Server 2008 R2

1. From the Windows **Start** menu, click **Server Manager**.
2. In the **Server Manager** window, in the left pane, click **Roles**.
3. In the right pane, click **Add Roles**.

   The Add Roles Wizard opens.
4. In the left pane, click **Server Roles**.
5. On the **Select Server Roles** page, in the **Roles** list, locate and click **Web Server (IIS)**.

A dialog box prompts you to load the **Windows Process Activation Service**.

6. Click **Add Required Features**.

   The dialog box closes and returns to the Select Server Roles page.

7. In the left pane, click **Web Server (IIS)** and click **Next**.

   The dialog box closes and returns to the **Web Server (IIS)** page with the **Roles Services** option selected in the left pane. The **Roles Services** list is in the right pane.

8. In the **Roles services** list, expand **Application Development** and **Common HTTP Features**.

9. In the **Application Development** list, in addition to the default features, verify that the following boxes are checked:

   a. **.NET Extensibility**
   b. **ASP.NET**
   c. **ISAPI Extensions**
   d. **ISAPI Filters**

10. In **Common HTTP Features**, verify that the following boxes are checked:

    - **Directory Browsing**
    - **Static Content**

11. Click **Next**.

12. On the **Confirm Installation Selections** page, complete the following:

    a. Verify that **Confirmation** is selected in the left pane.
    b. Verify that the wizard lists the selected features in the right pane.

13. On the **Installation Results** page, click **Close**.

To enable IIS on Windows 7

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

2. On the **Control Panel**, in **Programs and Features**, click **Turn Windows Features on or off**.

   The **Windows Features** window lists the default features.

3. Expand the following items in the list: **Internet Information Services**, **World Wide Web Services**, **Application Development Features**, and **Common HTTP Features**.

4. In **Application Development Features**, in addition to the default features, verify that the following boxes are checked:
   - **.NET Extensibility**
   - **ASP.NET**
   - **ISAPI Extensions**
   - **ISAPI Filters**
5. In **Common HTTP Features** list, verify that the following boxes are checked:
   - **Directory Browsing**
   - **Static Content**
6. Click **OK**.

   Windows 7 enables IIS and displays the **Control Panel Programs** window.
7. Close the **Control Panel** window.

Set up your firewall for IIS

To change Firewall settings

1. From the **Windows Firewall** window, on the left pane, click **Advanced settings**.

   The Windows Firewall with Advanced Security window opens.
2. On the left pane, click **Inbound Rules**, and then, on the right pane, click **New Rule**.

   The New Inbound Rule Wizard window opens.
3. In the **Rule Type** window of the wizard, under **What type of rule would you like to create?**, click **Port**, and then click **Next**.
4. In the **Protocol and Ports** window of the wizard, under **Does this rule apply to TCP or UDP?**, click **TCP**. Then, under **Does this rule apply to all local ports or specific local ports?**, click **Specific local ports**, type **80** in the field, and then click **Next**.
5. In the **Action** window of the wizard, under **What action should be taken when the connection matches the specified conditions?**, click **Allow the connection**, and then click **Next**.
6. In the **Profile** window of the wizard, under **When does this rule apply?**, click **Domain**, click **Private**, click **Public**, and then click **Next**.
7. In the **Name** window of the wizard, type a name for the rule in the **Name** field, and then click **Finish**. The wizard closes.

In the Windows Firewall with Advanced Security window, in the right pane, under Actions, in Inbound Rules, the rule name appears.

Setting up the SMTP address

SMTP is used if you want to send email using an Auto Send List.

Philips recommends that you name an SMTP address on the General Configuration workspace when you configure the Telemedicine Server. You can install SMTP on the same computer as Telemedicine or on the intranet.

For more information, see About Auto Send Lists on page 112.

Data storage requirements

Data storage requirements depend on the volume and frequency of patient transmissions, and on the type of data you send to Telemedicine.

This version of Telemedicine installs Microsoft SQL Server 2008 R2 Express Edition, which can store up to 10 GB of data, as the database.

Philips recommends that you adjust the number of days that Telemedicine stores data on the General Configuration workspace based on your network traffic.

• Telemedicine Classic 12-Lead Edition—Storage requirements depend on the volume of 12-lead reports you send to Telemedicine. If you assume that an average 12-lead report is approximately 45 KB, a database with 10 GB capacity can store approximately 145,000 12-lead reports (10 GB/45 KB =145,000, approximately).

• Telemedicine Critical Care Edition—Storage requirements depend on the frequency of patient transmissions and the type of data you send to Telemedicine.

The following table can help you estimate your data storage requirements for Telemedicine Critical Care Edition. The data file sizes are examples. Your actual data storage requirements will depend on the size of your data files, and how frequently they are transmitted.

Use the table examples to estimate your storage requirements.

Data to transmit	Data in kilobytes	Transmission interval for one HeartStart MRx	Approximate storage required per month
Periodic vitals	1 K	Assume that periodic vitals are sent at 1-minute intervals	0.22 GB
Trigger event	2 K	Assume that a trigger event is sent at 1-minute intervals	0.44 GB
12-lead report	45 K	Assume that a 12-lead report is sent at 1-minute intervals	2 GB

Running Telemedicine Service Manager as a service

The default installation of Telemedicine transfers HeartStart MRx data to Telemedicine only when a user is logged on and running Telemedicine. If you need to receive HeartStart MRx data on a 24-hour/7-day schedule, you must set up Telemedicine Service Manager. You can configure the service from Windows.

To set up the service from Windows

1. Complete the normal installation of Telemedicine.
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 **Services** window, click the **Standard** tab.
6. Right-click **HeartStart Telemedicine Service Manager**.
7. Click **Properties**.
8. In **Startup Type** on the **General** tab, click **>Automatic**.
9. On the **Log On** tab, in **Log on as**, click **This Account**.
   - The account must have administrator privileges on this computer.
   - It must require a password.
   - If Telemedicine forwards 12-lead reports to a printer or fax, the devices must be configured for this account.

If the Windows administrator password for this computer expires and is changed, you must also change the administrator password for the 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.

Configuring destinations

Telemedicine can access HeartStart MRx patient data from the Telemedicine database and send it to one or more destinations. Patient data from the HeartStart MRx can include 12-lead report, trigger event and waveform, and periodic vital trend transmissions.

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

To select a destination type to manage

1. On the navigation pane, click **Administration**.
2. On the **Administration** navigation pane, click a destination option:
   - **Application Destinations**
   - **Fax Destinations**
   - **Email Destinations**

Telemedicine displays the appropriate workspace for the type of destination.

Setting up software applications as destinations

This topic is for Telemedicine Server.

In Telemedicine, you can send a 12-lead report to another software application.

Use the procedures in this topic to send 12-lead reports from the 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 3.0
- TraceMasterVue
- DatamedFT
- 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 Telemedicine and the HeartStart MRx.

Telemedicine can forward PCDT data to another Telemedicine Server.

For more information, see How Telemedicine forwards HeartStart MRx data on page 31, How Telemedicine forwards HeartStart MRx data on page 31 and also Forwarding patient data on page 63.

Editing or deleting software application destinations

This topic is for Telemedicine Server.

Use the procedures in this topic to edit or delete software application destinations.

In addition to sending data to printers or faxes, Telemedicine can send data to other software applications.

The software applications that Telemedicine can see as destinations are:

- TraceMasterVue
- DatamedFT
- HeartStart 12-Lead Transfer Station 3.0
- Other instances of Telemedicine

The software application destination settings are managed in the Application Destinations workspace. You can change the name, description, type, and location of the destination. When you change the fields in the Details area, Telemedicine updates the current destination.

To access the Application Destinations workspace

- From the navigation area, click **Administration**, and then click **Application Destinations**.

To edit a software application destination

1. On the **Administration** navigation pane, click **Application Destinations**.
2. In the **Application Destinations** workspace, in the **Summary** area, click a destination name.
3. In the **Details** area, change each setting that you want to edit.
4. On the **File** menu or toolbar, click **Save**.

   Telemedicine updates the destinations in the **Summary** area.
5. Repeat these steps to edit another application destination.

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

To delete a software application destination

1. On the **Application Destinations** workspace, in the **Summary** area, click a destination name.
2. On the **File** menu or toolbar, click **Delete**.
3. Click **Yes** to delete the destination or **No** to cancel the process.

   Telemedicine updates the destinations in the **Summary** area.
4. Repeat these steps to delete another application destination.

Sending 12-lead reports to software applications

Use the Application Destinations workspace, available on the Administration navigation pane, to set up another software application as a destination for 12-lead reports. An application destination requires a name and location.

To set up an application destination

1. On the **Administration** navigation pane, click **Application Destinations**.
2. On the **File** menu or toolbar, click **New**.
3. On the **Application Destinations** workspace, in **Name**, type a name for the application destination. For example, you might name the destination "Rosenberg Hospital" or "Evergreen cath lab."
4. In **Description**, you can type a brief description that describes the use of the application.
5. In **Location Type**, click 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**

   NOTE: The label of the next field (URL or Location) changes depending on the application type that you select.
6. In the URL area, type the URL for the application. (If the field is labeled **Location**, type the location.)

The location can be where the application is installed, the network address for the application, or the Internet address for the application. Refer to the example to the right of the field for the correct format.

If you click **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.

7. 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 these steps to add more application destinations.

Setting up fax destinations

In Telemedicine, you can manually send 12-Lead Reports to fax machines. You can also set up an Auto Send List to send faxes.

Set up your fax using the fax settings in your Microsoft operating system.

Fax option requirements

Before you can use the Fax feature in Telemedicine, complete the following tasks:

- Connect Telemedicine to a fax modem.
- In Microsoft fax preferences, set the page size to letter, and the page orientation to landscape.
- For faxing from an Auto Send List, complete the fax settings using the Auto Send Lists workspace.

Add, edit, or delete fax destinations

Use the procedures in this topic to add, edit, or delete fax destinations for data.

To add a fax machine destination

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

   The **Administration** navigation pane opens.
2. On the **Administration** navigation pane, click **Fax Destinations**.
3. In **Name**, type a name for the fax destination. For example, you might name the destination "Rosenberg Hospital fax" or "Evergreen cath lab fax."
4. In **Description**, type a brief description that describes the use or location of the fax machine.
5. In **Fax number**, type the phone number for the fax machine. Refer to the sample phone format to the right of **Fax Number**.
6. On the **File** menu or toolbar, click **Save**.
7. Repeat these steps to add another fax machine to the **Summary** area.

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

To edit a fax machine destination

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

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

To delete a fax machine destination

1. On the **Administration** navigation pane, click **Fax Destinations**.
2. In the **Fax Destinations** workspace, in the **Summary** area, click a destination name.
3. On the **File** menu or toolbar, click **Delete**.
4. Click **Yes** to delete the destination, or **No** to cancel the process.
5. Repeat these steps to delete another fax destination.

Setting up email addresses as destinations

In Telemedicine, you can send a 12-lead report using the Email PDF feature.

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

Email requirements

Before you can use the Email feature in Telemedicine, complete the following tasks:

- Install the email application on the Telemedicine computer. For more information, see the instructions for your email application.
- If you want to email 12-lead reports through an Auto Send List, install the SMTP server or relay for use with IIS. For more information, see The Telemedicine Monitoring Service on page 96.
- Configure the email settings on the General Configurations workspace. For more information, see Setting up the General Configuration area on page 86.
- Complete the email settings using the Email Destinations workspace. For more information, see Adding an email address to Email Destinations on page 110.

Editing or deleting email addresses

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

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 a field, Telemedicine updates the current destination.

1. In the **Administration** navigation pane, click **Email Destinations**.
2. In the **Email Destinations** workspace, in the **Summary** area, click a destination name.
3. On the **Details** area, change each settings that you want to edit.

4. On the **File** menu or toolbar, click **Save**.
5. Repeat these steps to edit another Email destination.

To delete an email address destination

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

1. On the Administration navigation pane, click **Email Destinations**.
2. In the **Email Destinations** workspace, in the **Summary** area, click a destination name.
3. On the **File** menu or toolbar, click **Delete**.
4. Click **Yes** to delete the destination, or **No** to cancel the process.
5. Repeat these steps to delete another Email destination.

Adding an email address to Email Destinations

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

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.

Be sure to tell the recipient the password that 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**.

   The **Email Destinations** workspace appears.
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 sample format to the right of **Add an email address**.
6. To email password-protected 12-lead reports, click **Password for attachment**, and type a password.

   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**.

   Telemedicine lists the destination in the **Summary** area.
8. Repeat these steps to add more email addresses.

Setting up for printing 12-lead reports

Prepare Telemedicine for printing 12-lead reports by doing the following:

Set up for printing 12-leads in the Patients workspace

1. In the **View** menu, from **12-Lead**, click **Letter Page Size** or **A4 Page Size**.

   This selection ensures that 12-leads are formatted to appear correctly and print in the selected page size. The default 12-Lead View setting in Telemedicine is Letter Page Size.
2. In Windows and Telemedicine—Set up the default printer to work with the **Quick Print**  button in the **Report Preview** window. Test this to ensure that the setting works with the page size selected for 12-leads (letter or A4).
3. In Windows and Telemedicine—Set up available printers to work with the **Print**  button in the **Report Preview** window.

For information about previewing and setting options in 12-lead reports, see Working with 12-lead reports on page 57.

Setting Up Auto Send Lists

Set up the Auto Send Lists in Telemedicine after consulting with the everyday users of Telemedicine to determine their needs for sending data automatically.

This section is intended for IT personnel.

For Auto Send List information directed to everyday users, see Using Auto Send Lists on page 65.

About Auto Send Lists

In Telemedicine, you can set up an Auto Send List to send a 12-lead report to one or more destinations. This topic explains how Telemedicine displays and works with Auto Send Lists.

You can save up to 50 Auto Send Lists. Each Auto Send List can contain up to 20 destinations.

Auto Send List Summary

The Summary area, at the bottom of the Auto Send Lists workspace, lists all the saved Auto Send Lists. When you click an Auto Send List in this area, it appears in the Details area above.

Auto Send List Details

The Details area at the top of the Auto Send Lists workspace, shows the name and description of the Auto Send List.

The name of the Auto Send List can be the user-assigned site name of the HeartStart MRx hub.

The Destinations table, also in the Details area, shows the destinations that are configured for the selected Auto Send List.

Default Auto Send List

Included in the Details area at the top of the Auto Send Lists workspace is the Set as the Default Auto Send List checkbox. When this box is checked, the displayed Auto Send List is the default Auto Send List. For more information, see The default Auto Send List on page 65.

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

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

- HeartStart 12-Lead Transfer Station 3.0
- TraceMasterVue
- DatamedFT
- Telemedicine
- Fax machine
- Printer
- Email address

How Telemedicine interacts with Auto Send Lists

- If the HeartStart MRx hub name matches the name of a configured Auto Send List, 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, 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 does not match the configured Auto Send List, Telemedicine adds the 12-lead report to the database.

Setting up email in an Auto Send List

If you want to send 12-lead reports in email using an Auto Send List, Philips recommends that you name an SMTP address on the General Configuration workspace when you configure the Telemedicine system. The SMTP service delivers outgoing email messages. In most cases, you can use the SMTP address supplied by your ISP or network.

You can use email as a notification service. Add an email address in the default Auto Send List. Then, each time the application receives a 12-lead from the HeartStart MRx, Telemedicine sends an email with a PDF attachment of the 12-lead report to the email address in the Auto Send List.

Microsoft provides an SMTP service. For more information, consult Microsoft documentation.

Also, see Using Auto Send Lists on page 65.

Creating a new Auto Send List

The Auto Send Lists workspace is available in the Administration navigation area.

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 for or the use of the Auto Send List.
6. To use this Auto Send List as the default list, click the **Set as the Default Auto Send List** checkbox.
7. In **Destinations**, click the name of each destination that you want to add to the Auto Send List.
8. On the **File** menu or toolbar, click **Save**.

   Telemedicine adds the Auto Send List in the **Summary** area.

To set the default Auto Send List

1. At the bottom of the **Auto Send List** workspace, in the **Summary** area, click the list you want to set as the default Auto Send List.
2. At the top of the **Auto Send Lists** workspace, on the **Details** area, click the **Set as the Default Auto Send List** checkbox, and then click **Save**.

   The displayed Auto Send List is assigned as the default Auto Send List. To remove the assignment, clear the checkbox, and then click **Save**.

If you occasionally send 12-lead reports to a specific destination, in place of using an Auto Send List to direct your report, you can instead use the appropriate option on the Administration navigation pane to configure the destination. Once you configure it, the destination appears in the Forward lists. The Forward option is available on the File menu and toolbar.

Editing or deleting Auto Send Lists

You can edit Auto Send Lists to add or remove destinations, or you can delete Auto Send Lists.

You can rename the default Auto Send List from the HeartStart MRx to a name of your choice.

To edit an Auto Send List

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

   The Auto Send Lists work area appears.
3. In the **Summary** area, click the name of the Auto Send List you want to edit.

   The name of the selected Auto Send List appears in the Details area, in the Name field.
4. In the **Details** area, change the details you want to edit:
   - Click the **Name** field, and type your changes to the Auto Send List name.
   - Click the **Description** field, and type your changes to the Auto Send List description.
   - Click the **Set as the Default Auto Send List** checkbox to assign this list as the default Auto Send List. Clear the checkbox to remove the assignment.
5. In the **Destinations** area, add or remove a destination:
   - To add a destination to your Auto Send List—In **Destinations**, click the checkbox for the destination you want to add.
   - To remove a destination from your Auto Send List—In **Destinations**, clear the checkbox for the destination.
6. On the **File** menu or toolbar, click **Save** to save your changes.

   Changes to name or description appear in the **Summary** area. The default Auto Send List, if one is assigned, is marked in the Summary area by a checkmark.

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**.

The Auto Send Lists work area appears.

3. In the **Summary** area, click the name of the Auto Send List you want to delete.

   The name of the selected Auto Send List appears in the Details area, in the Name field.

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

   A confirmation window appears.

5. Click **Yes** to delete the Auto Send List, or click **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** to save your changes.

   Deleted Auto Send Lists disappear from the Summary area.

Configuring the Telemedicine Viewer

The Telemedicine Viewer provides a way for you to view patient data on the Telemedicine Server from another computer. Telemedicine Viewer is an optional component of the Telemedicine System. The Telemedicine Viewer software is downloaded and licensed separately from the Telemedicine Server software.

To configure the Telemedicine Viewer, you must perform tasks on the Telemedicine Viewer computer and on the Telemedicine Server computer.

Configure access to the Telemedicine Server database

The Telemedicine Viewer computer needs to communicate with the Telemedicine Server computer. Use the following procedures to set up the Telemedicine Server computer so that it can communicate with the Telemedicine Viewer computer.

To open database TCP/IP access on the Telemedicine Server

1. On the Telemedicine Server computer, from the Windows **Start** menu, click **All Programs**, and then click **Microsoft SQL Server 2008 R2**.
2. On the **Microsoft SQL Server 2008 R2** list, click **Configuration Tools**, and then click **SQL Server Configuration Manager**.

   The SQL Server Configuration Manager window opens.
3. Click **SQL Server Network Configuration** and then click **Protocols for HEARTSTART**.
4. Double-click **TCP/IP**.

   The TCP/IP Properties window opens.
5. On the **Protocol** tab, under **General**, in the **Enable** field, click **Yes**.
6. Click the **IP Addresses** tab, and then scroll down to the **IPALL** area.
7. In the **IPALL** list, click **TCP Port** to activate the text entry field to the right.
8. In the text-entry field to the right of **TCP Port**, type **1433**.
9. At the bottom of the **TCP/IP Properties** window, click **OK** to accept your selection.

A message appears, notifying you that the service will not be in effect until you restart the computer.

10. Click **OK** to close the message window.

    NOTE: The **SQL Server Configuration Manager** window should still be open. If not, see step 2 to reopen it, and then return to this step.

11. On the **SQL Server Configuration Manager** window, on the left pane, click **SQL Server Services**.
12. From the list on the right, right-click **SQL Server Browser** and click **Properties**.

    The SQL Server Browser Properties window opens.

13. On the **Service** tab, under **General**, click **Start Mode** to activate the menu to the right, and then click **Automatic**.
14. Click **Apply** to accept your selection, and then click **OK**.

    The SQL Server Browser Properties window closes.

15. On the **SQL Server Configuration Manager** window, on the left pane, click **SQL Server Services**
16. On the right pane, right-click **SQL Server (HEARTSTART)**, and then click **Start**, or **Restart**.

    A message appears, informing you that the service is starting, or restarting. A progress bar runs. When the process completes, the message window closes.

17. Close the **SQL Server Configuration Manager** window.
18. Restart Telemedicine Server.

To configure the inbound TCP port on the Telemedicine Server

1. From the **Windows Firewall** window, on the left pane, click **Advanced settings**.

   The Windows Firewall with Advanced Security window opens.

2. On the left pane, click **Inbound Rules**; and then, on the right pane, click **New Rule**.

   The New Inbound Rule Wizard window opens.

3. In the **Rule Type** window of the wizard, under **What Type of Rule Would You Like to Create?**, click **Port**, and then click **Next**.

4. In the **Protocol and Ports** window of the wizard, under **Does this rule apply to TCP or UDP?**, click **TCP**. Then, under **Does This Rule Apply to All Local Ports or Specific Local Ports?**, click **Specific Local Ports**, type **1433** in the field, and click **Next**.
5. In the **Action** window of the wizard, under **What Action Should Be Taken When the Connection Matches the Specified Conditions?**, click **Allow the Connection**, and then click **Next**.
6. In the **Profile** window of the wizard, under **When Does This Rule Apply?**, click **Domain**, click **Private**, click **Public**, and then click **Next**.
7. In the **Name** window of the wizard, type a name for the rule in the **Name** field, and then click **Finish**. The wizard closes.

   In the Windows Firewall with Advanced Security window, in the right pane, under Actions, in Inbound Rules, the rule name appears.

To configure the inbound UDP port on the Telemedicine Server

1. From the **Windows Firewall** window, on the left pane, click **Advanced settings**.

   The Windows Firewall with Advanced Security window opens.
2. On the left pane, click **Inbound Rules**; and then, on the right pane, click **New Rule**.

   The New Inbound Rule Wizard window opens.
3. In the **Rule Type** window of the wizard, under **What Type of Rule Would You Like to Create?**, click **Port**, and then click **Next**.
4. In the **Protocol and Ports** window of the wizard, under **Does This Rule Apply to TCP or UDP?**, click **UDP**. Then, under **Does This Rule Apply to All Local Ports or Specific Local Ports?**, click **Specific Local Ports**, type **1434** in the field, and click **Next**.
5. In the **Action** window of the wizard, under **What Action Should Be Taken When the Connection Matches the Specified Conditions?**, click **Allow the Connection**, and then click **Next**.
6. In the **Profile** window of the wizard, under **When Does This Rule Apply?**, click **Domain**, click **Private**, click **Public**, and then click **Next**.
7. In the **Name** window of the wizard, type a name for the rule in the name field, and then click **Finish**. The wizard closes.

   In the Windows Firewall with Advanced Security window, in the right pane, under Actions, in Inbound Rules, the rule name appears.

Open the firewall on the Telemedicine Viewer computer

The Telemedicine Viewer computer firewall must be open for the Telemedicine Viewer to communicate with the Telemedicine Server.

Follow these steps to set up each computer with Telemedicine Viewer installed.

To configure the outbound TCP port on the Telemedicine Viewer

1. From the **Windows Firewall** window, on the left pane, click **Advanced settings**.

   The Windows Firewall with Advanced Security window opens.

2. On the left pane, click **Outbound Rules**; and then, on the right pane, click **New Rule**.

   The New Outbound Rule Wizard window opens.

3. In the **Rule Type** window of the wizard, under **What Type of Rule Would You Like to Create?**, click **Port**, and then click **Next**.

4. In the **Protocol and Ports** window of the wizard, under **Does This Rule Apply to TCP or UDP?**, click **TCP**. Then, under **Does This Rule Apply to All Remote Ports or Specific Remote Ports?**, click **Specific Remote Ports**, type **1433** in the field, and then click **Next**.

5. In the **Action** window of the wizard, under **What Action Should Be Taken When the Connection Matches the Specified Conditions?**, click **Allow the Connection**, and then click **Next**.

6. In the **Profile** window of the wizard, under **When Does This Rule Apply?**, click **Domain**, click **Private**, click **Public**, and then click **Next**.

7. In the **Name** window of the wizard, type a name for the rule in the name field, and then click **Finish**. The wizard closes.

   In the Windows Firewall with Advanced Security window, in the right pane, under Actions, in Outbound Rules, the rule name appears.

Connecting Telemedicine Viewer to Telemedicine Server

You can connect Telemedicine Viewer to any available Telemedicine Server.

At the bottom right of the Telemedicine Viewer window, the name of the current Telemedicine Server appears in the HeartStart Telemedicine Server field. For an illustration, see The Patients navigation area and Patients workspace on page 37.

To connect Telemedicine Viewer to a Telemedicine Server

1. At the bottom right of the Telemedicine Viewer window, in the **HeartStart Telemedicine Server** field, click **Change Server...**.

   The HeartStart Telemedicine Database Server window opens.

2. In the **Database Server** menu, navigate to the Telemedicine Server you want.
3. Click **OK** to accept your selection and close the window.

Implementation supplement—Using Telemedicine with Data Messenger

The information in this section is a supplement to the *HeartStart data transmission implementation guide*, Philips publication number 453564058751. Both documents are intended for IT personnel who are setting up communication betweenHeartStart MRx Monitor/Defibrillators and Telemedicine. If you are new to Telemedicine implementations, review both documents before you begin.

For information about implementing data management solutions for HeartStart products other than Telemedicine, see the *HeartStart data management solutions implementation guide.*

Contact customer support to order the implementation guides.

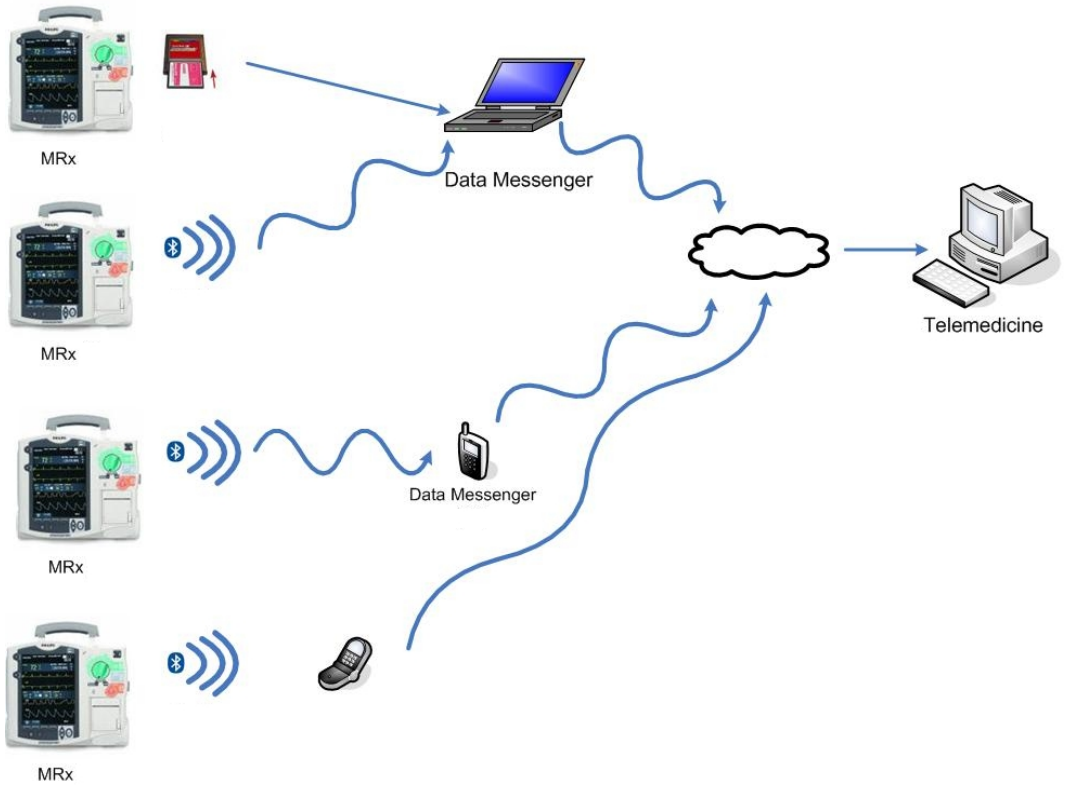
Integrating Data Messenger and Telemedicine

HeartStart Data Messenger (Data Messenger) is a data transfer tool that moves patient data from HeartStart MRx Monitor/Defibrillators (HeartStart MRx) to a destination for review. Data Messenger can be positioned between the HeartStart MRx and Telemedicine, enabling data transfer capability that is not possible when transferring data directly from the HeartStart MRx to Telemedicine.

- Data Messenger can receive patient data from many HeartStart MRx devices, and forward the data to Telemedicine automatically.
- Data Messenger is available as a mobile device application: Data Messenger Mobile Edition.

  Note: The Mobile Edition is available as an addition to, not a replacement for, the full version of the Data Messenger software.

The following is an example of setups using both Data Messenger and Telemedicine. Other setups are possible.



When you integrate Data Messenger with Telemedicine to forward patient data over the Internet, Data Messenger can receive periodic clinical data transmissions (PCDT) and 12-lead reports from the HeartStart MRx. Data Messenger receives the data, and then uses HTTP to forward the data automatically to Telemedicine across the Internet. Telemedicine uses IIS to receive the files from the Internet.

If the computer that runs Data Messenger also hosts the mobile edition of Data Messenger, then you can use a PocketPC or SmartPhone that runs Windows Mobile 6 to run the mobile edition of Data Messenger. The device must also be equipped with *Bluetooth* wireless technology, or data-card access, in order to forward the HeartStart MRx to Telemedicine.

Prerequisites

Complete the following before you connect Data Messenger and Telemedicine:

- Install and configure a Telemedicine system.
- Install Data Messenger on a computer that runs Microsoft Windows 7.
- If the computer that runs Data Messenger hosts the mobile edition of Data Messenger, install Windows Active-Sync. For more information, see the "Using the Data Messenger Mobile Edition" section in the *HeartStart Data Messenger user guide*.

Requirements and settings

The following settings are required for Data Messenger to transfer HeartStart MRx periodic clinical data or 12-lead data to Telemedicine.

On the Telemedicine Server computer

If you need to receive HeartStart MRx data on a 24-hour/7-day schedule, you must set up the Telemedicine Service Manager. You can configure the service from Windows. For more information about Telemedicine Service Manager, see Running Telemedicine Service Manager as a service on page 102.

- Verify that Telemedicine has access to the URL used by Data Messenger for forwarding 12-lead and PCDT data.
- Verify that the Telemedicine Service Manager is running.
- If the firewall does not automatically open port 80 for HTTP connections, create an exception for TCP port 80 in the Windows Firewall of the computer running Telemedicine server.
- For future reference, note your settings in a worksheet, such as the one provided in the *HeartStart data management solutions implementation guide*.

Troubleshooting Data Messenger and Telemedicine

Troubleshoot the transfer of data from HeartStart MRx through Data Messenger to Telemedicine by testing the *Bluetooth* connection between the HeartStart MRx and Data Messenger, and by testing the data-transfer connection between Data Messenger and Telemedicine.

Before testing, verify that your setup meets the following requirements:

- Data Messenger is set up to receive and forward HeartStart MRx 12-lead reports and PCDT data. See the *HeartStart Data Messenger user guide* for more information.

- Your HeartStart MRx version supports PCDT transmissions. See the *HeartStart MRx M3535A/M3536A instructions for use* for more information.
- The HeartStart MRx is set up to send PCDT transmissions to Data Messenger. See the *HeartStart MRx M3535A/M3536A instructions for use* for more information.
- The *Bluetooth* software and adapter is installed and set up on the computer running Data Messenger.
- The HeartStart MRx *Bluetooth* and the Data Messenger *Bluetooth* have been paired.

Review the following troubleshooting questions, and if your answer is no, complete the steps that follow the question.

Steps for troubleshooting

1. Did the HeartStart MRx transfer the PCDT data?
2. Did Data Messenger receive the PCDT data?

If not, do the following:

   a. In Data Messenger, confirm that the Forward 12-Lead/PCDT data box is checked on the Workflow tab of the Data Messenger Configuration window.
   b. In Data Messenger, confirm that the correct URL is entered for Telemedicine in the 12-Lead or PCDT area on the Forward tab. Click Verify to confirm the URL.

      Data Messenger processes PCDT data automatically, regardless of the mode that Data Messenger currently uses.
   c. On the computer that runs Data Messenger, open the Data Messenger Manual Process window and click the System Log tab.
   d. Verify the data transfers on the System Log tab and look for retries. Data Messenger stores verified data in the *Bluetooth* folder.
   e. Check the folder specified on the Workflow tab in the Failed area.
   f. On the HeartStart MRx, confirm that the Data Messenger computer appears as a transmission device. Pair the HeartStart MRx with the Data Messenger computer again. For more information, see the Configuring Data Messenger section in the *HeartStart Data Messenger user guide*.

3. Did Telemedicine receive the PCDT data?

   If not, do the following:

a. On the HeartStart MRx, confirm that Telemedicine is set up as a transmission destination. For more information, see the *HeartStart MRx M3535A/ M3536A instructions for use* and the *Data transmission implementation guide*.
b. In Telemedicine, confirm that the Telemedicine Service Manager is running on the Telemedicine server computer.
c. On the computer that runs the Telemedicine server, confirm that IIS is set up correctly and is running.

Troubleshooting the receiving and forwarding of data

When patient data is not sent to its destination, first check the system log for errors. For help using the system log, see Working with the system log on page 69.

The information in this section is intended for use by IT personnel.

Use the following questions and instructions to guide you while troubleshooting Telemedicine.

Are you connected to a database?

You can select the Telemedicine Server by name from your intranet. Use the Telemedicine Server field in lower right corner of the Telemedicine Viewer window to connect to a different Telemedicine Server.

For more information, see Connecting Telemedicine Viewer to Telemedicine Server on page 121.

Did the Telemedicine system receive the patient data?

1. On the **Administration** navigation pane, click **System Log** to display the system log. Look in the log for the appropriate saved message for the transmission, with the date and time when the action occurred.
2. If the transmission was received, check the system log to see if there are error messages for the transmission.
3. If the transmission was received and there are no messages, do one of the following:

- If the transmission was a 12-lead report, see Does an Auto Send List exist? on page 127.
- If the transmission was a trigger event or periodic vital, complete step 3 in Is the destination configured? on page 127.

4. If the transmission was not received, see Confirm that the Web service is running on page 130 and Determine that the Telemedicine services are running on page 130.

   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 can configure an Auto Send List.

1. On the **Administration** navigation pane, click **Auto Send Lists**.
2. In the **Auto Send Lists** workspace, look in the **Summary** area to confirm that an Auto Send List exists.
3. If an Auto Send List exists, continue with **Is the Destination Configured**?
4. If an Auto Send List does not exist, configure one. For more information, see Setting Up Auto Send Lists on page 112.

Is the destination configured?

You need to complete destination settings for all devices, whether they are HeartStart MRx-specified or 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. On the **Administration** navigation, click the appropriate destination.
2. If the destination is an application, click **Application Destinations**. Telemedicine lists the configured application names in the **Summary** area. See Is the destination TraceMasterVue or Telemedicine? on page 129.

   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 application destination.
c. If the application name does not appear in the list, click **New** on the File menu or toolbar to create a destination. See Setting up software applications as destinations on page 103.
d. Confirm that the fields in the **Details** area are complete.
e. If the **Applications Destinations** workspace is complete, on the **File** menu or toolbar, click **Save**.

3. 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**, type the fax number. See Setting up fax destinations on page 107.
   c. If the fax name does not appear in the list, on the **File** menu or toolbar, click **New** to create a fax destination. See Setting up fax destinations on page 107.
   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.
4. If the destination is a printer, is that specific printer name in the list? If not, configure the printer. See Setting up for printing 12-lead reports on page 111.
5. 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**, type the email address. See Setting up email addresses as destinations on page 109.
   c. If the email name does not appear in the list, click **New** on the File menu or toolbar to create an email address destination. See Setting up email addresses as destinations on page 109.
   d. Confirm that the fields in the **Details** area are complete.
   e. If the **Email Destinations** workspace is complete, on the **File** menu or toolbar, click **Save**.
6. 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, on the **File** menu or toolbar, click **New** to create an Auto Send List. See Setting Up Auto Send Lists on page 112.
d. If the Auto Send Lists workspace is complete, on the **File** menu or toolbar, click **Save**.

Is the destination TraceMasterVue or Telemedicine?

If the destination is TraceMasterVue or Telemedicine, confirm the following setup:

1. On the **Administration** navigation pane, click **Application Destinations**.
2. In the **Application Destinations** workspace, confirm that the fields in the **Details** area are complete.

   If you need more information about the settings in the **Location Type** and **URL** fields, contact the IT personnel at the receiving site.
3. If the **Application Destinations** workspace is complete, on the **File** menu or toolbar, click **Save**.

If the previous steps did not solve the problem, the problem is probably on the receiving end. Contact experienced IT personnel for the site and request their help.

Is the destination DatamedFT?

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 previous steps did not solve the problem, the problem is probably on the receiving end. Contact experienced IT personnel for their help to troubleshoot the DatamedFT application or associated ECG host, such as a GE MUSE application.

Is the destination a fax machine?

In the **Windows Fax Console**, confirm that the fax is set up.

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 Telemedicine. In the General Configuration workspace, confirm that the SMTP server address is correct. Contact the IT personnel for the SMTP site and request their help.

Confirm that the Web 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 Telemedicine.

If you see a test page with the product name and an image, then the Web service is set up properly.
Otherwise, you will see an error message.

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 the HeartStart MRx transmission, or the Inbox service might not be running.

Determine that the Telemedicine services are running

On the Telemedicine Server computer, look in the **Services** window to confirm that the Telemedicine service is running. The **Services** window is located in the **Windows Control Panel**, in **Administration Tools**.

Determine the source of the Inbox service error

Verify that the transmission reached the Inbox

To verify that the the transmission reached the Inbox

1. Navigate to the MRxInbox folder at the location specified in your configuration.
2. If the 12-lead report is in the Inbox, the inbox server might not be running.

   See Verify that the Inbox service is running on page 131.
3. If there is no 12-lead report in the Inbox, the problem might be with the HeartStart MRx transmission.

Verify that the Inbox service is running

To verify that the Inbox service is running

1. From the Windows **Start** menu, click **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Services**.
4. Find **Telemedicine Service Manager**.
5. If the status is **Stopped**, right-click **Transfer Station Service Manager** and click **Start**.

   If the status is **Started**, then the problem is with the HeartStart MRx transmission.

Clearing system log entries

You can remove the entire system log from the database. Philips recommends that clearing entries from the system log should be done only by experienced IT personnel.

When you back up your database, the system log is included in the backup. For more information, see Backing up your data on page 84.

To clear entries from the system log

- 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 personnel 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:	The trigger event report was successfully sent to the email queue.

Log type	Action	Description	Possible issues and solutions
		{Transmission ID}, file name: {file name}	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.
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.

Log type	Action	Description	Possible issues and solutions
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.
Information	Migrate database	Database {Name} is successfully migrated	Successfully migrated the database (patient data and

Log type	Action	Description	Possible issues and solutions
			configuration data) to the newer installation of Telemedicine.
Error	Failed to migrate database	Failed to migrate patient data from database server {source name} to {destination name}	The database migration was not completed. Patient data failed to transfer completely.
Error	Failed to migrate database	Failed to migrate configuration from database server {source name} to {destination name}	The database migration was not completed. Configuration data failed to transfer completely.
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.

Log type	Action	Description	Possible issues and solutions
			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.
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

Log type	Action	Description	Possible issues and solutions
			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 HeartStart 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.

Log type	Action	Description	Possible issues and solutions
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 HeartStart MRx version that is not supported by HeartStart Telemedicine System.
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	Possible reasons for failure might be: The sender cannot access the Internet.

Log type	Action	Description	Possible issues and solutions
		and Time}	The destination URL is not ready to receive data. If destination is either HeartStart 12-Lead Transfer System 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
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	Started HeartStart Telemedicine	HeartStart Telemedicine successfully started HeartStart

Log type	Action	Description	Possible issues and solutions
	Bluetooth Monitor	Bluetooth Monitor	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.

5

Customer support

Philips strives to provide you with excellent customer service and technical support. Software updates for the integrated applications are available from the application Help menu. From the **Help** menu, click **Check for Updates**.

Customer support is available through email, Internet, and telephone.

Email product support is available in English only at: telemedicine.support@philips.com.

Internet product support is available at the following address:

http://www.philips.com/DataManagementSupport

For telephone assistance outside the United States, call your sales representative or local response center. See the following tables for contact information. You can also navigate to technical support telephone numbers for data management products at this address:

http://www.healthcare.philips.com/main/services/response_center

Region	Address	Telephone number
United States	Philips Healthcare 3000 Minuteman Road Andover, Massachusetts 01810-1099	(800) 722.9377 (option 3) +1(770) 510.1130
Canada	Philips Healthcare, a Division of Philips Electronics Ltd. 281 Hillmount Road Markham, Ontario, Canada L6C 2S3	(800) 291-6743
Authorized EU Representative Europe, Middle East, and Africa	Philips Medizin Systeme Boeblingen GmbH Cardiac and Monitoring Systems Hewlett-Packard Strasse 2 71034 Boeblingen, Germany	(+49) 7031 463-2254

Region	Address	Telephone number
Latin America	Philips Medical Systems Ltda. Av. Dr. Marcos Penteado Ulhôa Rodrigues, 401Parte 16 – 06460-040 – Barueri/SP, Brazil	0800 7017789
Asia Pacific	Philips Electronics Hong Kong Ltd. 6/F, Core Building 1 1 Science Park East Avenue Hong Kong Science Park Shatin. New Territories, Hong Kong	+852 2821 5888

Philips Response Center telephone numbers

The following tables contain telephone numbers for Philips Response Centers around the world.

North America	Telephone number
Canada	800-291-6743
United States of America	800-722-9377

Europe		Telephone number
European International Sales		41 22 354 6464
Austria		01 60 101 820
Belgium	French	02 525 68 80
	Dutch	02 525 68 81
Finland		09- 615 80 400
France		0810 835 624
Germany		0180 3333 544
Italy		800 232100
Luxembourg		+32 2 525 68 80
Netherlands		040 27 85600
Portugal		800 201766
Spain		900 180612 902 304050
Sweden		08-59 85 2530

Europe		Telephone number
Switzerland	German	0800 80 3000
	French	0800 80 3001
United Kingdom		0870 532 9741

Asia and Pacific		Telephone number
Australia		1800 251 400
China	Beijing	800 810 0038
	Hong Kong	852 2821 5888
	Macau	853 0800 923
India		18004256788
Indonesia		021 794 7542
Japan		0120 381 557
Korea		080 372 7777
	Seoul	02 3445 9010
Malaysia		1800 866 188
New Zealand		0800 251 400
Philippines		02 845 7875
Singapore		1800 PHILIPS (1800-744-5477)
South Africa		011 471 6000
Thailand		02 614 3559
Taiwan		0800 005 616

Comments or suggestions?

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 application features and answering your questions about how the application works

- Explaining the proper installation and maintenance of the application
- Assisting you in selecting and configuring card readers

Unsupported help

Customer support technicians do not provide help for the following:

- Interpreting ECG or medical data. Call your medical director or clinical specialist.
- Repairing hardware. The support technicians can help you determine if you have a hardware problem, but they cannot help you fix problems that are not related to the Philips HeartStart application software.
- Troubleshooting defibrillators. Instead, call Philips Customer Support and ask for defibrillator support.
- 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. Start the software application.
3. Have the following information:
    - Windows version.
    - The application version number. This is available from the Help menu. Click the About option.
    - A written copy of the error message text.
    - The activity and task you did when the error occurred.

Glossary

Bluetooth®

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

Bluetooth wireless transmission

Use of a HeartStart MRx Bluetooth wireless technology transceiver module to transfer a configuration from a HeartStart MRx defibrillator to a Bluetooth-enabled computer.

DNS

Domain Name Service: provides a domain name for the IP address.

ECG

Stands for electrocardiogram. The electrical rhythm of the heart as detected through defibrillator pads.

HeartStart MRx hub

A hub is a type of destination on the HeartStart MRx Monitor/Defibrillators. It could be a fax, or a printer, or another software application, such as TraceMasterVue. Each hub requires a name. The hub on the HeartStart MRx is the equivalent to the destination name on a Telemedicine Auto Send List.

HIPPA

The Health Insurance Portability and Accountability Act, a law passed by the United States Congress in 1996.

HTTP

Hypertext Transfer Protocol is the set of rules for exchanging files (text, graphic images, sound, video, and other multimedia files) on the Internet.

IIS

Internet Information Services send and receive information from a network.

ISP

Internet service provider: provides a connection to the Internet.

PCDT

Periodic clinical data transmission, the patient data transmitted by the HeartStart MRx Monitor/Defibrillators. PCDT can include 12-lead reports, trigger events and waveforms, and periodic vital trends.

SSL

Secure Sockets Layer (SSL) is a cryptographic protocol that provides communication security over the Internet.

System log

The system log lists all monitored application activity. Use the system log to review application usage.

URL

Uniform resource locator. An address for a resource on the Internet.

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