Q-Station
User Manual
Release 3.0

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PHILIPS

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This Medical Device meets the provisions of the transposition of the Medical Device Directive 93/42/EEC within the country of origin of the Notified Body concerned with the device.

European Union Representative

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WARNING
United States federal law restricts this device to sale by or on the order of a physician.

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Contents

1 Read This First 9
Intended Audience 9
Intended Use 9
User Information Components 10
User Information Conventions 11
Upgrades and Updates 12
Customer Comments 12
Customer Service 12
2 Q-Station Installation 13
Computer Requirements 14
Removing MSXML 6 SP2 15
Network Requirements 16
Network Requirements for Q-Station Installation 16
Network Requirements for Configuring the Q-Station Computer 17
Computer Security Policy Option 20
Computer Security Policy Settings and Default Values 21
Changing the OS Policy Settings 21
Installing the Software 22
Software Registration 24
Automatically Registering the Software 24
Manually Registering the Software 26
Verifying the Software Installation 28
3 Remote Services 29
Configuring Remote Services Connection Settings 29
Enabling Remote Access 30
Requesting Online Support 31
Viewing Support-Request History 32
4 Q-Station Basics 33
Security 34
Logging On 35
Locking the Software 36
Logging Off 36

Keyboard Shortcuts 36
General Keyboard Shortcuts 36
Image Viewer Keyboard Shortcuts 37
Export Keyboard Shortcuts 37
Common Elements 38
Data Type Icons 40
Messages and Notifications 40
Job Viewer 41
Using the Job Viewer 41
Full-Screen Mode 42
Q-Assistant 42
Q-Setups 43
Q-Station Options 43
Viewing Installed Q-Station Options 44
Q-Station Compatibility 44
Q-Station Language Support 45
5 Working with the Q-Station Software 47
Studies 47
Data Panel 48
Retrieving Study Data from PACS/Archive 48
Transferring Studies Data to Your Workstation 49
Archiving Data to a DICOM Archive 50
Setting CD/DVD Write Preferences 50
Writing a Disc Using Preferred Settings 51
Viewing 51
Displaying the Image Toolbar 51
Image Toolbar Controls 52
Performing Wall Motion Scoring 54
Annotating an Image 54
Capturing an Image 55
QLAB Q-Apps for Analyzing Images 55
Analyzing Images with QLAB Q-Apps 55
Opening Multiple Images in a Q-App 56
Reports 56
Viewing Reports 56

Editing a Report 57
Setting Electronic Signatures on Reports 58
Approving a Report 58
Printing a Report 58
Custom Report Templates 58
SR Mapping 59
Mapping Imported Measurements 60
Remapping Imported Measurements 60
Unmapping Imported Measurements 61
Exporting 61
Displaying the Export Toolbar 62
Export Toolbar Controls 62
Patient Data Export 63
Exporting Data in DICOM Format 64
Saving Images 65
Saving a Loop as a Movie 66
6 System Management 67
Specifying System Information 67
Data Locations 67
Specifying Data Storage Locations 67
Backing Up Configuration Settings 69
Restoring Configuration Settings 69
Importing Configuration Settings 70
7 Network and DICOM Settings 71
Checking Network Settings 71
Adding DICOM Devices 72
Editing DICOM Devices 74
Deleting DICOM Devices 75
Testing DICOM Devices 75
8 Analysis Configuration 77
Tools and Results Tab 77
Configuring Measurement Results 78
Hiding the Doppler Velocity Minus Sign 78
Selecting a Measuring Tool for the Simpson's Method 79
Calc List Tab 79

Configuring the Calc List 79
Measurements Tab 80
Creating New Measurement Labels 80
Copying Measurement Labels 81
Editing Measurement Labels 81
Deleting Custom Measurement Labels 82
Derived Calcs Tab 82
Viewing a Calculation Label 82
Creating, Copying, or Editing a Calculation Label 83
Deleting a Custom Calculation Label 83
Report Meas/Calc Config Tab 84
Factory Settings Tab 84
9 References 85
Measurement Tool References 85
Adult Echo References 87
Pediatric Echo References 87
Vascular References 89
10 Index 91

1 Read This First

The *Q-Station Help* and *Q-Station User Manual* are intended to assist you with the safe and effective operation of your product. Before attempting to use the product, read the user information and strictly observe all warnings and cautions.

The user information for your Philips product describes the most extensive configuration of the product, with the maximum number of options and accessories. Some functions described may be unavailable on your product's configuration.

Intended Audience

Before you use the Q-Station software, you need to be familiar with diagnostic techniques. Sonography training and clinical procedures are not included here.

This document is intended for sonographers, physicians, and biomedical engineers who operate and maintain your Philips product.

Intended Use

This product is intended to be installed, used, and operated only in accordance with the safety procedures and operating instructions given in the product user information, and only for the purposes for which it was designed. However, nothing stated in the user information reduces your responsibility for sound clinical judgment and best clinical procedure.

Installation, use, and operation of this product are subject to the law in the jurisdictions in which the product is used. Install, use, and operate the product *only* in such ways that do not conflict with applicable laws or regulations, which have the force of law.

Use of the product for purposes other than those intended and expressly stated by Philips, as well as incorrect use or operation, may relieve Philips or its agents from all or some responsibility for resultant noncompliance, damage, or injury.

WARNING
United States federal law restricts this device to sale by or on the order of a physician.

WARNING
System users are responsible for image quality and diagnosis.

WARNING
The user is solely responsible for custom measurements and calculations and for the accuracy of elements entered into the equations.

NOTE
The Q-Station software is not intended for long-term storage and should only be used to store patient data that you are currently investigating. Short-term storage is limited to a user-defined amount of free space on the local hard drive, which can be susceptible to failure. To ensure data security, patient data should also be stored on a secure storage device (a PACS).

User Information Components

The user information provided with your product includes the following components:

- *Q-Station User Manual*: Introduces you to features and concepts and helps you set up and configure your software.
- *Q-Station Help*: Available on the product in some languages, the *Q-Station Help* contains comprehensive instructions for use. It also provides descriptions of all controls and display elements. To display the *Help*, click **Help**.
- *Q-Station Operating Notes*: Contains information that clarifies certain product responses that might be misunderstood or cause user difficulty.
- *Shared Roles for System and Data Security*: Contains guidelines to help you understand how the security of your Philips product could be compromised and information on Philips' efforts to help you prevent security breaches.

User Information Conventions

The user information for your product uses the following typographical conventions to assist you in finding and understanding information:

- All procedures are numbered, and all subprocedures are lettered. You must complete steps in the sequence they are presented to ensure success.
- Bulleted lists indicate general information about a particular function or procedure. They do not imply a sequential procedure.
- Control names and menu items or titles are spelled as they are on the system, and they appear in bold text.
- The *pointer* is the cursor used to select elements on the display.
- *Point* means to position the tip of the pointer or cursor on an item on the display.
- *Click* or *select* means to move the pointer to an object and press the primary mouse button.
- *Double-click* means to quickly click twice to select an object or text.
- *Drag* means to place the cursor over an object and then click and hold while moving the object.
- *Hover* means to pause the pointer over an item on the display.
- *Right-click* means to point at an item and then press the right mouse button, without moving the mouse.
- **Shift***+click* means to press and hold the **Shift** key while clicking an item on the display.
- **Ctrl***+click* means to press and hold the **Ctrl** key while clicking an item on the display.

Information that is essential for the safe and effective use of your product appears throughout your user information as follows:

WARNING
Warnings highlight information vital to the safety of you, the operator, and the patient.

CAUTION
Cautions highlight ways that you could damage the product and consequently void your warranty or service contract or ways that you could lose patient or system data.

NOTE
Notes bring your attention to important information that will help you operate the product more effectively.

Upgrades and Updates

We are committed to innovation and continued improvement. Upgrades may be announced that consist of software improvements. Updated user information will accompany those upgrades.

Customer Comments

If you have questions about the user information, or you discover an error in the user information, in the USA, please call Philips at 800-722-9377; outside the USA, please call your local customer service representative.

Customer Service

Customer service representatives are available worldwide to answer questions and to provide maintenance and service. Please contact your local Philips representative for assistance. You can also contact the following office for referral to a customer service representative, or visit the Philips Healthcare "Contact Us" website:

www.healthcare.philips.com/main/about/officelocator/index.wpd

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2 Q-Station Installation

To ensure that the Q-Station software installs successfully and operates correctly, it is critical that you perform the installation procedure exactly and in the order written. Also, because Philips provides remote support for the Q-Station software, Philips requires that the Q-Station computer have Internet access.

Some procedures require using the computer's operating system (OS) software and not the Q-Station software. Detailed instructions for performing those OS procedures are not included here, because the procedures could vary depending on the OS type and version. For detailed instructions, see the Windows operating system Help. This user manual provides suggested phrases to search for in the Windows Help.

The installation procedure comprises the following tasks:

1. Verify that the computer meets or exceeds the minimum requirements (see “Computer Requirements” on page 14).
2. Confirm or collect the network information (see “Network Requirements” on page 16).

CAUTION
If the Q-Station PC is part of a wireless network, use only secured wireless technologies. For more information about network security, see *Shared Roles for System and Data Security*, which is included on the *User Information* CD.

3. Install the software (see “Installing the Software” on page 22).
4. Register the software and obtain the license file (see “Software Registration” on page 24).
5. Restart the computer.
6. Verify the software installation (see “Verifying the Software Installation” on page 28).
7. Establish the remote connection (see the “Remote Services” section).

Computer Requirements

Before the software can be used on your computer, your computer must meet or exceed the following minimum requirements. For more information, search the Windows Help for **get information about your computer**.

- Processor:
  - Intel Core 2 Duo or greater
  - AMD Athlon 64 X2 or greater
- Operating system:
  - Windows XP Professional Service Pack 3, 32 bit
  - Windows 7 Service Pack 1, 32 bit
  - Windows 7 Service Pack 1, 64 bit
- Software:
  - Microsoft Word 2007
  - Microsoft Word 2010
  - Microsoft Word 2013
- Memory: 4 GB RAM
- Graphics: 64 MB or greater with hardware-accelerated Open Graphics Library (OpenGL) and Pixel Shader 3.0 support
- Hard drive: 30 GB of available space
- Monitor: 1600 x 1024 or greater resolution, 32-bit color
- CD/DVD drive
- USB port
- LAN port
- Mouse with a scroll wheel
- Standard Microsoft (or equivalent) keyboard
- Current antivirus software

NOTE
Q-Station does not support Windows Vista.

NOTE
If you are installing on Windows XP, you must remove MSXML 6 Service Pack (SP) 2 from the destination computer before installing the Q-Station software. If MSXML 6 SP2 is present, the System Configuration Check fails. See “Removing MSXML 6 SP2” on page 15.

NOTE
You cannot install the Q-Station software on a computer if the DPI (text size) setting is set to **Large Size**. The DPI setting must be **Normal Size**.

NOTE
To determine your computer's hardware specifications, see the computer's hardware documentation, contact the manufacturer, or search the Internet.

NOTE
If you are unsure that your computer meets the minimum requirements, continue the installation. The System Configuration Check will alert you to any discrepancy.

NOTE
If your computer meets only the minimum requirements, the software installation could require more time to complete than it would on a computer that exceeds the requirements.

Removing MSXML 6 SP2

The Q-Station SQL database does not install correctly if the Microsoft MSXML 6 SP2 is installed on the destination computer. Before installing the Q-Station software, remove the MSXML 6 SP2.

1. On the destination computer, do one of the following:
   - For Windows XP, open **Add/Remove Programs**.
   - For Windows 7, open **Programs and Features**.
2. If the Microsoft MSXML 6 SP2 is listed as an installed program, select it and click **Remove**.
3. Do one of the following:

- If the removal is successful, you can ignore the remaining steps of this procedure and install the Q-Station software.
- If the removal fails, go to step 4.
- If the removal is successful, but Q-Station installation still fails, go to step 4.

4. In the **Tools** directory of the Q-Station Installation DVD, double-click **msicuu2.exe**.
5. Install the **Clean Up** utility by following the prompts in the **Windows Installer Clean Up Setup** wizard.
6. Click **Start** and **All Programs**, and then select **Windows Install Clean Up**.
7. In the list of programs, select **MSXML 6 Service Pack 2 (KB954459) [6.20.1099.0]**.
8. Click **Remove**.

Network Requirements

CAUTION
If the Q-Station PC is part of a wireless network, use only secured wireless technologies. For more information about network security, see *Shared Roles for System and Data Security*, which is included on the *User Information* CD.

Before installing the Q-Station software and to ensure a complete and successful installation, Philips recommends that you confirm or collect specific network information. The network information is required for these purposes:

- To allow installation of the Q-Station software
- To enable the Q-Station computer to operate in your network environment, exchange data with DICOM devices (PACS and ultrasound systems), and accept remote support from Philips

If your facility has an information-technology (IT) department, confer with the IT network administrator as necessary.

Network Requirements for Q-Station Installation

The following network requirements are for installing the Q-Station software onto your computer.

- Access to the Internet
- Port 443 (outbound only) open in the firewall

- Port 80 (to enable automatic registration) open in the firewall
- If a proxy server is used, you need the proxy server address, the user name, and the password.

NOTE
Port 443 is used for secure websites (URLs that begin with "https://"), and port 80 is used for regular websites. Most facilities that have Internet access have those ports open in the firewall.

Network Requirements for Configuring the Q-Station Computer

The items listed in the "Setting Name" column of the following tables are the network requirements for configuring the Q-Station computer to operate in your network environment and accept remote support from Philips. Some of these items may not apply to your network. Write the settings that apply to your network in the spaces provided.

Q-Station Computer Settings

Setting Name	Setting for Your Network
Automatic **IP Address**	
Fixed **IP Address**	
Subnet Mask	
Default Gateway	
DNS Server	
AE Title	
Port Number	

Ultrasound System 1 Settings

Setting Name	Setting for Your Network
IP Address	
AE Title	
Port Number	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

Ultrasound System 2 Settings

Setting Name	Setting for Your Network
IP Address	
AE Title	
Port Number	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

Ultrasound System 3 Settings

Setting Name	Setting for Your Network
IP Address	
AE Title	
Port Number	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

Archive PACS Settings

Setting Name	Setting for Your Network
IP Address	
AE Title	
Port Number	
Does the system support **Native Data**?	
Does the system support **Structured Report**?	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

Query/Retrieve PACS Settings

Setting Name	Setting for Your Network
Does this system use the same settings as the archive PACS?	
IP Address	
AE Title	
Port Number	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

Send PACS Settings

Setting Name	Setting for Your Network
Does this system use the same settings as the archive PACS?	
IP Address	
AE Title	
Port Number	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

DICOM Storage Commit Settings

Setting Name	Setting for Your Network
IP Address	
AE Title	
Port Number	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

DICOM MPPS:RIS Settings

Setting Name	Setting for Your Network
IP Address	
AE Title	
Port Number	
Device Name[1]	

1. The **Device Name** is a name you choose for a specific device (such as an ultrasound system or a server). It is the name that appears in Q-Station messages and dialog boxes regarding that device.

Audit Server Settings

Setting Name	Setting for Your Network
IP Address	
Host Name	
Network Protocol	TCP
	UDP
Port Number	

Computer Security Policy Option

The computer security policy option offered during the software installation is designed to increase the security of patient data by changing some of the Windows OS settings. It is intended for use in office environments that do not have an information technology (IT) department. If your office has an IT department, your office probably has a security policy. Ask your IT department if you should select this option during installation. After the computer security policy option is enabled, no "undo" function is available. The system administrator must manually restore the OS settings.

Computer Security Policy Settings and Default Values

If you select the computer security policy option during installation, it changes the **Administrator** account name, changes the policies for passwords and the locking and disabling of accounts, and sets default values for those policies.

The computer security policy option changes the **Administrator** account name for these reasons:

- **Administrator** is an easy access point for hackers, because it has a known name.
- Changing the name increases system security.

An account is locked for 5 minutes, if 10 invalid log-on attempts occur within 5 minutes.

The password policy is enforced as follows:

- Logging on requires a user name and password.
- Strong passwords are required.
- A password-protected screen saver appears after 15 minutes of inactivity.
- The 12 previous passwords are not allowed.

A strong password has the following properties:

- A minimum length of eight characters
- Three of four character types (uppercase, lowercase, number, and a special character)
- Must be changed every 90 days
- Cannot contain the associated user name
- Cannot contain words that can be found in a dictionary
- Cannot contain repeated or sequential letters or numbers (for example: abcd, aaa, 5432, 1111)

Changing the OS Policy Settings

You must have administrator privileges and use the Windows OS interface and tools to change the policy settings. For details, search the Windows Help for **local security settings**.

Installing the Software

To install the software, you must be logged on with local administrator privileges. Philips recommends that you create a unique local administrator account (for example, **QAdmin**) to install the Q-Station software. Using a renamed local administrator account increases the security of the Q-Station software installation and data. You can use that account after the installation to verify Q-Station operation.

For more information about computer security, see “Computer Security Policy Settings and Default Values” on page 21.

CAUTION
If you are upgrading from a previous version of the Q-Station software, do not uninstall the previous version. Uninstalling the previous version before upgrading to the current version may result in an inability to reattach an existing patient database.

NOTE
Installing Q-Station software automatically upgrades any previous version.

NOTE
During installation, some antivirus applications or other software programs designed to protect the PC may display warning messages that alert you that unknown software is being installed. Ignore or close those messages, and allow the Q-Station installation to proceed.

The installation wizard performs the software installation and prompts you at various times during the installation as it proceeds through the installation sections.

1. Before you begin the installation:
   - Ensure that the target computer meets the minimum requirements (see “Computer Requirements” on page 14).
   - If the target computer is on a network, ensure that the network meets the minimum requirements (see “Network Requirements for Q-Station Installation” on page 16).

- Ensure that you have the original Q-Station DVD case available. It has the Q-Station serial number, which is required for the registration process.

2. Create the **QAdmin** account. For details, search the Windows Help for **add a new user to the computer**.
3. Use the **QAdmin** account to log on to the computer.
4. Place the installation DVD in the CD/DVD drive and wait a few moments for the installation wizard to start.
5. If the installation wizard does not start automatically, use Windows Explorer to navigate to **Setup.exe** on the DVD, and then double-click **Setup.exe** to start the installation.
6. On the **Welcome** display, select the installation language and click **Next**.
7. Read and accept the license agreement. (If you do not accept the license agreement, the installation wizard prompts you to exit the installation.)
8. Click **Next**.
9. In the **System Configuration Check** dialog box, do one of the following:
   - If the system passed the System Configuration Check, click **Next**.
   - If any item has a warning, review it carefully. You may choose to correct the item before proceeding with the software installation, or you may choose to continue the software installation without correcting it. If you choose to continue the software installation, click **Next**.
   - If any item failed, the software installation stops. Exit the software installation and resolve the item before restarting the software installation.
10. In the **Configure Patient Database** dialog box, select a destination drive and set the amount of disk space for the patient database.
11. Click **Next**.
12. The installation wizard prompts you to select whether to apply the computer security policy option. For details about this feature, see “Computer Security Policy Option” on page 20. If you do not want to apply the computer security policy option, select **Maintain existing computer security policies**.

NOTE
After the computer security policy option is enabled, no "undo" function is available. The system administrator must manually restore the OS settings.

13. Click **Install**.

14. The installation wizard checks for Microsoft .NET Framework. If the computer has Microsoft .NET Framework installed, the Q-Station software installation continues. If the computer does not have Microsoft .NET Framework installed, the installation wizard installs it and restarts the computer to complete the .NET Framework installation; this requires you to log on to continue the Q-Station software installation.
15. The main part of the software installation continues, which requires approximately 30 minutes to complete. Meanwhile, the main progress indicator may seem to be inactive for several minutes, but other dialog boxes in the background show activity. This is normal. Allow the dialog boxes to process; do not click them or press any key.
16. In the **Installation Succeeded** dialog box, click **Register** to launch the registration wizard and obtain the license file.

NOTE
If the **Installation Failed** dialog box appears, follow its instructions to restart the computer and restart the software installation.

Software Registration

Before you can use the Q-Station software, you must register it to obtain the license file. There are two methods for registering the software and obtaining the license file:

- Automatic registration, which occurs when the Q-Station computer is connected to the Internet.
- Manual registration, which is required when the Q-Station computer is not connected to the Internet. This method requires using another computer that is connected to the Internet.

Automatically Registering the Software

If the Q-Station computer is connected to the Internet, complete the following steps. If the Q-Station computer is not connected to the Internet, see “Manually Registering the Software” on page 26.

1. Ensure that you have the following items available:
   - A registration name (your name)
   - Your valid e-mail address

- The Q-Station software serial number from the Q-Station DVD case

2. In the Q-Station registration wizard, select **I Am Connected to the Internet and Would Like to Register Now**, and then click **Next**.
3. Type the required information, and then click **Next**.
4. Type the Q-Station serial number (from the DVD case) in the **Serial Number** text box and click **Next**. The registration wizard automatically obtains the license file and displays the **Registration Complete** message.

NOTE
The license file is specific to your Q-Station computer and cannot be used with another computer.

5. In the **Registration Complete** dialog box, select **I Would Like to Back Up My License File**, and click **Finish** to make a backup copy of the license file.
6. In the **Select Backup Location** dialog box, select the location to which you want to save the license file and click **Save**.
7. Do one of the following:
   - If the **Installation Succeeded** dialog box appears, click **Restart** to restart the computer and complete the software installation.
   - If the **Installation Succeeded** dialog box does not appear, manually restart the computer to complete the software installation.
   - If the **Installation Failed** dialog box appears, follow the instructions to restart the computer and restart the software installation.
8. Verify that the following icons are on the desktop:
   - **Q-Station** icon, for opening the Q-Station application.
   - **Q-Assistant** icon, for opening the Q-Assistant tool, which is for configuring the Q-Station application
   - **Q-Setups** icon, for opening the Q-Setups utility, which is for configuring the measurements and analysis features in the Q-Station application

Manually Registering the Software

NOTE
The license file is specific to your Q-Station computer and cannot be used with another computer.

If the Q-Station computer is not connected to the Internet, complete the following steps. If the Q-Station computer is connected to the Internet, see "Automatically Registering the Software" on page 24.

1. Ensure that you have the following items available:
   - A registration name (your name)
   - Your valid e-mail address
   - The Q-Station software serial number from the Q-Station DVD case
   - A USB flash memory drive
2. On the Q-Station computer, do the following:
   a. Open the Windows **Notepad** accessory program.
   b. In the Q-Station registration wizard, select **I am not connected to the Internet. Tell me how to register.**
   c. Click **Next**.
   d. Copy the URL from the dialog box and paste it into **Notepad**.
   e. Copy the node ID and paste it into **Notepad**.
   f. Connect your USB flash drive.
   g. Save the **Notepad** file, with a name of your choice, to the USB flash drive.
   h. Close **Notepad** and disconnect the USB flash drive.
3. On the computer that is connected the Internet, do the following:
   a. Open an Internet browser window.
   b. Connect the USB flash drive that contains the **Notepad** file with the registration URL and node ID.
   c. Open the **Notepad** file.
   d. Copy the registration URL from **Notepad**, paste it into the browser's address field, and go to that URL.
   e. Copy the node ID from **Notepad**, and paste it into the **Node ID** field of the registration website.

   f. Enter the remaining required information (name, e-mail address, and Q-Station serial number from the DVD case) and click **OK**. The registration website sends the license file to your e-mail address.
   g. Access your e-mail account and retrieve the license file.
   h. Save the license file to the USB flash drive.
   i. Disconnect the USB flash drive, and take it to the Q-Station computer.
4. On the Q-Station computer, if the registration wizard displays the **Welcome to the Registration Wizard**, select **I already have a license file** and click **Next**.
5. If the registration wizard is not displayed, do the following:
   a. On the Windows desktop, double-click the **Q-Assistant** icon to open Q-Assistant.
   b. Click **Options**.
   c. Click **Registration Wizard**.
   d. In the **Welcome to the Registration Wizard** dialog box, select **I already have a license file** and click **Next**.
6. Connect the USB flash drive to the Q-Station computer.
7. Click **. . .** and navigate to the USB flash drive.
8. Right-click the license file and select **Open**, or double-click the license file.
9. Click **Next**.
10. In the **Registration Complete** dialog box, select **I Would Like to Back Up My License File** and click **Finish** to make a backup copy of the license file.
11. In the **Select Backup Location** dialog box, select the location to which you want to save the license file and click **Save**.
12. Do one of the following:
    - If the **Installation Succeeded** dialog box appears, click **Restart** to restart the computer and complete the software installation.
    - If the **Installation Succeeded** dialog box does not appear, manually restart the computer to complete the software installation.
    - If the **Installation Failed** dialog box appears, follow the instructions to restart the computer and restart the software installation.
13. Verify that the following icons are on the desktop:
    - **Q-Station** icon, for opening the Q-Station application.
    - **Q-Assistant** icon, for opening the Q-Assistant tool, which is for configuring the Q-Station application
    - **Q-Setups** icon, for opening the Q-Setups utility, which is for configuring the measurements and analysis features in the Q-Station application

Verifying the Software Installation

After you finish installing the software, use this procedure to verify that it installed correctly and is ready for use, and to perform some administrative duties.

1. On the Windows desktop, double-click the **Q-Station** icon. If the application opens, the software installed correctly.
2. If the application does not open, reinstall the license file as follows, and then try opening the application again.
   a. On the Windows desktop, double-click the **Q-Assistant** icon to open Q-Assistant.
   b. Click the **Options** tab.
   c. Click **Registration Wizard**.
   d. In the **Welcome to the Registration Wizard** dialog box, select **I already have a license file** and click **Next**.
   e. Click **. . .** and navigate to the location of the license file.
   f. Select the license file and click **Open**.
   g. Click **Next**.
   h. Click **Finish**.
   i. In the **New License File** dialog box, click **Activate Now** and then click **OK**.
3. If reinstallation of the license file does not enable you to open the application, do the following:
   a. Uninstall Q-Station software, Q-Assistant, and the Philips Service Agent.
   b. Reinstall Q-Station software, which also reinstalls Q-Assistant and the Philips Service Agent.
   c. Perform the verification procedure again.
4. Verify that the license options are correctly installed:
   a. Double-click the **Q-Assistant** icon.
   b. Click the **System Management** tab.
   c. Ensure that the Q-Station serial number shown matches the serial number on the software DVD case.
   d. Click **Options** and ensure that the Q-Apps and features listed match the Q-Apps and features that you purchased.

3 Remote Services

After installing the Q-Station software, Philips recommends that you enable remote access in Q-Assistant. Remote access allows Philips representatives to provide any support you may need. You have full control over remote access. No one can access the Q-Station software remotely if you do not enable remote access.

After remote access is enabled, the Q-Station software communicates only with the Philips server specified in the **Settings** area of the **Remote Services** tab.

Configuring Remote Services Connection Settings

If your site uses a firewall, ensure that port 443 (outbound only) is open before you configure remote services connection settings.

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Remote Services** tab.
3. Click **Settings**.
4. Under **Connection Settings**, ensure that the **Server Address** is set to **M2M Enterprise Server**.

NOTE
Selecting **M2M Enterprise Server** automatically selects **Enterprise URL**, **Tunnel URL**, and **RA URL**.

NOTE
The **M2M Enterprise Server** is the standard server address. Do not select **Custom** or any other setting, unless a Philips representative instructs you to do so.

5. In the **Connection Type** menu, ensure that **Internet** is selected.

NOTE
Internet is the standard connection type. Do not select **VPN**, unless a Philips representative instructs you to do so.

6. In the **Proxy Settings** area, if your site uses a proxy server to control Internet access, type the proxy IP address, user name and password (if used), and indicate whether the proxy server uses NTLM.

NOTE
You can add only an IP address and port number in the **Proxy Settings** area (for example, 192.168.0.1:8080). URLs are not accepted.

7. Click **Save**.
   Q-Assistant registers with the Philips M2M server.
8. Click **Test Connection** and verify that **OK** appears. **OK** indicates that a path to the server exists.
9. If **Failed to Connect** appears instead of **OK**, ensure that:
   - The computer is connected to the Internet.
   - Network settings are configured correctly.
   - Port 443 (outbound) is open in the firewall.

Enabling Remote Access

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Remote Services** tab.
3. Click **Access/Status**.
4. Under **Remote Desktop**, do one of the following:
   - To enable permanent remote desktop access, select **Enable Permanently**.
   - To enable remote desktop access only until a date and time that you specify, select **Enable Until**, select a date from the menu, and enter a time.
5. In the **Remote Desktop** confirmation dialog box, click **OK** to enable remote access.

Q-Assistant displays a yellow triangle. When the yellow triangle changes to a green circle, Q-Assistant has successfully established contact with the Philips remote server. (Establishing contact may require a few minutes.)

6. Under **Software Download**, do one of the following:
   - To allow a Philips representative to download software to the Q-Station computer, select **Enable Download**.
   - To allow automatic installation of downloaded software, select **Install Automatically**.

   Q-Assistant displays a yellow triangle. When the yellow triangle changes to a green circle, Q-Assistant has successfully established contact with the Philips remote server. (Establishing contact may require a few minutes.)

Requesting Online Support

The ability to request online support is an optional feature, available in some countries, that enables you to send a request to Philips for technical or clinical assistance.

NOTE
The **Request Support** tab is visible only after you enable online support and submit a support request.

1. If you are creating an online-support request for the first time, enable online support as follows. Otherwise, go to step 2.
   a. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
   b. Click the **Options** tab.
   c. Click **Service Options**.
   d. Click **Enable**.
   e. Enter an access code to enable online support. For an access code, contact your Philips representative.
2. Do one of the following:
   - At the top of the Q-Assistant desktop, click the **Request Support** tab.
   - In the lower left corner of the Q-Assistant desktop, click **Request Support**.
3. Complete the fields in the **Request Support** form.
4. Click **Request Service** to send your support request to Philips.

Viewing Support-Request History

If **Request Support** is enabled, you can view a history of your online-support requests.

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Request Support** tab.
3. Click **History** to view the details of previous support requests.

4 Q-Station Basics

The Q-Station software is designed to manage, view, and report image data acquired by ultrasound systems. It is a DICOM viewer that provides an environment for review and quantification of cardiovascular and general imaging ultrasound studies. You can manage study data, review images, perform wall motion scoring, and make labeled as well as unlabeled measurements in the Q-Station software. You can also create patient reports and export patient data to DICOM archives, removable media, or network storage locations.

When you purchase Q-Apps, the Q-Station software integrates the QLAB software to provide advanced quantification and includes the most clinically relevant QLAB software analysis results in the report.

WARNING
United States federal law restricts this device to sale by or on the order of a physician.

NOTE
The Q-Station software is not intended for long-term storage and should only be used to store patient data that you are currently investigating. Short-term storage is limited to a user-defined amount of free space on the local hard drive, which can be susceptible to failure. To ensure data security, patient data should also be stored on a secure storage device (a PACS).

NOTE
Your ability to analyze images depends on the quality of the image data you intend to analyze. Image quality is dependent on a number of factors, including the quality and grayscale standard display function (GSDF) calibration of the reviewing monitors, the ambient lighting in the viewing environment, and the compression applied to the image when it is exported in DICOM format. For more information on compression options available on the ultrasound system and other export options that affect image quality, see the documentation that accompanies your ultrasound system.

NOTE
For accurate annotation of secondary captures and Q-Station reports, ensure that the system date and time settings are correct. For information about viewing and changing the system date and time settings, see your operating system documentation.

The Q-Station software guides you through your workflow by using task-oriented activities. Each activity is described in detail in the *Help*. The following activities are available:

- To manage patient data and to select studies for processing in other available activities, use the **Studies** tab.
- To view patient data, use the **View** tab.
- To analyze images by using Q-Apps, use the **QLAB** option on the **Studies** tab or the **View** tab.
- To create, edit, approve, and print reports about patient data, use the **Report** tab.
- To export patient data to DICOM archives and media (DICOM format) or to export in PC format to your local drive or media, use the **Export** tab.

Security

The Q-Station software uses the following security features to protect patient data from unauthorized access:

- Computer security policy (optional in **Setup.exe**)
- Screen blanking
- Audit logging
- Secure remote access

For further details, contact your hospital IT administrator, and see *Shared Roles for System and Data Security*, included on the *User Information* CD.

WARNING
You are solely responsible for security of all patient data on the Q-Station computer.

CAUTION
If the Q-Station PC is part of a wireless network, use only secured wireless technologies. For more information about network security, see *Shared Roles for System and Data Security*, which is included on the *User Information* CD.

Logging On

If security features have been set up through the computer security policy option during installation of the Q-Station software, each user of the system is identified with a unique user name. Each user name is assigned a password. User names and passwords are created during installation of the Q-Station software, or by your Hospital IT Administrator. For details about creating user accounts, search the Windows Help for **user accounts**.

The user name of the user currently logged on is displayed on the Q-Station message bar.

CAUTION
If access to the Q-Station software is not restricted to authorized persons by your hospital's security policy, do not leave the software unattended while you are logged on. If you need to leave the Q-Station software unattended, lock it or log off.

CAUTION
Access to the Q-Station software by users with administrative privileges, or by users with sophisticated and malicious methods, cannot be restricted except by restricting physical access to the workstation.

1. In the **Windows Security** panel, type your user name in the **Name** field.
2. Type your password in the **Password** field.
3. Click **OK**.

Locking the Software

If you need to leave the Q-Station software unattended for a period of time, but will return and continue working, you can lock it to prevent unauthorized access to patient data while you are away.

1. Press **Ctrl**+**Alt**+**Delete** to display the **Windows Security** panel.
2. Click **Lock Computer**.

You are not logged off, but the Q-Station software is secured. The **Log On** panel is displayed. Use your password to unlock the software and continue where you left off.

Logging Off

1. Press **Ctrl**+**Alt**+**Delete** to display the **Windows Security** panel.
2. Click **Log Off**.

Your work is saved and the **Windows Security** panel is displayed for the next user.

Keyboard Shortcuts

This section provides definitions of the Q-Station keyboard shortcuts.

General Keyboard Shortcuts

The following general keyboard shortcuts are available:

Shortcut	Function
Break	Play or pause
Ctrl+**A**	Select all
Ctrl+**C**	Copy
Ctrl+**I**	Show or hide image information
Ctrl+**P**	Print
Ctrl+**R**	Reset image viewing settings
Ctrl+**V**	Paste
Delete	Delete

Shortcut	Function
Alt+F4	Exit
Spacebar	Play or pause
F1	Help
F5	Refresh
F11	Full screen
Shift+F10	Open the shortcut menu

Image Viewer Keyboard Shortcuts

The following image viewer keyboard shortcuts are available:

Shortcut	Function
R	Show or hide the measurement results
Left Arrow	Previous frame in a loop
Right Arrow	Next frame in a loop
Up Arrow	Increase frame rate
Down Arrow	Decrease frame rate
Home	First frame in a loop
End	Last frame in a loop
Page Up	Previous image in a study when viewing in one-up mode, or previous four images when viewing in four-up mode
Page Down	Next page in a study when viewing in one-up mode, or next four images when viewing in four-up mode

Export Keyboard Shortcuts

The following export keyboard shortcuts are available:

Shortcut	Function
Ctrl+Right Arrow	Add column
Ctrl+Left Arrow	Remove column
Ctrl+Down Arrow	Add row
Ctrl+Up Arrow	Remove row

Common Elements

The following tools are available in all activities.

Menu Bar

The menu bar provides access to frequently used commands for performing tasks. Depending on your current activity, some commands may be unavailable. Commands are described in the section to which they apply.

Activity Bar

The activity bar provides access to each activity (**View**, **Report**, **Export**) with the focus on the patient data selected in the **Studies** tab. If an activity is not available in your current situation, the tab appears dimmed, and you cannot switch to that activity. You can close an activity and return to the **Studies** tab by clicking **Close** on the **File** menu.

Main Toolbar

The main toolbar provides quick access to the tools most relevant to your current activity. Tools found on the main toolbar are described in the procedures to which they apply.

Analysis Panel

The **Analysis** panel lists the available calculations and measurements, and the calculations and measurements being performed. Controls in the **Analysis** panel are described in the procedures to which they apply.

Image Toolbar

The image toolbar provides quick access to the tools most relevant to the images displayed in the image area. Tools found on the image toolbar are described in the procedures to which they apply.

Patient Info Panel

The **Patient Info** panel is visible in activities beyond the **Studies** tab, and provides demographic details of the current patient.

The **Series** tab of the **Patient Info** panel provides a pictorial index display of a thumbnail of each image or report contained in the study.

You use the pictorial index to select images and reports for processing in available activities. In the pictorial index, images and reports are grouped by study. Studies are separated by a divider. Studies are grouped chronologically, with the most recent first.

Each image or report in the pictorial index is identified by a thumbnail, which provides information about the image or report.

NOTE
Information may not always be available.

A status mark indicates that an image has been opened in the **View** tab during the current viewing activity. Status marks are only available in the **View** tab.

To open an image or a report, double-click the thumbnail. Double-clicking an image thumbnail opens the image on the **View** tab. Double-clicking a report thumbnail opens the report on the **Report** tab.

Shortcut Menu

You can click items with the right mouse button (called "right-click") to see a shortcut menu containing commands and tools relevant to the item.

Data Type Icons

Icons on thumbnails indicate the data type of the image.

Data Type Icons

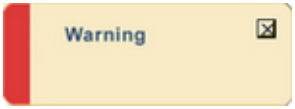
Icon	Data Type
	Image compatible with QLAB software
	Multi-frame loop

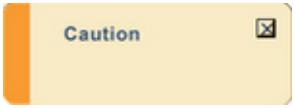
Messages and Notifications

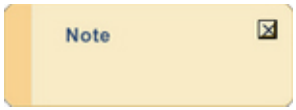
The message bar provides feedback on the state of the system and notification of system events. These messages are for your information only, providing an acknowledgment of jobs that you have submitted or a status update on the progress of a job. System events are displayed with an icon of the event in progress. The user name of the user currently logged on is also shown in the message bar. To show or hide the message bar, select **Message Bar** on the **View** menu.

Notifications provide more detailed information about a system event and are displayed in a pop-up window just above the message bar. The severity of the notification is indicated by its color.

Notification Types







Job Viewer

The Job Viewer provides details of export, print, DICOM, removable media, and network jobs that you have submitted to the system. You can open the Job Viewer at any time to check the status of your jobs, or to modify a job.

Jobs are executed according to their priority. Concurrent jobs that have the same priority are executed in the order that they were submitted. You can make jobs execute sooner by increasing their priority in the Job Viewer.

Using the Job Viewer

1. To open the Job Viewer panel, select **Job Viewer** on the **View** menu.
2. Select a command and do any of the following:
   - To disable a job, click .
   - To enable a disabled job, click .
   - To cancel a job, click .
   - To abort a job, click .
   - To delete a job, click .
   - To resubmit a job, click .
   - To increase the priority of a job, click .
   - To decrease the priority of a job, click .

To filter the contents of the **Job Viewer** window, expand the menu and select the type of jobs you want to view.

Full-Screen Mode

To maximize the display area, you can operate the Q-Station software in full-screen mode to hide the main toolbar, the activity bar, and the message bar. The menu bar remains visible to provide access to commands. Commands for switching between the activities are available on the **Navigation** menu, allowing you to continue with your workflow in full-screen mode.

To switch to full-screen mode, select **Full Screen** on the **View** menu or press **F11**. To exit full-screen mode, press **F11**.

Q-Assistant

Q-Assistant is the configuration application for the Q-Station software. This separate application is installed when you install the Q-Station software.

NOTE
To run Q-Assistant, you must be a member of the local **Administrators** group.

Use Q-Assistant to do the following:

- Back up and restore configuration settings and your license file (see “Backing Up Configuration Settings” on page 69 and “Restoring Configuration Settings” on page 69).
- Establish a remote connection (see “Configuring Remote Services Connection Settings” on page 29).
- Configure network settings (see “Checking Network Settings” on page 71).
- Configure DICOM settings for connections to ultrasound systems and PACS servers (see “Adding DICOM Devices” on page 72 and “Editing DICOM Devices” on page 74).
- Update the license file by using the registration wizard (see “Manually Registering the Software” on page 26).
- Select a storage location for Q-Station reports (see “Specifying Data Storage Locations” on page 67).
- Collect logs.

Q-Setups

Q-Setups is the configuration application for the measurements and analysis features in the Q-Station software. This separate application is installed when you install the Q-Station software.

Use Q-Setups to do the following:

- Select measurement tools and analysis results for each analysis package (see “Tools and Results Tab” on page 77).
- Create measurement or calculation labels and view their properties (see “Measurements Tab” on page 80).
- Map unrecognized measurements imported from non-Philips ultrasound systems to a defined, existing measurement label (see “SR Mapping” on page 59).
- Select the measurements that you want to generate, display, and add to the patient report (see “Configuring Measurement Results” on page 78).
- Specify which measurements and calculations are included in each package (see “Configuring the Calc List” on page 79).
- Reset the analysis packages to their original factory settings (see “Factory Settings Tab” on page 84).

Q-Station Options

Besides the DICOM viewer features available in the Q-Station software, the QLAB Cardiovascular 3D viewer and the QLAB General Imaging 3D viewer are standard with all configurations. Other features are available as purchasable options. The types of options available include connectivity capabilities and QLAB Q-Apps.

NOTE
Purchasable options can be used only on a single Q-Station installation.

NOTE
Some Q-Apps may be unavailable in some countries.

The following licensed options are available for Q-Station software:

- Q-Station Base (required for all configurations; includes DICOM Export and DICOM Query/Retrieve)
- Auto 2D Quantification (a2DQ) Q-App
- Auto Cardiac Motion Quantification (aCMQ) Q-App
- Cardiac Motion Quantification Stress (CMQ-Stress) Q-App
- Cardiac 3D Quantification (Cardiac 3DQ) Q-App
- Cardiac 3D Quantification Advanced (Cardiac 3DQ Advanced) Q-App
- Mitral Valve Navigator (MVN) Q-App
- Strain Quantification (SQ) Q-App
- Region of Interest Quantification (ROI) Q-App
- Intima Media Thickness (IMT) Q-App
- Cardiac Parametric Quantification (Cardiac PQ) Q-App
- MicroVascular Imaging (MVI) Q-App
- General Imaging 3D Quantification (GI3DQ) Q-App
- General Imaging Parametric Quantification (GIPQ) Q-App (This Q-App is unavailable in the United States.)
- Elastography Analysis (EA) Q-App (This Q-App is only available in the United States.)
- Elastography Quantification (EQ) Q-App (This Q-App is unavailable in the United States.)
- Vascular Plaque Quantification (VPQ) Q-App
- Fetal Heart Navigator (FHN) Q-App

For more information on the QLAB Q-Apps, see the *QLAB Help* and the *QLAB User Manual*.

Viewing Installed Q-Station Options

1. On the Windows desktop, double-click the **Q-Assistant** icon to open Q-Assistant.
2. Click **Options** to see a list of the Q-Apps and optional features installed on your system.

Q-Station Compatibility

The following file formats created on Philips Ultrasound systems are incompatible with Q-Station software: DSR, TIFF, DEFF (data exchange file format), and ResearchLink.

In addition to clinical image data, Q-Station software also communicates with PACS from various manufacturers.

File Compatibility

Q-Station software can open files from any of the following ultrasound systems:

- ClearVue 650
- CX30
- CX50
- EPIQ series systems
- HD11 and HD11 XE
- HD15
- iE33
- iU22
- Sparq

Additional analysis capabilities are available when the images from those systems contain Philips native data. (Native data is raw image data saved with an ultrasound image that enables post-acquisition adjustments to the image.) Q-Station software also can open files from any ultrasound system that can export patient studies in DICOM format.

PACS Compatibility

Q-Station software can query and retrieve patient lists and studies from any PACS that supports standard DICOM Query/Retrieve capability. This is a purchasable Q-Station option.

Q-Station Language Support

The following languages are available for the Q-Station user interface and documentation:

- Chinese, Simplified
- Danish
- Dutch
- English
- French
- German
- Italian
- Japanese
- Norwegian
- Portuguese
- Spanish

- Swedish

The following languages are available for the Q-Station documentation (however, the user interface and the *Help* are provided in English):

- Chinese, Traditional
- Czech
- Finnish
- Greek
- Hungarian
- Polish
- Portuguese
- Romanian
- Russian
- Turkish

5 Working with the Q-Station Software

This section guides you through procedures commonly used in working with patient study data on the Q-Station software. These procedures include importing and exporting patient study data, reviewing images, and performing advanced quantification.

For detailed information on the controls, features, and tasks mentioned here, as well as information on additional tasks, see the *Help*.

To display the *Help*, click **Help** and then click **Q-Station Help**.

For instructions on using QLAB Q-Apps, click ? while you are using a Q-App.

Studies

The **Studies** tab provides an overview of patient study data stored locally, and allows you to access patient study data stored on remote data sources.

To open patient study data for processing, the data must reside in the local **Studies** database. To add data to the **Studies** database, you must import patient study data from another source, such as a CD/DVD drive, a USB storage device, a user-selectable repository, or a remote data storage location. To delete one or more images from a study, right-click the selected thumbnail or group of thumbnails, and then click **Delete**.

NOTE
The image **Delete** operation does not have an "undo" feature.

After importing patient study data into the **Studies** database, you can open the data for processing. After processing, you should export the data to a DICOM archive.

NOTE
You can sort the studies list by clicking the heading of any column. You can reorganize columns by dragging them to the preferred position.

Data Panel

The **Data** panel displays data locations that are available to you. The panel is divided into two sections: **Local Data** and **Remote Data**.

- **Local Data** provides access to the **Studies** data storage location, which is the database where patient study information is stored on your workstation. The **Local Data** section also provides access to studies stored on CD/DVD drives, USB storage devices, and one or more user-selected locations on local or network disk drives.
- **Remote Data** provides access to data storage locations on workstations or a PACS connected to your network. You can copy data from remote locations to work with it on your local workstation. You can copy data to remote data storage locations for archiving. If you are working with more than one local data location, you can right-click the location you want to view and add it to the display as a new tab. To close a tab, right-click the tab and select **Close**.

If you want additional display space, you can close the **Data** panel by clicking the **X** in the upper right corner, or by clicking **Data** on the **View** menu. To reopen the **Data** panel, click **Data** on the **View** menu again.

NOTE
For information about using data storage locations, see “Specifying Data Storage Locations” on page 67.

NOTE
The **Free Space** indicator at the bottom of the **Data** panel compares the amount of unallocated database space with the amount of free space on the hard drive and displays the lesser of those values as an indicator of the amount of space available for storing data in the **Studies** database.

Retrieving Study Data from PACS/Archive

Study lists stored on a PACS/archive are retrieved by query.

CAUTION
When retrieving patient data from a PACS/archive, you must formulate a specific query to ensure that all relevant data is retrieved.

1. In the **Data** panel, click a **Remote Data** location.
2. Type or select search terms in the available query fields.

NOTE
Available query fields and the format in which you must enter data in the query fields depend on the configuration of the selected PACS/archive. For example, many PACS require patient names to be entered in uppercase text. For more information, contact the administrator of the PACS/archive.

3. To reset the query form, click **Clear**.
4. To submit your query, click **OK**.

NOTE
You cannot perform processing tasks on study data displayed in a remote study list. To perform further actions on the study data, import the data to the studies data location. Also, pictorial representations of the images are labeled **Archived**, do not contain any imaging data, and may not accurately represent the number of images in the study.

Transferring Studies Data to Your Workstation

1. In the **Data** panel, select the data location from which you want to transfer patient data.
2. Select the data you want to transfer:
   - One or more images or reports from a single study
   - One or more studies from the **Studies** list
3. Drag the selected data to the **Studies** data location.

NOTE
If the selected data belongs to a patient that already exists in the destination location, the data is automatically merged with the existing patient.

NOTE
You can also use the **Copy** and **Paste** commands to transfer data.

Archiving Data to a DICOM Archive

1. Select the data you want to archive:
   - One or more images or reports from a single study
   - One or more studies from a single patient
   - One or more patients from a **Patients** list (all data for each patient is archived)
2. Drag the selected data to the destination DICOM archive in the **Remote Data** section of the **Data** panel.

NOTE
If the selected data belongs to a patient that already exists in the destination location, the data is automatically merged with the existing patient.

NOTE
You can also use the **Copy** and **Paste** commands to transfer data.

Setting CD/DVD Write Preferences

Before writing to a disc for the first time, set the CD/DVD write preferences. You can then use the same settings each time you write patient data.

1. On the **Tools** menu, click **Customize CD/DVD Write Preferences**.
2. Configure the settings and then click **Save**.

Writing a Disc Using Preferred Settings

Before writing a disc for the first time, set the CD/DVD write preferences. See "Setting CD/DVD Write Preferences" on page 50.

1. Insert a blank disc in the CD/DVD writer.
2. Select studies data to write to disc.
3. On the main toolbar, click .

Viewing

Use the **View** tab to view and measure images, to play loops from stress echo and non-stress echo studies, to select subloops, and to perform wall motion scoring on stress echo studies. You can view both single-frame images and loops (a sequence of images).

NOTE
Q-Station software does not import the wall motion scoring information of studies that contain existing wall motion scoring information.

The **View** tab incorporates the pictorial index, which you use to select images for viewing. Images that are currently open for viewing are highlighted in blue in the pictorial index.

You can make adjustments to the displayed images by using tools provided on the **View** tab. Menu commands and tools on the main toolbar affect all images. Tools on the image toolbar affect only the image with which you are working.

The Q-Station software includes the Q-Vue application, a stand-alone DICOM viewer that you can add to your exported DICOM images. The Q-Station software also includes optional viewing capabilities for multimodality images. For more information about Q-Vue and multimodality image viewing, see the *Help*.

Displaying the Image Toolbar

The image toolbar contains tools that let you adjust the view of an image, select subloops, make basic labeled and unlabeled measurements, and annotate the image.

To display the image toolbar, click on the upper right corner of the image.

Image Toolbar Controls

Control	Description
	Selects the image.
	Scrolls the image.
	Adjusts contrast and brightness.
	Zooms the image.
	Pans the image.
	Plays a loop. Available only when **Sync Mode** is set to **Free Run**.
	Pauses a loop. Available only when **Sync Mode** is set to **Free Run**.
	Increases cineloop playback frame rate.
	Decreases cineloop playback frame rate.
	Plays the cineloop at the acquisition frame rate.

Control	Description
	Displays subloops (stress echo images only).
	Displays the next subloop (stress echo images only).
	Displays the previous subloop (stress echo images only).
	Sets a subloop as the preferred loop (stress echo images only).
	Enables you to draw an arrow with an annotation.
	Resets the image viewing settings.
	Captures the image and appends it to the study. (This control is available when a loop is playing; however, it only captures and appends the frame that was active at the time of the mouse click.)
	Marks the image for inclusion in the report.
	Displays image information.

Performing Wall Motion Scoring

NOTE
Wall motion scoring is allowed only on protocols with eight or fewer stages.

1. On the main toolbar, click .
2. Drag the slider at the top of the window to indicate the stage you are scoring. If **Display Stages** is selected on the **Display Mode** menu, Q-Station displays the corresponding stage in the image viewer.
3. Click the view icons to see the wall segments from different perspectives. If **Display Views** is selected on the **Display Mode** menu, Q-Station displays the corresponding view in the image viewer.
4. Do one of the following:
   - If all wall segments are normal, click **All Normal**.
   - Click the wall segment in the left-ventricle graphic or in the bull's eye, and click the wall score for the segment (scores are synchronized between the graphic and the bull's eye).
5. Before scoring the next stage, click **Save** to store your input for the current stage.
6. Repeat step 2 through step 5 for each stage. To apply the scores from the previous stage to the current stage, click **Carry Over**.

Annotating an Image

You can add an arrow with a text box to an image. Annotations can be added only to single-frame images or to frames with within a loop.

1. To display the image toolbar, click .
2. Click .
3. Click on the image to place the arrow, and click again to display the text box.
4. Type the annotation in the text box and click to complete the annotation.
5. To edit the annotation, put the cursor in the text box and type changes.

Capturing an Image

When you capture an image, it is appended to the study as a JPEG-compressed DICOM image.

The icon appears on captured images in the pictorial index.

1. To display the image toolbar, click .
2. Click .

QLAB Q-Apps for Analyzing Images

Q-Station can include the QLAB Advanced Quantification Software as a purchasable option. The QLAB software is a tool that provides several Q-Apps to perform advanced quantification.

For a list of Q-Apps that the Q-Station software supports, see "Q-Station Options" on page 43.

WARNING
The heart rate (HR) in the Q-Station Report and the HR that is included with the bull's eye diagrams exported from the QLAB aCMQ and CMQ-Stress Q-Apps have different clinical meanings. The HR in the exported bull's-eye diagrams is an averaged HR from three views, and the individual HR for each view is not from DICOM.

Analyzing Images with QLAB Q-Apps

From the **Studies** tab, you can load an image into a QLAB Q-App for analysis. For information about working with the **Studies** tab, see "Studies" on page 47.

1. From the **Studies** tab, select an image.
2. From the **View** tab, do one of the following:
   - Right-click the image, and then click **Q-Apps**.
   - Click the square in the lower right corner of the image (a check mark appears in the square), and then click .
   - Click on the image.
3. Click the name of the Q-App that you want to use.

4. For instructions on using the QLAB software, click ? while you are using a Q-App.

Opening Multiple Images in a Q-App

Some Q-Apps, such as a2DQ, aCMQ, and CMQ-Stress, allow you to open multiple images at the same time.

Opening Multiple Images from the Studies Tab

1. On the **Studies** tab, in the list of images on the **Series** tab, **Ctrl**+click all the images you want to open.
2. Right-click one of the selected images, and then click **Analyze With**.
3. Click a Q-App name.

Opening Multiple Images from the View Tab

1. On the **View** tab, in the list of images in the left pane, **Ctrl**+click all the images you want to open.
2. To select all of the images, click on the main toolbar.
3. Click on the main toolbar, and then click a Q-App name.

Reports

Patient reports contain the measurements and quantification results that were completed in the patient study as well as images that you specifically add.

A patient report generates automatically while you conduct a study that includes both labeled measurements and image acquisitions. To access the report, click the **Report** tab.

Viewing Reports

Draft reports are displayed automatically in the **Report** tab.

To view approved reports:

1. In the **Studies** tab, select an examination that has an approved report.
2. Click the **Report** tab.
3. Click .

All approved reports for the selected patient are displayed in the **Approved Reports** table in the control panel.

4. Select one or several reports in the **Approved Reports** table.
   Each selected report is displayed as a PDF file in a dedicated tab in the main display area.

Alternately, you can view an approved report by double-clicking the report thumbnail in the pictorial index on the **View** tab or the **Studies** tab.

Editing a Report

The department name and institution name that appear in the report are specified when you use the Q-Assistant **System Management** tools to configure Q-Station. For more information, see "System Management".

For information on editing measurements in a report, see the *Help*.

1. In the **Studies** tab, select an examination.
2. Click the **Report** tab.
3. Click .
4. Enter a title for the report in the **Title** field in the control panel.
5. Under **Advanced Analysis**, select one or more of the following image types to include in the report, as appropriate:
   - **CMQ-Stress Bulls Eye**
   - **WMS Bulls Eye**
   - **WMS Anatomic**

NOTE
If you select **CMQ-Stress Bulls Eye**, only the **WMS Bulls Eye** can be included in the report. (**WMS Anatomic** is unavailable.)

6. Under **Advanced Analysis**, select one or more of the stages to include in the report.
   The report supports stress studies with up to eight stages. The stages are named as they were during the exam acquisition.
7. Under **Findings**, select any applicable codes to include findings statements in the report.
   A **Findings** section is added to the report and the statements associated with the selected codes are entered.

8. Enter text in the draft report, using the standard word-processing tools (Microsoft Word) in the main display area.
9. Click to save the draft report as work in progress.

Setting Electronic Signatures on Reports

The user name (electronic signature) that appears in the footer of the report is set or edited by changing the user name that defines the active user account.

1. Open the Windows **User Accounts** dialog box. For more information, search the Windows Help for **user accounts overview**.
2. Select the user account that you want to edit.
3. Edit the **User Name** that appears in the account.
4. Restart the computer to reset the account information. All new reports will display the new user name as the report's electronic signature. Existing reports will continue to display the original electronic signature name.

Approving a Report

1. Open the draft report that you want to approve.
2. Click .
   The report is converted to a DICOM Encapsulated PDF file and is moved from the **Edit** task to the table of approved reports in the **View** task.

Printing a Report

1. Select the report that you want to print in the **Approved Reports** table, or if the report is already displayed, ensure its tab is selected.
2. Click .
   The report is printed to the workstation's default paper printer.

Custom Report Templates

You can create report templates to customize the sections of your Q-Station reports.

The following lookup fields are available for adding to your custom report templates:

- Patient Name
- Patient ID

- Accession Number
- Date of Birth
- Patient's Age
- Gender
- Study Data
- Referring Physician's Name
- Institution Name
- Institution Address
- Department Name
- Patient's Size
- Patient's Weight
- Study Description
- Operator's Name

NOTE
For guidelines and detailed instructions on creating and editing custom report templates, see the *Help*.

SR Mapping

With Q-Station, you can import studies and view images from non-Philips ultrasound systems. However, some of the measurement data, specifically DICOM structured report (SR) entries, from these imported studies may not be recognized by Q-Station. As a result, the reports you create from these imported studies will not contain all of the available data. You can use **SR Mapping** in the Q-Setups utility to map unrecognized measurements to existing Q-Station measurement labels. You can also unmap and remap the imported measurements.

NOTE
Changes you make with the Q-Setups utility do not take effect until you stop and restart the Q-Station software.

SR Mapping is designed to simplify the mapping process. For example, you can:

- Double-click an item in either list to view or hide details about that item.
- Click on the right side of either list to display the filter feature. Type your text in the available field, and then click **Filter**. To remove filtering, clear the text in the available field, and click **Filter** again.
- Click a column header to sort either list by that column's attributes.
- Sort the list of unmapped measurements by selecting an analysis package.

Mapping Imported Measurements

You can map unrecognized measurements from a study imported from a non-Philips ultrasound system.

1. Import and open the study.
2. Click **Report**.
3. Click **Tools**, and then click **Q-Setups SR Mapping** while viewing the generated report.
4. After the Q-Setups utility opens, select an application (**Adult Echo**, **Vascular**, or **Pediatric**) to sort the list to match the analysis package that you are using.
5. Make sure **Show UnMapped** is selected.
6. Click an unmapped measurement from the **DICOM SR Entry** list.
7. Browse the list of **System defined measurements and calculations** for a matching label and concept.
8. Click the matching measurement label when you find it, and then click **Map**.
9. Repeat steps 5 through 7 with each item in the **DICOM SR Entry** list.
10. Click **Close** when the mapping is complete.
11. Exit and restart Q-Station to apply the new mapping.

Remapping Imported Measurements

You can change the mapping of measurements you defined previously. Measurements that were mapped automatically during the study import cannot be remapped.

1. Open the study that contains the measurements that you want to remap.
2. Click **Report**.
3. Click **Tools**, and then click **Q-Setups SR Mapping** while viewing the generated report.
4. After the Q-Setups utility opens, select an application (**Adult Echo**, **Vascular**, or **Pediatric**) to sort the list to match the analysis package that you are using.
5. Deselect **Show UnMapped**, and then select **Show Mapped**.

Items that have been mapped automatically by the system appear dimmed.
6. Click the measurement to be remapped in the **DICOM SR Entry** list, and then click **UnMap**.
7. Browse the bottom list of **System defined measurements and calculations** for a new matching label and concept.
8. Click the matching measurement label when you find it, and then click **Map**.
9. Click **Close** when the remapping is complete.
10. Exit and restart Q-Station to apply your changes.

Unmapping Imported Measurements

You can delete the mapping of measurements you defined previously. Measurements that were mapped automatically during the study import cannot be unmapped.

1. Open the study that contains the measurements that you want to unmap.
2. Click **Report**.
3. Click **Tools**, and then click **Q-Setups SR Mapping** while viewing the generated report.
4. After the Q-Setups utility opens, select an application (**Adult Echo**, **Vascular**, or **Pediatric**) to sort the list to match the analysis package that you are using.
5. Deselect **Show UnMapped**, and then select **Show Mapped**.
   Items that have been mapped automatically by the system appear dimmed.
6. Click the measurement to be unmapped in the **DICOM SR Entry** list, and then click **UnMap**.
7. Click **Close** when the unmapping is complete.
8. Exit and restart Q-Station to apply your changes.

Exporting

The **Export** tab displays images from the selected study in the image viewer. Also displayed is the **Export Settings** panel, which you use to configure and send the export job.

To collapse or expand the **Export Settings** panel, click its title bar.

NOTE
When exporting to removable media, Philips recommends that you scan the media for viruses before use. Also, only use media from trusted sources.

Displaying the Export Toolbar

The export toolbar contains tools that let you adjust the view of an image, select subloops, and anonymize the image.

To display the export toolbar, click on the upper right corner of the image.

Export Toolbar Controls

Control	Control Description
	Selects the image
	Scrolls the image
	Adjusts contrast and brightness
	Zooms the image
	Pans the image
	Selects the format in which images are displayed
	Selects the previous frame
	Selects the next frame
	Plays a loop.

Control	Control Description
	Stops playback of a loop.
	Decreases the frame rate of a loop.
	Increases the frame rate of a loop.
	Defines an area of the display for an anonymization template.
	Saves an anonymization template.
	Applies an anonymization template.

Patient Data Export

You can export images in either DICOM format or PC format.

If you use anonymization when exporting patient data to removable media or a Windows folder, certain patient attributes are replaced with anonymized values.

WARNING
When exporting data, the presentation state of images at the time of export is preserved in the exported data. You should be aware that important diagnostic information, for example annotations, may not be visible when viewing the exported images.

CAUTION
Exported data is not anonymized by default. If data is exported to a system or storage device that is not protected by password or other method, it is accessible by all clinical users. It is your responsibility to ensure that patient privacy is not compromised at the export location.

Exporting Data in DICOM Format

CAUTION
To prevent unauthorized persons from removing the media when an export task finishes, you must not leave the system unattended while an export task is in progress. Alternatively, the system must be accessible by authorized persons only.

CAUTION
Exporting to removable media should be considered as temporary storage only, and should not be considered a long-term backup solution.

CAUTION
Objects that are not supported by a DICOM PACS or archive may be bypassed during export to that PACS. Objects that may be unsupported include DICOM Encapsulated PDF files, and, with older PACS, DICOM Structured Report. To alleviate this issue, deselect SR options in the Advanced Settings area for the PACS DICOM device in DICOM Settings on the Network/ DICOM tab of the Q-Assistant configuration utility.

CAUTION
Although exported DICOM information can be anonymized, there is no mask applied to images to obscure the patient data that may be visible in the images.

NOTE
You cannot remove native data from an image to reduce file size prior to export.

1. Select one or more loops or single-frame images from a single study.

NOTE
To export the entire study, click **Select All**.

2. In the **Export Settings** panel, click the **DICOM** tab.
3. Do one of the following:
   - To export patient data in DICOM format to a DICOM archive, a CD, a DVD, or a USB drive, select a destination on the **Destination** menu.
   - To export patient data in DICOM format to a Windows folder, click ... and select a folder on the workstation, CD, DVD, or USB drive.
4. To export the stand-alone DICOM Viewer application with the patient data, select **Include DICOM Viewer**.
5. To make patient data anonymous, select **Anonymize**. If you want to change the default anonymization name after selecting **Anonymize**, click .

NOTE
To apply the anonymization preset to every study image, click **Select All**.

6. Click **Export**.

Saving Images

1. In the image viewer, select the images that you want to save. You can select one or more images at a time.
2. On the **File** menu, click **Save Image As**.
3. Select a quality setting.
4. To change the file name, type a new name in the **File Name** field.
   By default, the patient name is used as the file name and images are saved as JPEG files (.jpg). However, you can select other formats from the **Image Format** menu.
5. To change the destination, do one of the following:
   - Select a previously used destination on the **Destination** menu.
   - Click ... and select an available destination (Windows folder on the workstation or USB drive).

NOTE
When saving data in PC format, you can save only to Windows destinations and not to DICOM nodes.

6. Click **OK**.

Saving a Loop as a Movie

1. Open a loop and select its tab on the image viewer.
2. On the **File** menu, click **Save Movie As**.
3. Select a quality setting.
4. To change the default file name, type a new file name in the **File Name** field. By default, the patient name is used as the file name. Movies are saved as AVI files (.avi).
5. To change the destination, do one of the following:
   - Select a previously used destination on the **Destination** menu.
   - Click ... and select an available destination (Windows folder on the workstation or USB drive).

NOTE
When saving data in PC format, you can save only to Windows destinations and not to DICOM nodes.

6. Click **OK**.
   The movie is saved as it appears in the image viewer.

6 System Management

The **System Management** tab in Q-Assistant lets you specify system information such as audit server and language settings, specify locations in which to store Q-Station data, and back up and restore the Q-Station license file and configuration settings.

Specifying System Information

The Q-Assistant software displays your Q-Station serial number, which it reads from the license file, in the **System Information** area of the **System Management** tab.

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. In Q-Assistant, click the **System Management** tab.
3. Click **System Information**.
4. Do any of the following:
   - Type information in **Institution Name** and **Department**.
   - Select the language in which you want to run the Q-Station software and the Q-Assistant software from the **Language** menu.
   - If your site uses an audit server, enter its **IP Address**, **Host Name**, and **Port Number**, and select the appropriate **Network Protocol**.
5. Click **Save**.

Data Locations

In the **Media/Store** section of the Q-Assistant **System Management** tab, you can specify local folders, network shared storage areas, and local storage devices as Q-Station data locations.

Specifying Data Storage Locations

The storage directories that you specify in **Q-Station Data Locations** appear in the **Local Data** area of the Q-Station **Studies** tab. The directories you specify there are different from the local patient database, the location of which you select when you install the Q-Station software.

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. In Q-Assistant, click the **System Management** tab.
3. Click **Media/Store**.

4. To add a directory for Q-Station data storage, in the **Q-Station Data Locations** panel, click **Add** and then browse to a local directory or network shared storage area and click **OK**.
5. Do one of the following:
   - To activate the new storage locations or local storage devices immediately, click **Activate Now**.
     When you activate new storage locations or local storage devices, Q-Assistant exits and then restarts.
   - To specify additional data locations or local storage devices and activate the directories later when prompted by Q-Assistant, click **Activate Later**.
6. To add and activate additional data locations, repeat steps 4 and 5.
7. To add a USB drive as a local storage device, connect the USB drive to a USB port on the Q-Station computer.

NOTE
FAT-formatted and NTFS-formatted USB drives are supported for Q-Station data locations.

8. To configure a CD/DVD drive or a USB drive as a local storage device, in the **Q-Station Local Devices** panel, select the drive letters that correspond to the **CD/DVD** and **USB** drives on the Q-Station computer.
9. If the selected CD/DVD drive is read/write, select **R/W**.
10. Click **Save**.
11. When prompted, click **Activate Now**.
    When you activate new storage locations or local storage devices, Q-Assistant exits and then restarts.

NOTE
If the Q-Station software is open when the Q-Assistant software restarts, the Q-Station software exits, and you must manually restart it.

Backing Up Configuration Settings

You can back up the Q-Station configuration settings and license file in Q-Assistant.

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **System Management** tab.
3. Click **Backup/Restore**.
4. Select **Backup To**.
5. Click **Browse** and select a location to which you want to back up the data.
6. To start the backup, click **Backup**. When the backup is complete, a notification message appears.

Restoring Configuration Settings

In the Q-Assistant software, you can restore the Q-Station configuration settings and license file from a backup location.

CAUTION
The Q-Station software does not support transferring configuration settings from one Q-Station computer to another. Restore configuration settings only on the Q-Station computer from which they were backed up.

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **System Management** tab.
3. Click **Backup/Restore**.
4. Select **Restore From**.
5. Click **Browse** and select the location from which you want to restore the data.
6. Select the data that you want to restore. You can select **Configuration Repository**, **License File**, or both.
7. Click **Restore**.
   When the restoration is complete, a notification message appears, and Q-Assistant restarts.

Importing Configuration Settings

You can import configuration settings with the Q-Assistant utility. However, if you attempt to import analysis settings that include a measurement or a calculation with a name that is already stored on the system, you will be unable to append the imported settings. The system allows you to import the settings only by overwriting the measurements and calculations (select **Overwrite Meas and Calc?** in the **Import Analysis Setups** dialog box). This is intended to prevent the unintentional loss of identically named settings on the system. If you do not want to import all settings and overwrite the existing settings, avoid using duplicate names, or create a DVD or a CD that contains only the settings you want to import. To exit the **Import Analysis Setups** dialog box without importing, click **Close Setup**.

7 Network and DICOM Settings

You can use the Q-Assistant software to connect the Q-Station software to ultrasound systems and PACS. For a list of settings required for configuring Q-Station network and DICOM settings, see "Network Requirements for Configuring the Q-Station Computer" on page 17.

NOTE
Q-Station software supports the DICOM Storage Commit service, which is used to confirm that a study has been committed to permanent storage on a PACS. This confirmation ensures that it is safe to delete the local copy of the study. When the Q-Station software receives this confirmation, it flags the local copy of the study for deletion by the automatic cleanup service.

The Q-Station software supports any of the following connected workflows:

- If you do not archive studies to a PACS, you can connect an ultrasound system directly to a Q-Station computer, obtain data from the ultrasound system for analysis in the Q-Station software, and then generate a report.
- If your PACS does not support storage of native data from the ultrasound system, you can connect an ultrasound system directly to a Q-Station computer, obtain native data from the ultrasound system for analysis in the Q-Station software, and then archive the data to a PACS without including native data. (Native data is raw image data saved with an ultrasound image that enables post-acquisition adjustments to the image.) You can configure this workflow in the Q-Assistant software by deselecting the **Native** option for **Archive** in the **Advanced Settings** area of the **PACS Device in DICOM Settings** dialog box.
- If the ultrasound systems at your institution are configured to send data to a PACS, you can query the PACS to obtain a list of patients and studies, request that the PACS send the Q-Station computer a study for analysis, and then archive the data back to the PACS.

Checking Network Settings

You can view the Windows network settings for the computer on which the Q-Station software is installed in the **Network Settings** area of the **Network/DICOM** tab in the Q-Assistant software.

CAUTION
If the Q-Station PC is part of a wireless network, use only secured wireless technologies. For more information about network security, see *Shared Roles for System and Data Security*, which is included on the *User Information* CD.

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Network/DICOM** tab.
3. Click **Network Settings**.
4. If your computer has more than one network card, select the appropriate card from the **Select Network Card** menu.
5. Click **Network Connections** to open the Windows **Network Connections** control panel and view settings for your network connection.
6. Do either of the following:
   - To see detailed information about the network settings, click **IPConfig/All**.
   - To release and then renew the network connection, click **IPConfig/Release** and then click **IPConfig/Renew**.
7. To check the connection status of a server on the network, type the IP address of the computer in the **IP Address** field and click **Ping**.

Adding DICOM Devices

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Network/DICOM** tab.
3. Click **DICOM Settings**.
4. Enter the Q-Station AE title and port number in the **AE Title** and **Port Number** fields, and then click **Save**.
5. Click **Add**.
6. In the **Add DICOM Device** dialog box, select a device type from the **Device Type** menu.
7. Enter a device name, an AE title, an IP address, and a port number for the device to which you want to connect.

NOTE
Each device must have a unique name. Philips recommends entering an easily recognized name for the device that includes the function of the device. For example, "iSite - Store" or "iSite - Commit."

NOTE
If you are connecting to an ultrasound system that has a dynamic IP address, the IP address you enter is used only when you test the connection to the ultrasound system. The ultrasound system can still send studies to the Q-Station software, even if the IP address changes.

NOTE
An ultrasound system that uses DICOM Query/Retrieve or DICOM Storage Commit must have a static IP address.

NOTE
If the Q-Station computer sends data to any DICOM destination, the destination and the Q-Station computer both require a static IP address.

8. If you are adding a PACS, click **Advanced Settings** and do the following:
   a. Select the functions supported by the PACS: **Archive**, **Query/Retrieve**, or **Send**. Some PACS use the same AE title and port number for all three functions. If the PACS to which you are connecting uses a different AE title or port number for different functions, use the **Add DICOM Device** dialog box to add a separate device connection for each function.
   b. If you selected the **Archive** function, select the optional data types to be sent (still images and loops are always archived): **Native** and **SR**. You can ask your network or PACS administrator to determine if your PACS supports native data.
   c. Only if your network or PACS administrator requests it, change the **Association (Artim) Timeout** and a **Storage Commit Max. Reply Waiting Time**. The default settings are suitable for most PACS.
   d. Click **OK**.

9. For each **Storage Commit Device** you are connecting to, select the following in the **Storage Commit Association** section of the **DICOM Settings** dialog box:
   - Click **PACS Device**, and then select the PACS name.
   - Click **Storage Commit Device**, and then select the name of the device that performs the storage commit function.
10. Click **Save**.
11. When prompted, do one of the following:
    - To activate the new devices immediately, click **Activate Now**.
      When you activate new devices, Q-Assistant exits and then restarts.
    - To perform additional Q-Assistant tasks before activating the devices, click **Activate Later**.

NOTE
If the Q-Station software is open when the Q-Assistant software restarts, the Q-Station software exits, and you must manually restart it.

Editing DICOM Devices

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Network/DICOM** tab.
3. Click **DICOM Settings**.
4. Select the DICOM device that you want to edit, and click **Edit**.
5. Make changes in the **Edit DICOM Device** dialog box.
6. If you are editing a PACS, click **Advanced Settings** to make changes in the **Advanced Settings** dialog box.
7. Click **Save**.
8. When prompted, do one of the following:
   - To activate the new devices immediately, click **Activate Now**.
     When you activate new devices, Q-Assistant exits and then restarts.
   - To perform additional Q-Assistant tasks before activating the devices, click **Activate Later**.

NOTE
If the Q-Station software is open when the Q-Assistant software restarts, the Q-Station software exits, and you must manually restart it.

Deleting DICOM Devices

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Network/DICOM** tab.
3. Click **DICOM Settings**.
4. Select the DICOM device that you want to delete and click **Delete**.
5. In the **Delete DICOM Device** dialog box, click **Yes**.
6. Click **Activate Now** to complete the deletion and restart the Q-Assistant software.

NOTE
If the Q-Station software is open when the Q-Assistant software restarts, the Q-Station software exits, and you must manually restart it.

Testing DICOM Devices

1. To start Q-Assistant, double-click the **Q-Assistant** icon on your desktop.
2. Click the **Network/DICOM** tab.
3. Click **DICOM Settings**.
4. Select the DICOM device that you want to test, and click **Verify**.
   Verification may require up to 1 minute.
   Q-Assistant displays the results of a DICOM test (DICOM Verify and TCP/IP Ping) in the **Verify** column and in the **Verification Results** area of the **DICOM Services Configuration** dialog box.

8 Analysis Configuration

You can use the Q-Setups utility to configure each of the available analysis packages, or to create one or more custom analysis packages.

To view or modify the configuration of the analysis packages, click **Analysis** on the left panel.

For the available analysis packages, Q-Setups has the following configuration tabs:

- In the **Tools and Results** tab, you can specify which measurement tools are included in each package and which results each tool will produce.
- In the **Calc List** tab, you can specify which measurements and calculations are displayed in the **Analysis** panel for each package.
- In the **Measurements** tab, you can create or view measurement labels and their properties.
- In the **Derived Calcs** tab, you can create or view calculation labels and their properties.
- In the **Report Meas/Calc Config** tab, you can specify which measurements and calculations are included in the patient report by default. This tab is unavailable for the **General** analysis package.
- In the **Factory Settings** tab, you can reset the analysis packages to their factory-default settings.

NOTE
Changes you make with the Q-Setups utility do not take effect until you exit and restart the Q-Station software.

Tools and Results Tab

In the **Tools and Results** tab, you can configure the choice of results for the measurement tools. For the **Adult Echo** and the **Pediatric Echo** analysis packages, you can choose which method to use for Simpson's measurements. In the **Vascular** and the **General** analysis packages, you can also choose to hide or show the Doppler negative sign.

Configuring Measurement Results

You can select the measurements that you want the "measure-then-label" tools to generate, display, and add to the patient report. Each analysis package provides a different set of tools, although many of the tools are shared. Each tool category is allowed a maximum of eight selections.

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the tab for the analysis package you want to configure.
4. Click the **Tools and Results** tab.
5. Configure the measurement results as follows:
   - Select the measurement results you want to generate, display, and add to the patient report.
   - Deselect the measurement results you do not want to generate, display, and add to the patient report.
6. Click **Close** to exit **Q-Setups**.

Hiding the Doppler Velocity Minus Sign

The option to hide the Doppler velocity minus sign is available in the **General** and **Vascular** analysis packages.

NOTE
When **Hide Doppler Velocity Minus Sign** is enabled, the sign value, whether visible or not, is still considered in calculations performed with the reported value.

NOTE
If you do not want to export a negative Doppler value to the patient report, select the **(Max(Abs))** option for the Doppler measurement selector. For information about setting a measurement selector, see the *Help*.

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.

3. Click the **Tools and Results** tab.
4. Select the analysis package you want to configure (**General** or **Vascular**).
5. Under **Hide Doppler Velocity Minus Sign**, select **On**.
6. Click **Close** to exit **Q-Setups**.

Selecting a Measuring Tool for the Simpson's Method

This procedure applies to the **Adult Echo** analysis package only.

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the **Tools and Results** tab.
4. For the Simpson's method, select one of the following:
   - **Manual Trace**: allows you to use the trackball to draw the outline of the left ventricle and set the axis.
   - **3-Point-Template**: lets you set three caliper points and automatically connects those points, allowing you to adjust the shape as needed. This is the default setting.

Calc List Tab

In the **Calc List** tab, you can specify which measurements and calculations are included in each package.

Configuring the Calc List

The **Calc List** settings allow you to configure the measurements and calculations for each supported imaging mode in each collection and each group. For more information about measurement collections and groups, see the *Help*.

You can group measurements and calculations for each mode and collection available for the selected analysis package.

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Select the analysis package you want to configure.
4. Click the **Calc List** tab.
5. Select the items that you want to configure from the **Master List** menu.
   The **Master List** menu is populated to reflect the analysis package that you selected.
6. To add a measurement or a calculation label to a list:

a. Select the label in the **Master List**.
b. Click either the **Measurements** list or the **Calc List** list to the left of the **Master List**.
c. Click . The label appears dimmed in the **Master List** and is added to the **Measurements** list or the **Calc List** list.

7. To remove a measurement or calculation from a list:
   a. Select the label in the **Measurements** list or the **Calc List** list.
   b. Click . The label is removed from the **Measurements** list or the **Calc List** list and is restored to the **Master List**.

NOTE
When adding a measurement to a group, you must highlight the group title in the **Measurements** list.

Measurements Tab

In the **Measurements** tab, you can view, copy, and edit system-defined measurement labels, groups, and collections. You also can create, view, edit, and delete customized measurement labels, groups, and collections.

WARNING
The user is solely responsible for custom measurements and calculations and for the accuracy of elements entered into the equations.

NOTE
You cannot delete system-defined measurement labels, groups, or collections.

Creating New Measurement Labels

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.

3. Click the tab for the analysis package you want.
4. Click the **Measurements** tab.
5. Click **New**.
6. On the left side of the display, select the list to which you want to add a new label.
7. For collections, groups, and measurements, type a new name in the **Label** field.
8. For measurements only, select a tool from the **Tool** menu and a selector from the **Selector** menu. The tool selection determines which results become available for selection.
9. Select the results that you want the selected tool to generate.
10. For each selected result, select its **Unit** and **Precision** of measurement from the menus.
11. Click **Save**. The new label appears in the list with an asterisk (*) to indicate that it is a custom label.

Copying Measurement Labels

NOTE
You can copy system-defined measurement labels only.

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the tab for the analysis package you want.
4. Click the **Measurements** tab.
5. Select a measurement label from the list.
6. Click **Copy**.
7. Type a new name for the label in the **Label** field.
8. Make any other necessary changes in the **Properties** section of the tab.
9. Click **Save**.

Editing Measurement Labels

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the tab for the analysis package you want.
4. Click the **Measurements** tab.
5. Select a collection, a group, or a measurement label from the list.
6. Click **Edit**.

7. Make changes as needed in the **Properties** section of the tab.
8. Click **Save**.

Deleting Custom Measurement Labels

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the tab for the analysis package you want.
4. Click the **Measurements** tab.
5. Select a custom collection, a custom group, or a custom measurement label from the list. Custom labels include an asterisk (*).
6. Click **Delete**.
7. Click **Yes** to confirm the deletion.

Derived Calcs Tab

In the **Derived Calcs** tab, you can create or view calculation labels and their properties by using a page-by-page automated approach for creating calculation labels, including custom equations. This approach also allows you to copy and edit existing calculation labels and to delete those you have created.

WARNING
The user is solely responsible for custom measurements and calculations and for the accuracy of elements entered into the equations.

Viewing a Calculation Label

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the tab for the analysis package you want.
4. Click the **Derived Calcs** tab.
5. In the **Calc List**, select a calculation label. Custom labels include an asterisk (*).
6. Observe the following information about the selected calculation label:
   - **Calc Label**: Name of the derived calculation label.
   - **Calc Equation**: Formula of measurements or calculations for deriving a calculation.

- **Calc Unit**: Unit of measure for the calculation result.
- **Precision**: Output precision of the calculation.

Creating, Copying, or Editing a Calculation Label

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the tab for the analysis package you want.
4. Click the **Derived Calcs** tab.
5. Click **New**, **Copy**, or **Edit**. A sequence of up to three displays guides you through the procedure, depending on the task and whether the label is custom or system-provided. For example, you can configure whether system-provided calculation labels appear in the results and where they appear in the report.
6. Follow the instructions for each display.

Creating a Valid Calculation Equation

For new calculation labels, you are prompted to create a valid calculation equation in the second display.

1. Enter the terms of the equation by any combination of the following methods:
   - Click the simulated numeric keypad to enter mathematical functions.
   - Select a calculation from the **Calculation to Insert** menu, and then click **Insert Calc**.
   - Select a measurement, a result, and a unit from the **Measurement to Insert** menu, and then click **Insert Meas**.
   - Type measurements and calculations of your design. The format for a measurement is **[measurement.subresult "unit"]**. The format for a calculation is **[calculation "unit"]**. Do not forget to type the brackets. These formats are the same as for inserted measurements and calculations.
2. Type or select an output unit of measure for the calculation from the **Enter or Select a Unit** menu.
3. Select an output precision value for the calculation from the **Select a Precision** menu.
4. Click **Next** or **Finish**.

Deleting a Custom Calculation Label

1. To start Q-Setups, double-click the **Q-Setups** icon on your desktop.
2. In the left panel, click **Analysis**.
3. Click the tab for the analysis package you want.

4. Click the **Derived Calcs** tab.
5. Select a custom calculation label from the list. Custom labels include an asterisk (*).
6. Click **Delete**.
7. Click **Yes** to confirm the deletion.

Report Meas/Calc Config Tab

In the **Report Meas/Calc Config** tab, you can specify how measurements and calculations are displayed in the report.

For more information, see “Custom Report Templates” on page 58.

Factory Settings Tab

The **Factory Settings** tab in the Q-Setups utility allows you to restore the analysis package configuration to its original factory settings. You can choose to retain or overwrite all user-defined measurements and calculations.

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10 Index

A

a2DQ
- loading images, 55

aCMQ
- loading images, 55

Adult echocardiography references, 87

Analysis configuration, 77, 83
- Calc List tab, 77
- calculation equations, 83
- calculation labels, 82
- calculations, 79
- copying measurement labels, 81
- creating custom measurement labels, 80
- deleting custom labels, 82
- Derived Calcs tab, 77
- derived calculations, 82
- Factory Settings tab, 77
- importing settings, 70
- label definition, 81
- measurement results, 77
- measurement tools, 77
- measurements, 77, 80
- Report Meas/Calc Config tab, 77
- report templates, 84
- restoring factory settings, 84
- Tools and Results tab, 77

Analyzing images, 55

Annotations
- images, 54

Anonymization
- during export, 64

Approving reports, 58

Archiving data, 50

Assistance, 12

Audience
- intended, 9

Audit server, configuring, 67

B

Backing up settings and license, 69

C

Calculation labels
- creating, 83
- creating equations, 83
- deleting, 82, 83
- editing, 83
- viewing definitions, 82

Calculations

analysis configuration, 77
creating, 83
custom labels, 80
deleting, 83
importing configuration settings, 70
Cardiac 3DQ
loading images, 55
Cardiac 3DQ Advanced
loading images, 55
Cardiac PQ
loading images, 55
CMQ-Stress
loading images, 55
Comments
customer, 12
Computer requirements, 14
Computer security policy, 20
changing settings, 21
settings, default values, 21
Configuration settings
backing up, 69
importing, 70
restoring, 69
Controls
activity bar, 38
export toolbar, 62
image toolbar icons, 52
main toolbar, 38
menu bar, 38
viewing, 51
Conventions
user information, 11
Copying calculation labels, 83
Custom calculation labels, 80, 83
Custom label, deleting, 82
Custom measurement labels, 80, 81
Customer comments, 12
Customer service, 12

D

Data locations, 67
Data panel, 48
Data storage locations, 67
Deleting
calculation labels, 83
DICOM devices, 75
measurement labels, 82
Derived calculations, 82
DICOM
archiving study data, 50
DICOM devices
adding, 72
deleting, 75
editing, 74

testing, 75

DICOM format

exporting data, 64

DICOM settings, 71

Doppler velocity, hiding minus sign, 78

Drives, assigning, 67

E

EA

loading images, 55

Editing

calculation label, 83

DICOM devices, 74

measurement labels, 81

reports, 57

Electronic signatures, 58

EQ

loading images, 55

Export Settings panel, 61

Export tab, 61

Export toolbar, 62

displaying, 62

Exporting

DICOM format, 63, 64

patient data, 63

PC format, 63

F

FHN

loading images, 55

File compatibility, 44

G

GI3DQ

loading images, 55

GIPQ

loading images, 55

H

Help, 10

Hiding patient data

during export, 64

History, support, 32

I

Image quality, 33

Image toolbar

displaying, 51

Images

a2DQ, 55

aCMQ, 55

acquiring, 55

analyzing, 55

annotating, 54

capturing, 55

Cardiac 3DQ, 55
Cardiac 3DQ Advanced, 55
Cardiac PQ, 55
CMQ-Stress, 55
data type icons, 40
displaying the toolbar, 51
EA, 55
EQ, 55
FHN, 55
GI3DQ, 55
GIPQ, 55
IMT, 55
loading, 55
MVI, 55
MVN, 55
pictorial index, 40
ROI, 55
saving in PC format, 65
SQ, 55
toolbar control icons, 52
viewing, 51
VPQ, 55
Importing configuration settings, 70
IMT
loading images, 55
Installation
overview, 13
procedure, 22
verifying, 28
Institution name, 67
Intended audience, 9
Intended use, 9

J

Job Viewer
about, 41
using, 41

K

Keyboard shortcuts
export, 37
general, 36
image viewer, 37

L

Language settings, 67
License file
backing up, 69
restoring, 69
Locking the software, 36
Logging off, 36
Logging on, 35
Loops
saving as movie, 66

M

Measurement labels
- copying, 81
- creating, 80
- deleting, 82
- editing, 81

Measurement tools references, 85

Measurements
- analysis configuration, 77
- custom labels, 80
- derived calculations, 82
- importing configuration settings, 70
- Simpson's methods, 79
- SR mapping, 60, 61

MSXML 6 SP2, 15

MVI
- loading images, 55

MVN
- loading images, 55

N

Native data compatibility, 44

Navigation
- full-screen mode, 42
- message bar, 40

Network requirements, 16
- configuration settings, 17
- installation, 16

Network settings, 71
- checking, 71

Notifications
- caution, 40
- message bar, 40
- note, 40
- warning, 40

O

Operating notes, 10

Options, 43
- viewing, 44

Overview, Q-Station, 33

P

PACS compatibility, 44

PACS data
- retrieving, 48

Patient data
- exporting, 63

Pediatric echo references, 87

Philips contact information, 12

Pinging servers, 71

Preferences
- CD/DVD write, 50, 51
- removable media settings, 50, 51

Printing

reports, 58

Purchasable options, 43

Q

Q-Apps, 43

Q-Assistant, 42

QLAB Advanced Quantification Software, 43

QLAB Q-Apps, 55

Q-Setups, 43

analysis, 77

Q-Station basics, 33

Q-Station language support, 45

R

Read This First, 9

References

adult echo, 87

measurement tool, 85

pediatric echo, 87

vascular, 89

Registering the software, 24

Remote access

configuring, 29

enabling, 29

Remote service

configuring, 29

enabling, 30

Reports

about, 56

advanced analysis, 57

approving, 58

editing, 57

electronic signatures, 58

printing, 58

SR mapping, 59, 60, 61

storage location, 56

viewing, 56

Requirements

computer, 14

network, 16

Restoring factory settings, 84

Restoring settings and license, 69

Retrieving

PACS data, 48

studies data, 48

ROI

loading images, 55

S

Saving

images, 65

loops in PC format, 66

Security

features, 34

patient data, 34

policy, 34
remote access, 34
Security policy, 20
Serial number, 67
Service, customer, 12
Service, requesting, 31
Settings
network and DICOM, 71
system, 67
Software registration, 24
automatic, 24
manual, 26
SQ
loading images, 55
Storage locations, 67
Studies
about, 47
archiving study data, 50
Data panel, 48
DICOM archive, 50
local patient data, 48
remote patient data, 48
transferring, 49
viewing patient data, 47
writing data to removable media, 51
Studies data
retrieving, 48
Support history, 32
Support, requesting, 31
System management, 67
System upgrades, 12

T

Testing DIOM devices, 75
Toolbars
export, 62
image control icons, 52
Tools, measurement
selecting Simpson's method tools, 79
Transferring studies data, 49

U

Upgrades, system, 12
User information
components, 10
conventions, 11
User-defined calculation labels, 80, 83
User-defined measurement labels, 80, 82

V

Vascular references, 89
Verifying software installation, 28
Viewing
reports, 56
Views

Feedback area, 40
message bar, 40
system event area, 40
VPQ
loading images, 55

W

Wall motion scoring, 54
Website, Philips, 12