

MUSE™ v9

Cardiology Information System

Operator's Manual

2059568-009 Revision D

Familiarize yourself with this information before attempting to use this system.
Keep this manual with your Regulatory and Safety Manual and equipment at
all times, and periodically review it.



Publication Information

The information in this manual only applies to MUSE™v9 Cardiology Information System. It does not apply to earlier product versions. Due to continuing product innovation, specifications in this manual are subject to change without notice.

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This product complies with the requirements concerning medical devices from the following regulatory bodies. For more information about compliance, refer to the Regulatory and Safety Guide for this product.



The document part number and revision are on each page of the document. The revision identifies the document's update level. The revision history of this document is summarized in the following table.

Revision	Date	Comment
A	10 July 2015	Internal Release.
B	15 July 2015	Customer Release.
C	2 September 2015	Updates from internal testing.
D	25 April 2016	Updates to resolve HCSDM00391172.

To access other GE Healthcare Diagnostic Cardiology documents, go to the Common Documentation Library (CDL), located at www.gehealthcare.com/documents, and click **Cardiology**.

To access Original Equipment Manufacturer (OEM) documents, go to the device manufacturer's website.

This document describes the Muse™ Cardiology Information System, also referred to as the "product", "system", or "device". This document is intended to be used by an operator of the MUSE system.

The MUSE™ Cardiology Information System is intended to be used under the direct supervision of a licensed healthcare practitioner, by trained operators in a hospital or facility providing patient care.

This document provides information required for the proper use of the system. Familiarize yourself with this information and read and understand all instructions before attempting to use this system. Keep this document with the Regulatory and Safety manual, and with the equipment at all times, and periodically review it.

NOTE:

All illustrations in this document are provided as examples only. Depending on system configuration, screens in the document may differ from the screens on your system.

All patient names and data are fictitious. Any similarity to actual persons is coincidental.

If you require additional assistance, contact your GE Healthcare representative, or GE Healthcare support at one of the following numbers:

- North America: 1-800-558-7044
- Europe: +49 761 45 43 -0
- Asia: +86 21 3877 7888

This document is intended as a supplement to, not a substitute for, thorough product training. If you have not received training on the use of the system, you should request training assistance from GE Healthcare.

To see available training, go to the GE Healthcare training website (www.gehealthcare.com/training). Select *Education>Product Education-Technical> Diagnostic Cardiology*.

For more self-paced course offerings, tools, and reference guides you may find useful, please visit the GE Healthcare Education Store at www.gehealthcare.com/educationstore.

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Product Overview

The MUSE system is intended to store, access, and manage cardiovascular information on adult and pediatric patients. The information consists of measurements, text, and digitized waveforms. The system provides the ability to review and edit electrocardiographic procedures on screen, through the use of reviewing, measuring, and editing tools, including ECG serial comparison. The system can be connected to non-GE Healthcare equipment if the equipment is recommended by GE Healthcare and meets the appropriate criteria.

This software system stores ECGs generated by a computerized analysis program that is used to interpret ECG tracings. This computerized interpretation is only significant when used in conjunction with clinical findings.

This chapter provides an overview of the MUSE system, instructions to log on to the MUSE system, log off the MUSE system, and how to set up automatic shutdown of the MUSE system. The chapter also includes a reminder to back up your system.

The following documents provide additional information that can be helpful in the planning, installation, configuration, and use of this system.

- *MUSE v9 Cardiology Information System Regulatory and Safety Manual*
- *MUSE v9 Cardiology Information System Interval Editor Manual*
- *MUSE v9 Cardiology Information System Installation Manual*
- *MUSE v9 Cardiology Information Client Installation Manual*
- *MUSE v9 Cardiology Information Service Manual*
- *MUSE v9 Cardiology Information System Software Upgrade 7x to 9 or 8x to 9.*
- *MUSE v9 Cardiology Information System InSite ExC Installation Manual*
- *MUSE v9 Cardiology Information System Advanced Security Guide*
- *MUSE v9 Cardiology Information System Devices and Interfaces Instruction Manual*
- *MUSE v9 Cardiology Information System Transactional XML Developer's Guide*
- *MUSE v9 Cardiology Information System MPI CCG Configuration Instruction Manual*
- *MUSE v9 Cardiology Information System Centricity Clinical Gateway (CCG) Installation Manual*
- *MUSE v9 Cardiology Information System Centricity Cardiology Service Manual Supplement*
- *MUSE v9 Cardiology Information System HL7 Interface Reference Manual*
- *LAN Option for MAC Installation and Troubleshooting*

- *MobileLink Installation Manual*
- *DICOM Conformance Statement*

New in MUSE v9 is the MUSE eDoc Connect feature which can be configured to receive, store, and display test results from non-GE Healthcare devices that can export their test results electronically, using formats, such as pdf, pdf/a, tif, jpeg, png, doc, and docx. You can acquire non-GE Healthcare device data from a share folder on a network resource from both the non-GE Healthcare server and the MUSE server, using the Acquisition tool, or importing directly from the Editor after creating a new test. These data formats are displayed in the MUSE Editor in the following three areas:

Tab	Description
Report Preview Tab	<ul style="list-style-type: none"> • Displays a preview of the test image or drawing and demographics that you can edit, confirm, route, and print. • Allows you to add additional comments to the diagnosis. • Allows you to import an image into the report during creation.
Clerical Tab	<ul style="list-style-type: none"> • Allows you to add additional comments to the diagnosis. • Allows you to manually connect an open order and merge order/visit data into the patient test.
Supplemental Tab in the new Supplemental Attachment Layout .	Displays supplemental images that you can import and associate with a patient test, print, and export.

Contact your GE Healthcare service representative to configure your MUSE system to automatically receive and store electronic document test files from a non-GE Healthcare device.

Logging onto the System

The following authentication methods are used to log on to the system: Windows Authentication, MUSE Authentication, or Windows plus LDAP Authentication.

NOTE:

For information on the different authentication methods, see the *MUSE Cardiology Information System Service Manual* and the *MUSE Cardiology Information System Advanced Security Guide*.

Systems with Windows Authentication

1. The system uses your Windows user credentials to determine logon credentials when Windows authentication is enabled. Perform the following procedure to log on to the system when Windows authentication is enabled.
 - a. Log on to your computer using the Windows logon information provided by your IT administrator.
 - b. Click the **MUSE Editor** icon on the desktop
The **MUSE® System** window opens.

- c. Click the **System** menu and select the appropriate application.
2. Systems with LDAP Authentication perform the following procedure to log on to Windows when LDAP logon is enabled.
 - a. At the Windows desktop, click the **MUSE Editor (LDAP Logon)** icon.
 - b. Type your LDAP/Active Directory user name in the **Logon Name** field as **DOMAIN\USER**.
 - c. Type your password and site.
 - d. Click **Logon**.
The **MUSE® System** window opens.
 - e. Click the **System** menu and select the appropriate application.

Systems with MUSE Authentication

Perform the following procedure to log on to Windows when MUSE logon is enabled:

1. At the Windows desktop, click the **MUSE Editor (MUSE Logon)** icon.
2. Type your MUSE user name in the **Logon Name** field.
3. Type your password and site.
4. Click **Logon**.

The **MUSE® System** window opens.

5. Click the **System** menu and select the appropriate application.

NOTE:

If password expiration is enabled, your password may expire and you are required to enter a new password before logging onto the system.

Systems with Windows plus LDAP Authentication

The system uses your Windows user credentials to determine logon credentials when Windows plus LDAP authentication is enabled. Perform the following procedure to log on to the system when Windows plus LDAP authentication is enabled.

1. Log on to your computer using the Windows logon information provided by your IT administrator.
2. Click the **MUSE Editor** icon on the desktop.
The **MUSE® System** window opens.
3. Click the **System** menu and select the appropriate application.

Logging Out of the System

Perform the following procedure to log out of the system after you complete your tasks.

To log out of the system and allow another person to log on, do one of the following:

- If you are using Windows authentication, select **System > Exit**.
You return to your Window's desktop session.
- If you are using MUSE or LDAP authentication, select **System > Logoff**.

You return to the MUSE **Logon** screen.

To completely log out of your Window's desktop session, go to the shutdown menu and click **Logoff**.

Automatic Shutdown of the System


You can schedule an automatic shut down of the system in **MUSE System Setup**.

This feature is mostly used by the hospital IT department when performing maintenance or by a GE Healthcare field engineer when they are installing new options or software updates.

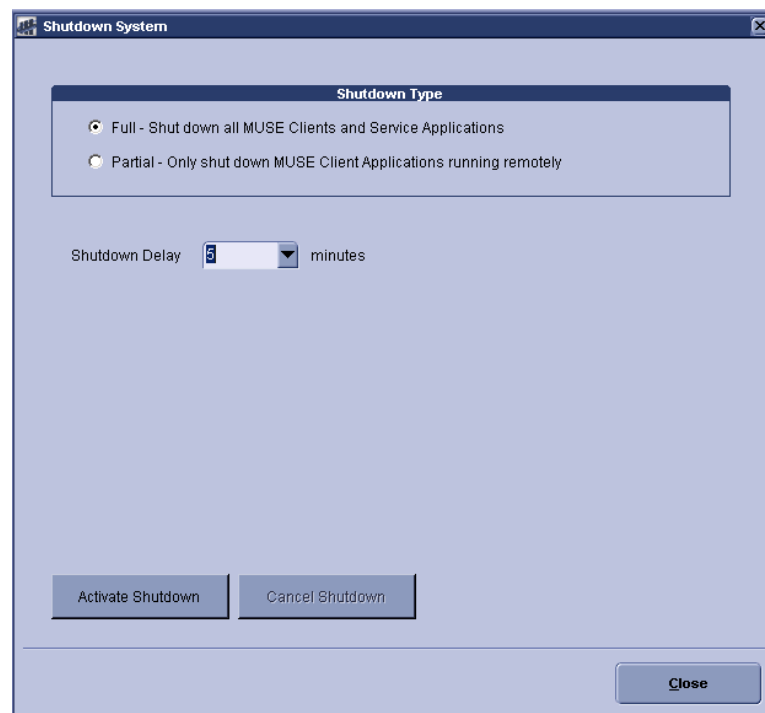
You can schedule two different types of shut downs:

- Full shutdown — shuts down all clients and service applications.
- Partial shutdown — shuts down only the client applications running remotely.

To schedule an automatic shut down of the system, do the following:

1. In **MUSE Setup**, highlight **System** in the **Navigation** pane, select **Action** > **Shutdown System**, or click the **System Shutdown** icon .

The **System Shutdown** window opens.



2. Select the **Shutdown Type** (full or partial).
3. Select the **Shutdown Delay** to indicate how many minutes until shut down begins once you have activated it in Step 4.

The time range is from one to five minutes.

4. Click **Activate Shutdown** to begin the shut down of the system, or click **Cancel Shutdown** to cancel it.

The following can occur:

- A message opens at the server indicating system shutdown is activated.
- A message opens at each client workstation indicating the client application is shutting down at XX time. (XX indicates an amount of time before shutdown occurs.)
- If a full shutdown was performed, all client workstations and service applications are shut down.
- If a partial shutdown was performed, only the client applications running remotely are shut down. You can still perform tasks on the server and any client application that is installed on the server.

5. To restart the system, do the following:

- If a full shutdown was performed, click on **Start>Administrative Tools>Services** and restart all of the MUSE services.
After the MUSE and MUSE MT services are restarted, you can perform tasks on the MUSE server. Open the client application on the server and cancel the shutdown in **MUSE Setup > System > Action > Shutdown System > Cancel Shutdown**.
- If a partial shutdown was performed, go to the **Shutdown** dialog and cancel the shutdown. This allows client applications to run on the client workstations.

Data Backup of the System

It is important to backup the data on your system. Refer to the *MUSE Cardiology Information System Service Manual* and work with your IT administrator to configure backup of the system.

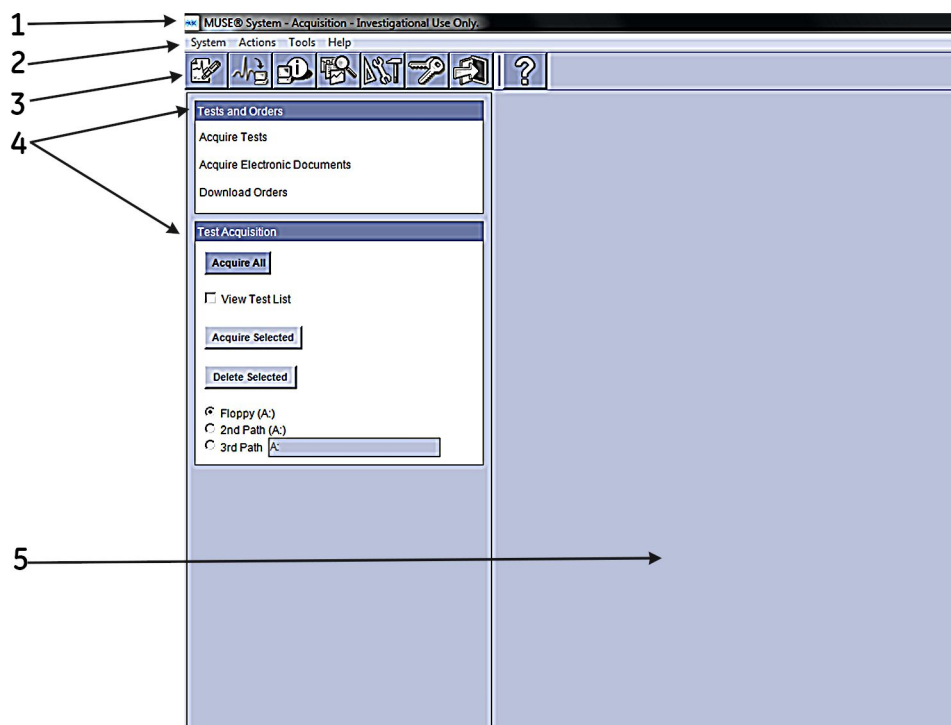
Data Acquisition

You can use the system to acquire data locally via a floppy drive or SD Card, or remotely via a modem, LAN connection, or wireless connection. When acquiring data, you can choose to acquire all the tests from a location or only the tests you select. The system can be set up to leave the tests on their source location or to delete them after acquisition. The system also allows you to define default acquisition criteria, but you can manually override that for each acquisition.

Acquisition Window Overview

At the system, select **System > Acquisition** to open the **Acquisition** window.

Following is a table describing the elements of the **Acquisition** window.



Acquisition Window Descriptions

Item	Name	Description
1	Title bar	Identifies the current application.
2	Menu bar	Displays the names of current menus.
3	Toolbar	Displays icons for easy access to menu functions.
4	Navigation Pane	Displays functions for acquiring, browsing, filtering, and deleting ECG test data and orders.
5	Test/Order List	Displays a list of tests/orders that are not yet acquired or downloaded.

Acquiring Data from Media

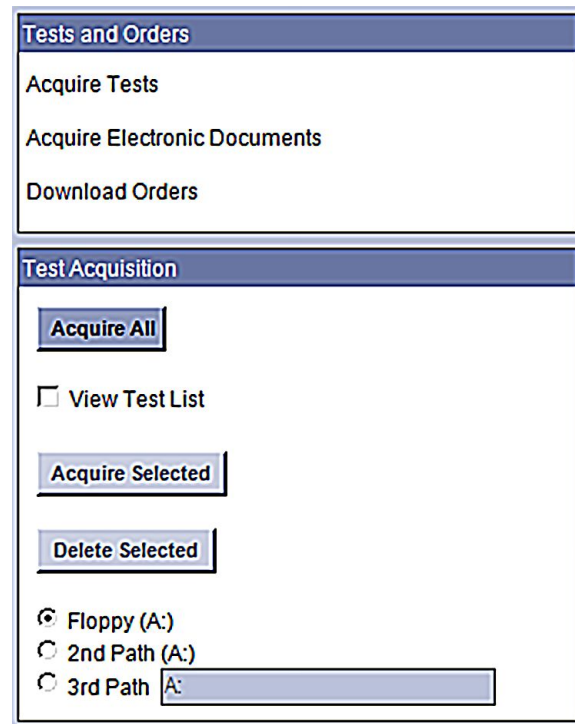
From the **Tests and Orders** window, you can save all the tests, all the data from the tests, and the report images to a selected path or floppy disk.

Acquiring All Tests

NOTE:

Make sure the paths and options for your acquisition source are set up before beginning data acquisition. You may want to set up the system options before acquiring data for the first time. See [“Setting Up Options” on page 20](#).

1. Select **System > Acquisition** to open the **Acquisition** window.
2. Insert the media to be downloaded into the appropriate drive.
3. At the **Tests and Orders** window in the **Navigation** pane, select **Acquire Tests**.
The **Test Acquisition** window opens.

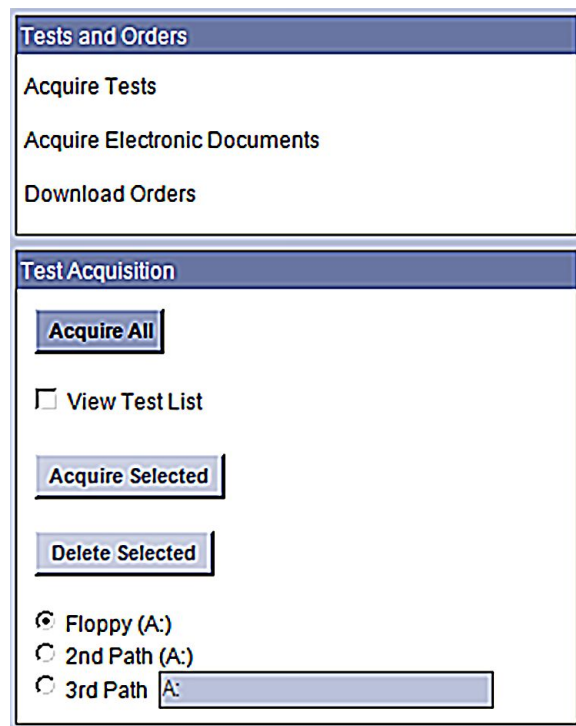


4. Click **Acquire All**.
All the tests on the selected media are uploaded.
NOTE:
If you select the **View Test List** check box before you click **Acquire All**, a list of tests on the media file opens.
5. A progress bar indicates tests are being uploaded.
After the data is acquired, a message window opens indicating the acquisition was a success and displays the number of records acquired.

Acquiring Data from Test List

1. Select **System > Acquisition** to open the **Acquisition** window.
2. Insert the media into the appropriate drive.

- At the **Tests and Orders** window in the **Navigation** pane, select **Acquire Tests**. The **Test Acquisition** window opens.



- Select the **View Test List** check box to view data on the media file. A list of tests opens.
- Do one of the following:
 - To acquire all tests, click **Acquire All**.
 - To acquire specific tests, highlight the test(s) and click **Acquire Selected**.

A progress bar indicates tests are downloading.

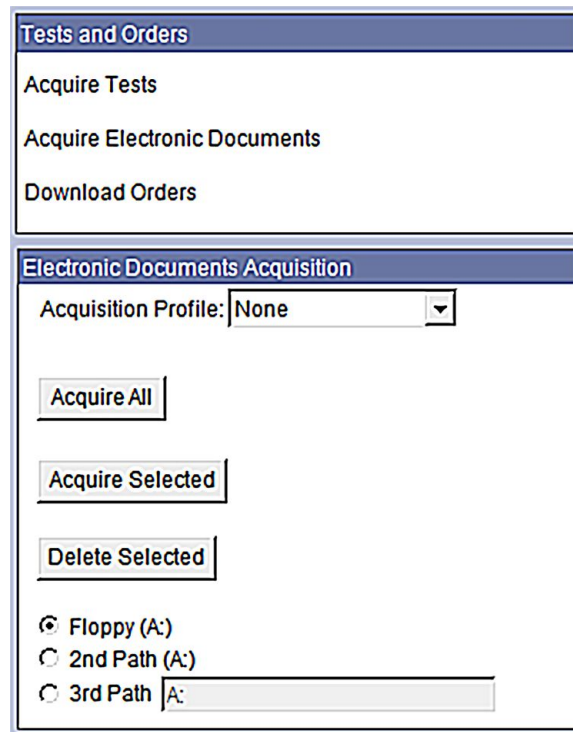
After the data is acquired, a message window opens indicating the acquisition was a success and displays the number of records acquired.

Acquiring Electronic Documents

Electronic documents can be acquired from a device that does not communicate with the MUSE system, in the following formats, using the **Acquire Electronic Documents** feature: pdf, tif, jpeg, png, and Microsoft Word.

- At the **Test and Orders** window in the **Navigation** pane, select **Acquire Electronic Documents**.

The **Electronic Documents Acquisition** window opens on the bottom half of the screen.

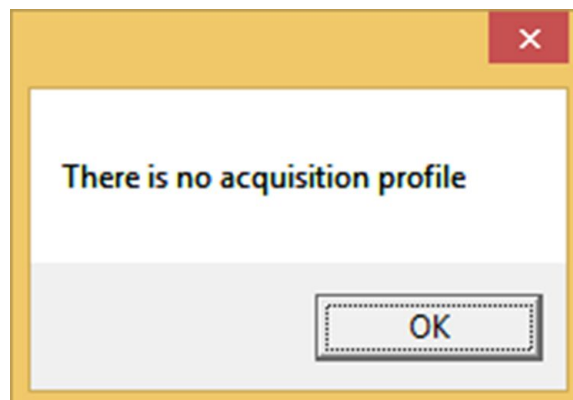


2. From the drop-down list, select the **Acquisition Profile**.

If you select **(none)** from the **Acquisition Profile** drop-down list, the following message displays and the data will not be acquired. Click **OK**.

NOTE:

For instructions on creating a new acquisition profile, see [Chapter "Creating a New Acquisition Profile" on page 189](#).



3. Insert the media with the data to be acquired into the appropriate drive, or in the **3rd Path** field, type the path of the share folder where the data is stored.
4. Do one of the following:
 - To acquire all electronic documents, click **Acquire All**.
 - To acquire specific electronic documents, highlight the electronic document(s) and click **Acquire Selected**.

A progress bar opens indicating the electronic document(s) are being acquired.

After the data is acquired, a message window opens indicating the acquisition was a success and displays the number of electronic documents acquired.

Deleting Selected Tests Off the Media

1. Highlight the test(s) you want to delete.
2. Right-click and select **Delete Selected**.

A message displays asking if you are sure you want to delete the test(s) or electronic document(s). Select **Yes** to continue, or **No** to cancel.

The test(s) or electronic document(s) are deleted and a window opens indicating how many files were erased.

NOTE:

To set up the system to delete all tests on the media after acquisition, see ["Setting Up Options" on page 20](#).

Downloading Orders to Selected Media

1. Select **System > Acquisition** to open the **Acquisition** window.
2. At the **Tests and Orders** window in the **Navigation** pane, select **Download Orders**.

The **Order Download** window opens.

The screenshot shows the 'Order Download' dialog box. It contains a 'Filter List' section with input fields for 'Locations' (set to 2) and 'Future Days' (set to 3). Below this is the 'Download Orders' section, which includes two buttons: 'Download All' and 'Download Selected'. Underneath the buttons are two radio button options: 'Overwrite existing orders' (which is selected) and 'Append to existing orders'. At the bottom, there are three radio button options for the destination path: 'Floppy (A:)' (selected), '2nd Path (A:)', and '3rd Path (A:)'.

3. To filter the list of orders in the orders pane:
 - a. At the **Locations** field, type the system location number of the orders you want to view.

This limits the order pane to only orders found in that location.

If you want multiple locations, separate each location with a comma.

NOTE:

Set up locations in **System > Setup**.

- b. To filter orders for a specific number of days in the future, type a numerical value in the **Future Days** field.
- c. Press **Enter**.

The filters in the previous steps a and b are applied, and the filtered orders display in the **Acquisition** window.

4. Do one of the following:
 - To overwrite all existing orders on the selected media, select **Overwrite existing orders**.
 - To append additional orders to the selected media, select **Append to existing orders**.

To set up a default option, see [“Setting Up Options” on page 20](#).

5. Do one of the following to download orders:
 - To download all of the orders for the applied filter to the selected media, click **Download All**.
All orders are downloaded to the media.

NOTE:

Only orders pertaining to the site you are currently logged into are displayed and can be downloaded from the **Acquisition** window.

- To download selected orders to the media, highlight the orders on the right-side pane and click **Download Selected**.
The selected orders are downloaded to the media.

6. To select a media drive path that is different than the default drive paths set up in the **Tools > Options** window, click on the option button next to **Floppy...**, **2nd Path ...** or **3rd Path...**

If **3rd Path** is selected, type the appropriate drive in the field box.

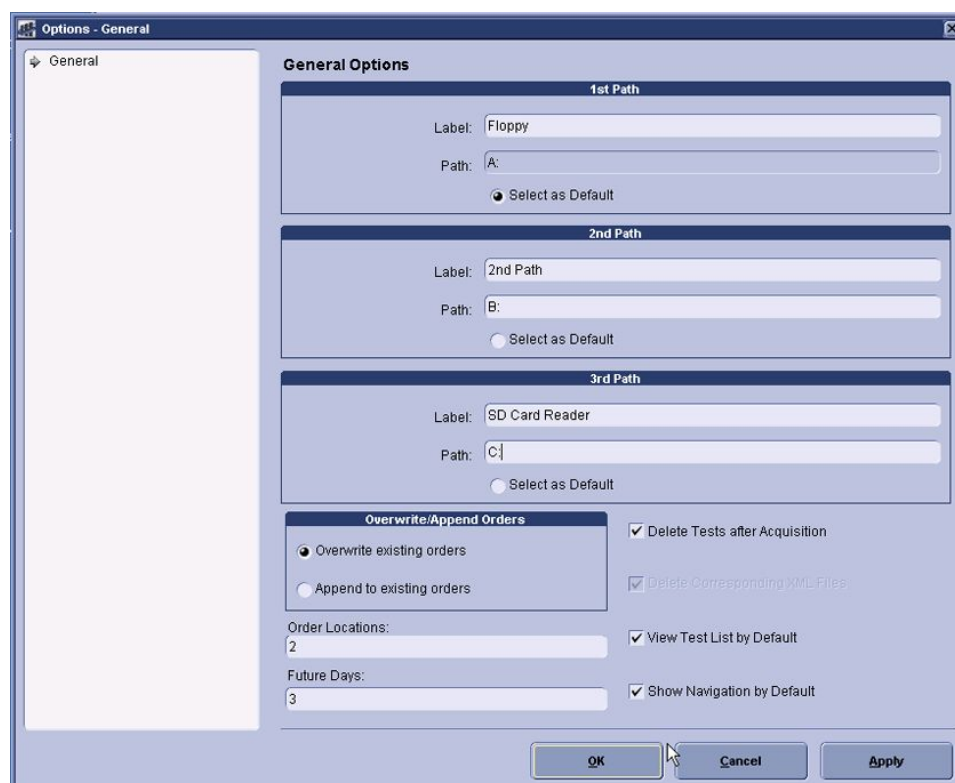
To set up default paths, see [“Setting Up Options” on page 20](#).

Setting Up Options

Perform the following procedure to set up default paths and other settings for test acquisition and order download.

1. Select **Tools > Options**.

The **Options - General** window opens.



2. To set up the acquisition paths, do one of the following:
 - Enter the path names in the **Label** fields.
 - Enter the actual paths in the **Path** fields.
 - Click the **Select as Default** option button for the path to be used as the default.
3. To set up the system to delete tests after acquiring, select **Delete Tests after Acquisition**.
4. To set up the system to delete XML files after acquiring, select **Delete Corresponding XML Files**.
5. To view the test list each time you acquire, select the **View Test List by Default** check box.
6. To have the **Navigation** pane appear in the **Acquisition** window each time you open it, select the **Show Navigation by Default** check box.

7. Select how the system will handle existing orders:
 - To overwrite all existing orders on the selected media, at the **Overwrite/Append Orders** field, select the **Overwrite existing orders** radio button.
 - To append additional orders to the selected media, at the **Overwrite/Append Orders** field, select the **Append to existing orders** radio button.
8. To filter the list of orders by location for the site you are logged into:

NOTE:
You may enter more than one location separated by commas or dashes.
For example, Site 1–4.

NOTE:
Set up locations in **System > Setup**.

 - a. At the **Order Locations** field, type the location of the orders you want to view.
 - b. To view orders a specific number of days in the future, type the number in the **Future Days** field.
9. Select **OK > Close** when finished.

Acquiring Data from Other Sources

You can acquire data through a CSI modem, LAN connection, or wireless transmission from other resting ECG analysis systems at the workstation. GE Healthcare service personnel must configure your system, and you must purchase the appropriate hardware and software options.

Using a Share Folder

If a non-GE Healthcare device can export an electronic document to a share folder, you can create a new share folder that is associated with the **Acquisition Profile**. For more information on how to set up a share folder, see [“Setting Up a Share Folder” on page 185](#).

Using the Editor

This section details the following:

- A description of the **Edit List** and its menus and tool bars.
- Configuring the look and feel of the Editor.
- Using the Editor.

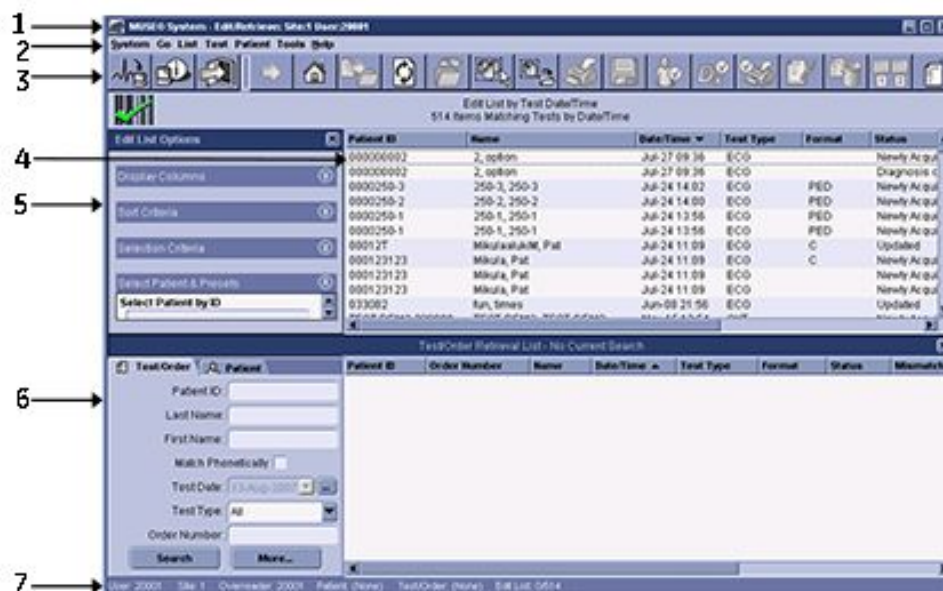
Edit List

The **Edit List** is a list of all unconfirmed patient tests. The tests displayed in the **Edit List** may change by user based on the different profiles and presets set up for your user ID. Once a patient test is confirmed by a physician, the report will be removed from the **Edit List** and placed in the MUSE database.

At the **Edit List**, you can select tests for viewing, editing, printing, or confirming. You can filter and sort the **Edit List** according to various criteria and set it up to display a specific user's In-Basket or a group's In-Basket. [See "In-Basket " on page 54.](#)

You can open more than one ECG at a time. Highlight the records in the **Edit List**, hold the **Shift** key to select a block of records or the **Ctrl** key to select individual tests, and select **Test > Open**. To view the next selected report on the **Report Editor** window, select the **Open Next Selected Item** icon.


Edit List Window



Edit List Window Description

Item	Name	Description
1	Title Bar	Displays the type of system, current application, user, site, and date. If a report is open, the patient name is also listed.
2	Menu Bar	Displays the name of current menus.
3	Toolbar	Displays icons for easy access to menu bar functions.
4	Right Window Pane	Displays the Edit List .
5	Left Window Pane	Displays the Edit List options and search fields.
6	Retrieval Pane	Displays the Test/Order and Patient fields used to retrieve tests, orders, and patient records.
7	Status Bar	Displays information regarding the User, Site, Overreader, Patient, and Test. The patient name is displayed when a report is open.

NOTE:

A green check mark  is displayed in the upper left-hand corner of the screen, indicating you can use a barcode reader for retrieval when the cursor is placed in a specific field.

Edit List Menu Bar Selections

The menu bar provides access to all tasks available within the Editor application. Clicking on a menu item brings up a drop-down menu of related commands. You can access most items on the drop-down menu using the shortcut keys assigned to them, or by clicking the corresponding tool bar icon. See Appendix A for a description of the keyboard shortcuts.

The presets assigned to your user ID determine which buttons, menu bar selections, and layouts are displayed, and may be different than what is displayed for another user.

Edit List Toolbar Icons

The tool bar provides access to many of the same commands found in the menu bar. To identify a tool bar icon, hold the pointer over it and a tool tip describing the command opens. For a description of the Editor tool bar icons, see [Appendix A “Enhanced Patient Race List”](#) on page 237.

Customizing Edit List Shortcut Keys

Shortcut keys provide an easier and quicker method of navigating through the MUSE system, and can be accessed by pressing the **Ctrl** or **Shift** key in conjunction with a single letter, or by using the **Alt** command and **F1** through **F12** keys.

The MUSE system has a number of shortcut keys available for different functions, and you are able to choose a shortcut from a list of default shortcut keys available for that function.

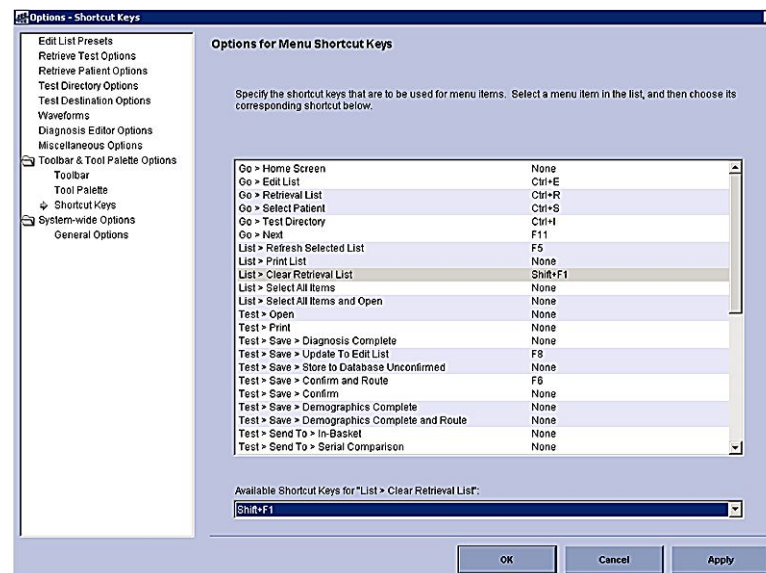
To specify which shortcut keys to use for your institution, perform the following procedure:

1. At the **Edit List**, select **Tools > Options...**

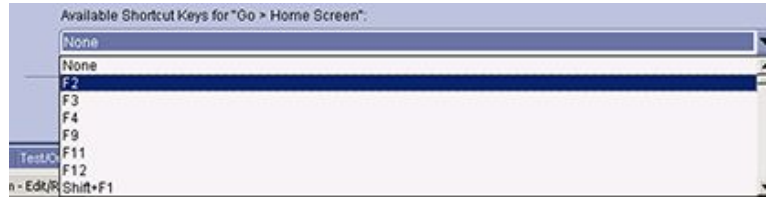
The **Options** window opens.

2. At the **Toolbar & Tool Palette Options** folder at the left side of the window, select **Shortcut Keys**.

A list of available shortcuts display.



3. Perform the following procedure to assign a shortcut key or change an existing shortcut key.
 - a. Highlight a menu item in the list.
 - b. At the **Available Shortcut Keys...** drop-down menu, select a shortcut.

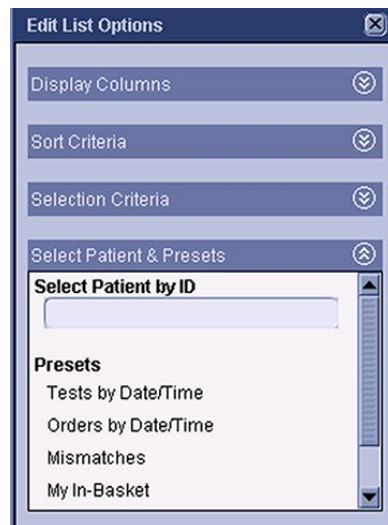


4. Click **OK** when finished.

Edit List Options Panel

The **Edit List Options** panel is located to the left of the **Edit List**. The selections you make in these fields configure the Edit List columns for the following:

- The type of information displayed in the columns of the Edit List.
- How you want to sort the Edit List.
- What specific data you want to see in the Edit list (for example, stat ECGs, last week, last month, and so on).

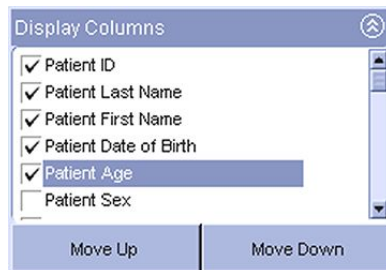


To close the **Edit List Options Panel**, click on the **X** in the upper right corner.

To open the **Edit List Options Panel**, select **Tools > Edit List Options Panel > Edit List Options Panel**.

Display Columns

Select and order the **Edit List** display columns at the **Display Columns** pane.



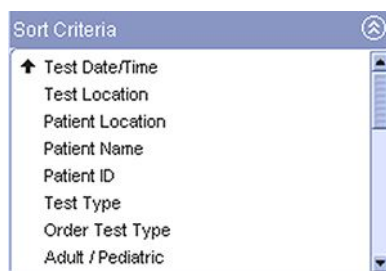
1. Click on the arrow button to expand the **Display Columns** pane.
2. Select the column name to add it to the **Edit List**.
For example, if you want to display **Patient Age** in the **Edit List**, select **Patient Age**.
3. Select the **Move Up** or **Move Down** buttons to order the columns. If you place an item at the top of the list, it appears on the left of the **Edit List**. Items at the bottom of the selection list appears on the right of the **Edit List**.
4. Select **Refresh** to see the new column selection and order on the **Edit List**.
To save these settings, make sure you save them to a preset and to the user profile assigned to you. See [“Managing Presets” on page 32](#) and [“Profiles” on page 208](#).

Sort Criteria



Sort the **Edit List** columns in the **Sort Criteria** pane.

NOTE:

You can sort the **Edit List** columns by only one criteria at a time.



1. Click on the arrow button to expand the **Sort Criteria** pane.
2. Click on the column name you want to sort. An up or down arrow is displayed, indicating ascending or descending order.

Click the item again to reverse the sort order. The  arrow indicates ascending, and the  arrow indicates descending.

3. Select **Refresh** to see the **Edit List** sorted in the new order.

Selection Criteria

Select the information that displays in the **Edit List** at the **Selection Criteria** pane.

The screenshot shows the 'Selection Criteria' pane with the following sections:

- Status**: A list of checkboxes, all of which are checked:
 - Open Orders
 - Pending Orders
 - New Tests
 - Updated Tests
 - Demographics Completed
 - Diagnosis Completed
 - Fellow Confirmed
 - Confirmed
 - Cancelled Orders
- Priority**: A list of checkboxes, all of which are checked:
 - Normal
 - Preop
 - Stat
 - ASAP
 Below these is a 'Range:' label followed by a text input field.
- Location**: A 'Range:' label followed by a text input field.
- Test Date/Time**: A radio button labeled 'Today' is selected.

1. Click on the arrow to expand the **Selection Criteria** pane.
2. Click on the item(s) you want to select.

The following table describes each criteria field.

Selection Criteria	Definition
New Tests	Displays all tests in the Newly Acquired status.
Updated Tests	Displays all tests in the Updated status.
Demographics Completed Tests	Displays all tests in the Demographics Complete status.
Diagnosis Completed Tests	Displays all tests in the Diagnosis Complete status.
Fellow Confirmed	Displays all tests in the Fellow Confirmed status.
Confirmed	Displays all tests in the Confirmed status.
Priority	Definition
Normal/Route	Relates to order priority. If included on the order, will display in the priority column on the Edit List because MUSE does not classify the priority of tests.
Preop	
Stat	
Location	Definition
Range	Display test by location.
Test Date/Time	Definition

Selection Criteria	Definition
<i>Today</i>	Allows for filtering a test by a specific date.
<i>Yesterday</i>	
<i>Tomorrow</i>	
<i>This Week</i>	
<i>Last Week</i>	
<i>Next Week</i>	
<i>This Month</i>	
<i>Last Month</i>	
<i>Next Month</i>	
<i>Before Last Month</i>	
<i>All Today or Before</i>	
<i>All</i>	
Future Date Window	Definition
<i>Days</i>	Filtering an order by a future date allows you to see orders up to 7 days in the future.
Test Type	Description
<i>Resting ECG</i>	Filter for a specific data type.
<i>Pacemaker</i>	
<i>HiResolution ECG</i>	
<i>Exercise Testing</i>	
<i>Holter</i>	
<i>Cath Lab</i>	
<i>Echo</i>	
<i>Defib</i>	
<i>Discharge Summary</i>	
<i>History</i>	
<i>Event Recorder</i>	
<i>Nuclear</i>	
<i>Surgery</i>	
<i>Electrophysiology</i>	
<i>Chest Pain</i>	
<i>Spirometry</i>	
<i>Ambulatory BP</i>	
<i>Ergospirometry</i>	
<i>Tilt Table</i>	
<i>Holter Events</i>	

Selection Criteria	Definition
In-Basket	Definition
<i>System</i>	A test is in the system In-Basket because of a mismatch.
<i>Unassigned</i>	The current test is unassigned.
<i>Current User's</i>	Filters in studies if assigned to a current MUSE user.
<i>Current Overreader's</i>	Filters in studies if assigned to a current MUSE overreader.
<i>User</i>	Filter in studies of a particular user, for example a group In-Basket.
<i>All</i>	All studies regardless of In-Basket assignment.
Diagnosis Class	Definition
<i>Normal (N)</i>	Classifies based on 12SL interpretation.
<i>Borderline Normal (N-)</i>	Classifies based on 12SL interpretation.
<i>Borderline Abnormal (A-)</i>	Classifies based on 12SL interpretation.
<i>Abnormal (A)</i>	Classifies based on 12SL interpretation.
Mismatch (Yes/No)	Definition
<i>No Mismatch Tests</i>	Displays all tests without a mismatch.
<i>Mismatched</i>	Displays all tests with a mismatch.
Multiply Overread	Definition
<i>Include all Overreads</i>	Displays all tests assigned for multiple overreads.
<i>Primary Overread Only</i>	Displays all tests assigned to a primary overreader.
Recently Edited Tests	Definition
<i>Recent Edits Only</i>	Displays edits performed during a user's login session.
<i>All Tests & Orders</i>	Displays all test and orders.
Project Code	Definition
[check box]	Used with the optional Interval Editor feature.
Workflow Stage	Definition
<i>Unknown</i>	Status is unknown.
<i>Mismatch, Uncompared</i>	Mismatch that has not been compared to the First Previous .
<i>Confirmed at Cart, needing confirmation</i>	The test is confirmed at the cart and is on the Edit List.
<i>Unedited</i>	No edits have been performed on the test.
<i>Edits in progress</i>	The test is in an Updated status.
<i>Demographics complete</i>	The test is in a Demographics Complete status.
<i>Demographics complete, awaiting overreading</i>	The test is in a Demographic Complete status in a physician's In-Basket

Selection Criteria	Definition
Diagnosis complete	The test is in a Diagnosis Complete status.
Diagnosis complete, awaiting editing	The test is in a Diagnosis Complete status in a physician In-Basket.
Complete	The test is in a Demographic Complete or Diagnosis Complete status and not in an In-basket.
Complete, awaiting confirmation	The test is in a Demographic Complete or Diagnosis Complete status and in an In-basket.
Fellow Confirmed	The test is in a Fellow Confirmed status.
Fellow Confirmed, awaiting confirmation	The test is in a Fellow Confirmed status in a physician's In-Basket.
Proxy Fellow Confirmed	The test is in a Proxy Fellow Confirmed status.
Proxy Fellow Confirmed, awaiting signature	The test is in a Proxy Fellow Confirmed status in a physician's In-Basket.
Confirmed, unrouted	The test is in a Confirmed status on the Edit List.
Confirmed, awaiting signature	The test is in a Confirmed status in a physician's In-Basket.
Proxy Confirmed, unrouted	The test is in a Proxy Confirmed status on the Edit List.
Proxy Confirmed, awaiting signature	The test is in a Proxy Confirmed status in a physician's In-Basket.

3. Select **Refresh** to see the **Edit List** filtered according to the new selection criteria.
4. Type the system location as a single digit in the **Location > Range** field, or you can search multiple locations by typing a range, for example, 2-5.

Searching by **Location** allows you to search for a patient test in a particular location, such as the emergency room.

NOTE:

You may add multiple locations by typing a number separated by a comma, for example 1,2,3.

Make sure you delete the location range and click **Refresh** after you finish your task. All tests are displayed at the **Edit List** for all locations.

Selecting Patient by ID

You can quickly search for a patient record(s) by their patient ID in the **Select Patient by ID** field of the **Select Patient & Presets** pane.

1. Click on the arrow to expand the **Select Patient & Preset** pane.
2. Type the Patient ID in the **Select Patient by ID** field.
3. Press **Enter**.

The records for that patient are displayed in the **Edit List**.

Managing Presets

Edit List presets are predefined settings for a particular group of lists on the **Edit List Options** panel. Each **Edit List** preset contains **Display Columns**, **Sort Criteria**, and **Selection Criteria**. **Edit List** presets are one part of your user profile.

NOTE:

You must have the appropriate privileges to customize presets.

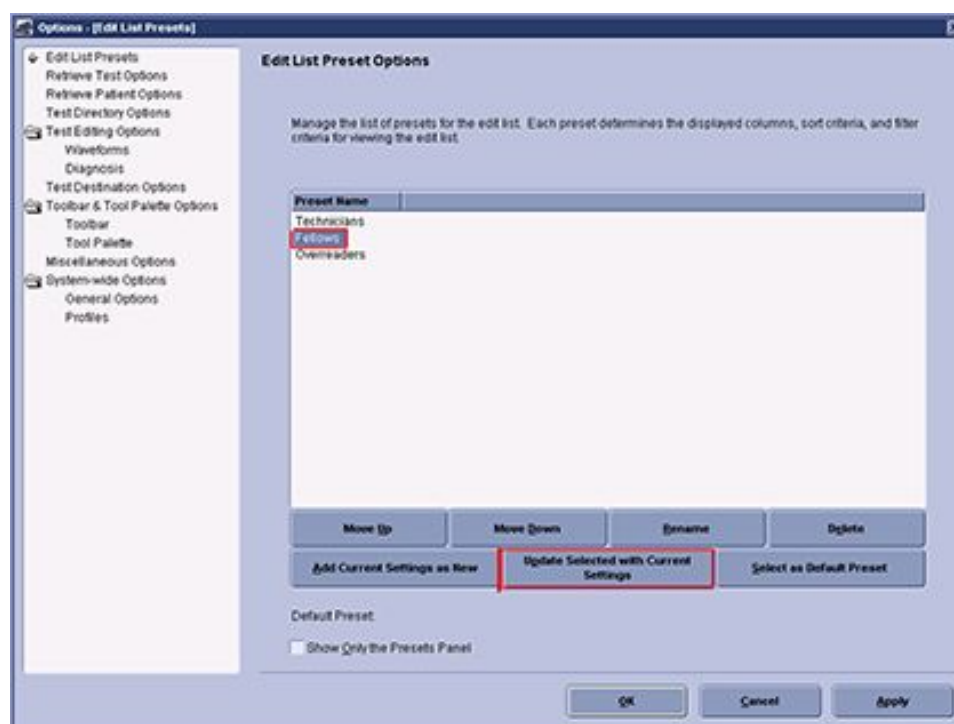
Column selection, column order, sort order, and selection criteria are always temporary unless saved as a preset.

To add your current settings as a preset:

1. Customize the **Display Columns**, **Sort Criteria** and **Selection Criteria** as indicated in ["Edit List Options Panel" on page 26](#).
2. At the **Select Patients and Presets** pane, select **Manage Presets**.
The **Options - Edit List Presets** window opens.
3. Click **Add Current Settings as New**.
The **Enter Preset Name** window opens.
4. Type the **Preset Name** and click **OK**.
5. Repeat Steps 1 to 4 to add additional presets (for example, adding presets for Nurse, Fellow, Technician, and so on).
6. To change the order of a preset, highlight the preset name and click **Move Up** or **Move Down**.

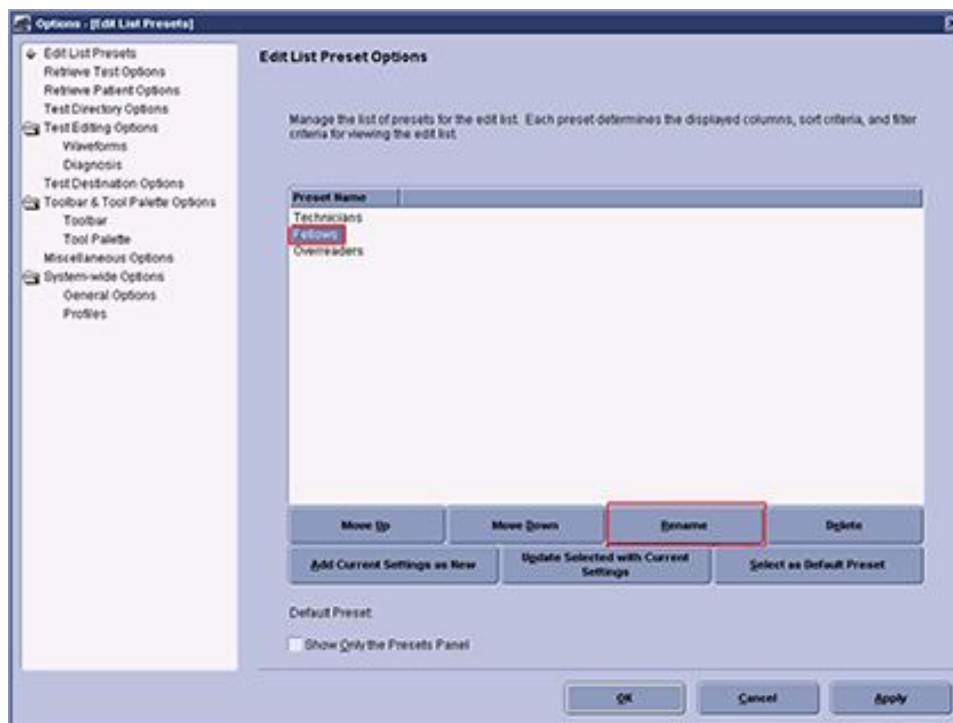
7. To update an existing preset with the current settings, highlight the preset name and click **Update Selected with Current Settings**.

Your existing selected preset is overwritten with the currently selected display columns, sort criteria, and selection criteria.



8. To delete a preset, highlight the preset name and click **Delete**.

9. To rename a preset, highlight the preset name and click **Rename**.



10. Enter the new preset name at the **Enter Preset Name** window and click **OK**.
11. Do one of the following:
 - To save these settings and exit the **Options — Edit List Presets** window, click **OK**.
 - To discard these settings and exit the **Options — Edit List Presets** window, click **Cancel**.

12. To set your default preset, highlight the preset name and click **Select as Default Preset**.

The selected default preset appears in the **Options** window at the **Default Preset** field as shown in the following figure. The **Default Preset** is displayed when you first open the **Edit List** application.



13. To display only the **Select Patient & Presets** pane at the **Edit List**, select **Show Only the Presets Panel**.

The **Display Columns**, **Sort Criteria** and **Selection Criteria** are not displayed.

Edit List Menu Bar

The Edit List menu bar provides access to the following menus and items:

NOTE:

The role assigned to your user ID will determine access to these options.

System

Edit/Retrieve	When you are in the Edit List , this menu item is grayed out.
Acquisition	Closes the Edit List and opens the Acquisition window.
Status	Closes the Edit List and opens the Status window.
Database Search	Closes the Edit List and opens the Database Search window.
Setup	Closes the Edit List and opens the Setup window.
Logoff	Closes the Edit List and logs you off the system.
Exit	Closes the Edit List and exits the system.

Go

Home Screen	If you are in a patient test, selecting this option returns you to the Edit List window home screen.
Edit List	If you are in a patient test, selecting this option returns you to the Edit List window home screen.

Retrieval List	If you are in a patient test, selecting this option returns you to the Retrieval List window and the cursor is placed in the Patient ID field.
Select Patient	If you are in a patient test, selecting this option returns you to the Edit List window, and the cursor is placed in the Select Patient by ID field.
Test Directory	If you are in a patient test, selecting this option closes the patient test and opens the Test Directory window. This option is grayed out when you are in the Edit List .
Next	If you have multiple tests highlighted on a list (Edit List, Test Directory and so on), clicking Next directs you to the next highlighted record.

List

Refresh Selected List	Refreshes the selected list.
Print List	Prints the Edit list . You must be at the Edit List window to print the list.
Clear Retrieval List	Clears the Retrieval List .
Select All Items	Selects all the items in the selected list.
Select All Items and Open	Selects and opens all the items in the selected list.

Test

Open	When you are at the Edit List or Retrieval List , selecting this option opens a patient test.
Print	When you are at the Edit List , Retrieval List , or in a patient test, selecting this option prints the patient test to a selected printer. See "Printing a Patient Test " on page 39 for additional information on printing a patient test.
Save	Saves a patient test. See "Saving and Confirming Reports" on page 40 for additional information on saving a patient test.
Send To	Sends a patient test to the selected In-Basket, Serial Comparison, or Discarded Data List. If your institution is a research site, Reanalysis may also be available. See "Sending Patient Tests" on page 54 for additional information.
Create New Test	Selecting this option allows you to create a new test. See "Creating a New Test" on page 46 for additional information on creating a new test.
Orders & Accounts	This menu item will only display if your institution has the Order feature enabled. Selecting this option allows you to cancel an order, reset the account status, or manually change the order status to open. See "Orders and Accounts" on page 42 .
Baseline	Selecting this option allows you to set a test as a baseline, or cancel the baseline. See "Setting a Test as Baseline" on page 52 for additional information.

E14	Selecting this option allows you to assign, reassign, unassign, and select an E14 blinded overreader. See the <i>MUSE Cardiology Information System Interval Editor Operator Guide</i> for additional information on this feature.
Copy	Selecting this option allows you to copy a test. See “Copying a Test to Another Site” on page 53 for additional information.
Import Report	<p>Selecting this option allows you to import a primary report into a patient test.</p> <p>Use the MUSE Editor to create a new test and to import an electronic document directly into the newly created test.</p> <p>See “Importing a Report in a Newly Created Test” on page 49.</p>

Patient

Open	Selecting this option allows you to open a patient listed at the Patient Retrieval List , at the Patient tab in Test Directory . You may also open the patient by highlighting and double-clicking on that patient.
Update	Selecting this option allows you to update the patient information of a patient that has been opened at the Patient Retrieval List at the Patient tab in Test Directory .

Tools

Edit List Options Panel	<p>Selecting this option allows you to view the Edit List Options panel in the Edit/Retrieve window. If this option is not selected, the Edit List Options Panel does not display.</p> <p>See “Edit List Options Panel” on page 26 for additional information.</p>
Retrieval Panel	Selecting this option allows you to view the Test/Order Retrieval List Panel in the Edit/Retrieve window. If this option is not selected, the Test/Order Retrieval List Panel does not display.

Test Editor Layouts

When you are in a patient test, selecting this option allows you to pick the test editor layout. You may choose from the following layouts:

- **Waveform Layout**
See [“Waveform Layout” on page 93.](#)
- **Serial Presentation Layout**
See [“Serial Presentation Layout ” on page 95.](#)
- **Clinical Layout**
See [“Clinical Layout” on page 83.](#)
- **Enhanced Clinical Layout**
See [“Enhanced Clinical Layout” on page 96.](#)
- **Clerical Layout**
See [“Clerical Layout” on page 84.](#)
- **Interval Editor Layout**
See the *MUSE Cardiology Information System Interval Editor User Guide*.
- **Supplemental Attachment Layout**
See [“Importing Supplemental Report Images” on page 49.](#)
- **Select as Primary Layout** and **Select as Alternate Layout**

Selecting the **Select as Primary Layout** option allows you to choose the layout you view when you open a test. This will be your primary layout.

Selecting the **Select as Alternate Layout** option allows you to select a secondary layout. Once assigned you can click directly on the **Select Test Editor Layout** icon and switch between the assigned Primary and Alternate layouts.

Select Overreader

See [“Selecting an Overreader” on page 59.](#)

Change Site

Selecting this option allows you to switch to a different site.

Options

Selecting this option allows you to edit various **Edit/Retrieve** settings such as waveform, toolbar, and system-wide options.

Manage Profiles

Selecting this option allows you to create, edit, update, copy, rename, and delete profiles.

Help**Online Help**

Provides sections of the manual online, depending on what window you are viewing. For example, if you are working in the **Edit/Retrieve** window and you select this option, the *Editor* section of this manual is displayed.

About MUSE

Provides additional information about the system, including product version, copyright information, and product serial number.

Edit List Test Menu — Additional Descriptions

Printing a Patient Test

To print a report, highlight the report in the **Edit List** and select **Test > Print** or click the **Print Test** icon.

To print multiple reports, highlight the selected reports in the **Edit List**. Select **Test > Print**, or click the **Print Test** icon.

The **Select Device and Formatting Options** window opens. Select the appropriate fields and click **OK**.

NOTE:

To print a test using a custom format (not the default format that is assigned to the device), click on **Formats Options** in the **Select Device and Formatting Options** window and select the desired format from the list.

NOTE:

If printing to an HL7 device, you should not deviate from the default format assigned to the device. If you attempt to print to an HL7 billing device and the test has already been billed at its current status, depending on your role/privileges, a prompt may display asking if you want to re-bill the test. If you don't have the appropriate role/privilege and the test has already been billed at its current status, the prompt does not display, the test does not print, and the print log or queue does not display it.

Verify the patient test was printed at the **Print Log** in **Status**.

The printed report does also include the current state of the patient test (such as **Newly Acquired**, **Updated**, **Confirmed**, and so on).

To display the test report status in the **Edit List** and on a printed report, in the **Display Columns** field, select the check boxes next to the following options:

Name of Option	Description
Status	If enabled, displays the patient tests in the following states: <ul style="list-style-type: none"> Newly Acquired Demographics Complete Diagnosis Complete Updated Confirmed
Status (Conf./Unconf.)	If enabled, displays confirmed or unconfirmed patient tests.
Status (Detailed)	If enabled, displays detailed patient test information in the following states: <ul style="list-style-type: none"> Newly Acquired Demographics Complete Diagnosis Complete Updated Confirmed For example, Diagnosis complete after confirmed .

Unconfirmed states can consist of tests which are:

- Newly Acquired
- Updated
- Demographics Complete
- Diagnosis Complete
- Demographics and Diagnosis Complete
- Fellow Confirmed
- Confirmed (to **Edit List**)

If you are printing from a research site, test reports cannot be printed to the device types HL7, facsimile, email, GE Healthcare ECG Carts, MAC 1200, and MAC 5000, as well as to any device in HL7 or Hilltop format.

Saving and Confirming Reports

The following options are available methods for saving and confirming reports.

NOTE:

To specify where tests are sent when saving and confirming, click **Tools Options > Options > Test Destination** from the **Edit List**.

See [“Changing Test Destination Options in the Report Editor” on page 75](#).

Name	Description
Diagnosis Complete	<p>Select Test > Save > Diagnosis Complete or click the Save Test as Diagnosis Complete icon.</p> <p>The report can be saved to the following:</p> <ul style="list-style-type: none"> • Current overreader's In-Basket • User's In-Basket • System In-Basket • No In-Basket • A specific user's In-Basket. <p>All of these selections are available in Tools > Options > Test Destination Options for Complete Diagnosis status. See "Changing Test Destination Options in the Report Editor" on page 75.</p> <p>If the demographics are complete, saving the report as Diagnosis Complete indicates the record is completed and ready to confirm.</p> <p>If the demographics are not complete, only the diagnosis is confirmed as complete. You should complete the demographics before the record is confirmed.</p>
Update to Edit List	<p>Select Test > Save > Update to Edit List or click the Update icon.</p> <p>The report can be saved to the following:</p> <ul style="list-style-type: none"> • Current overreader's In-Basket • User's In-Basket • System In-Basket • No In-Basket • A specific user's In-Basket. <p>All of these selections are available in Tools > Options > Test Destination Options for Update status. See "Changing Test Destination Options in the Report Editor" on page 75.</p>
Store to Database Unconfirmed	<p>Select Test > Save > Store to Database Unconfirmed.</p> <p>The unconfirmed report is saved to the system.</p>
Confirm and Route	<p>Select Test > Save > Confirm and Route or click the Confirm Test and Route icon.</p> <p>The report is confirmed and routed according to your system Report Distribution setup.</p>
Confirm	<p>Select Test > Save > Confirm.</p> <p>The report is confirmed and saved to the database but not routed to a print device.</p>

Name	Description
Demographics Complete	<p>Select Test > Save > Demographics Complete or click the Save Test as Demographics Complete icon.</p> <p>The report can be saved to the following:</p> <ul style="list-style-type: none"> • Current overreader's In-Basket • User's In-Basket • System In-Basket • No In-Basket • A specific user's In-Basket. <p>All of these selections are available in Tools > Options > Test Destination Options for Complete Demographics status. See "Changing Test Destination Options in the Report Editor" on page 75.</p> <p>To configure the system to allow for automatic demographics complete routing during acquisition, see Chapter 5 "Setting Up Your System" on page 129.</p>
Demographics Complete and Route	<p>Select the Demographics Complete and Route icon.</p> <p>The report is routed following the rules you set up in report distribution.</p>

Orders and Accounts

Canceling an Open Order

- Find the order you want to cancel by doing one of the following:
 - Click **Go > Test Directory, Test/Order Retrieval List**, highlight the order you want to cancel, or
 - At the **Edit List Options > Select Patient & Presets** navigation panel, select **Orders by Date/Time** and highlight the order you want to cancel.
- Select **Test > Orders & Accounts > Cancel Order**.

The order does not get deleted from the system. The order **Status** at the **Test/Order Retrieval List** is now set to **Discarded**.

NOTE:

This action does not send an HL7 order cancellation message to the HIS. The order is only canceled in the MUSE system.

Changing Order Status to Open

If you have an order that is in the **Discarded** or **Pending** states, you can change the order status back to open. This can occur if, for example, you downloaded the order to the wrong cart, or if the order was accidentally canceled.

- Find the order you want to change to open by doing one of the following:
 - Click **Go > Test Directory, Test/Order Retrieval List**. Highlight the order you want to change to open it, or

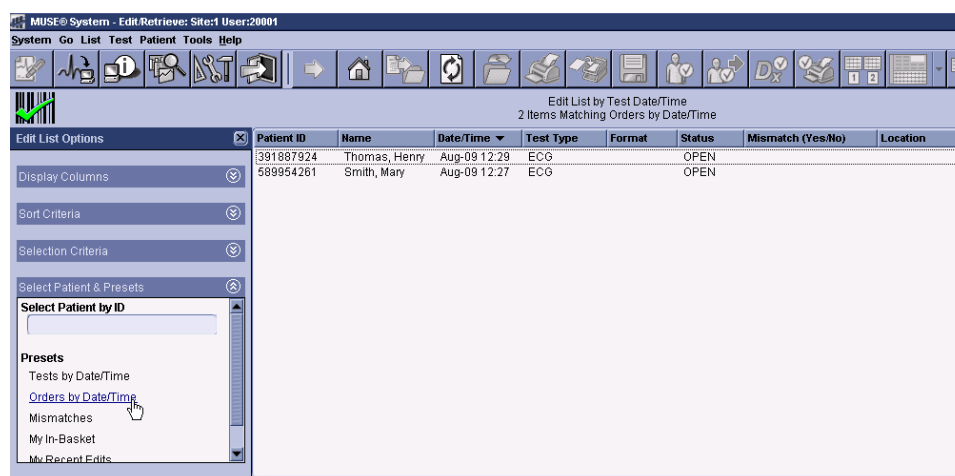
- At the **Edit List Options** > **Select Patient & Presets**, select **Orders by Date/Time**. Highlight the order you want to change to open it.
- Click **Test** > **Orders & Accounts** > **Change Order Status to Open**.
The order **Status** is now set to **Open**.

NOTE:

This action will not change the status of the order in the HIS. The order status will change only in the MUSE system.

Finding an Order

- At the **Edit List** go to **Edit List Options** > **Select Patients & Presets** and click **Orders by Date/Time**.
The orders list displays.



- Search for the order in the list or search for an order in **Test/Order Retrieval**. See ["Retrieving a Patient Test or Order"](#) on page 63.
- If you cannot find the order in the **Edit List** or retrieval:
 - At **System** > **Status**, click the **HIS Event Log** and search for the order in the list.

NOTE:

Observe the transaction status of the order in the **HIS Event Log**. If the order cannot be found or the status is **Failure**, follow your escalation procedure or notify your appropriate on-site resource to investigate.

- To show more records, select **Tools** > **Options** and change the **Maximum number of records to display** up to a number up to 5000.
- Click **OK**.

Order Information Screen

The screenshot displays the 'Order Information' screen with the following fields and values:

- Patient ID:** 589954281
- Last, First Name:** Smith, Mary
- Sex:** Male
- Race:** Caucasian
- HIS Disposition:** INPAT
- MUSE Location:** (dropdown)
- Patient Location:** HIS LOCATION
- Room:** (dropdown)
- Bed:** 2
- Test Sub Type:** FULL ECG
- HIS Test Type:** 2
- HIS Test Type Text:** 12 Lead ECG
- Test Reason:** TEST Reason
- Comments:** ORDERING COMMENTS
- Admitting Diagnosis:** (dropdown)
- Order Status:** OPEN
- Placer's Order Number:** 130104
- Filler's Order Number:** FILLER11
- Parent Order Number:** PARENTORDNUM
- Account Number:** 15751839
- Visit Number:** 566751
- Visit Status:** OPEN
- Start Date/Time:** 09-Aug-2010 12:27:32
- Order Placed Time:** 09-Aug-2010 12:27:32
- Order Expires Time:** 23-Aug-2010 12:27:32
- Priority:** ROUTINE
- Host System ID:** (dropdown)
- Referring MD:** REFERRING, PHYSICIAN
- Ordering MD:** ORDERING, PHYSICIAN
- Attending MD:** ATTENDING, PHYSICIAN
- Placed By:** AVALYN S, FIRSTW
- MUSE ID:** (three empty fields)
- HIS ID:** 11624, 69256, 70448, 123
- Extra Data 1,2:** XORD1, XORD2
- Extra Data 3,4:** XORD3, XORD4
- EXTRAQUES:** XQUES ANS1, XQUES ANS2, XQUES P3: XQUES ANS3, XTRA Q P4: XQUES ANS 4

Clicking on an order from **Test Directory** or the **Retrieval List** opens the **Order Information** screen.

The **Order Information** screen allows you to view information sent from the HIS regarding the order for a particular patient. These fields are read-only and cannot be changed.

Orders and Accounts — Mismatch Errors

When a test is acquired to the MUSE system, and anytime that it is opened for editing, until the test status is set to **Demographics Complete** or higher, the system will check the HIS data tables to look for HIS data to link to the test. If they match, the system links the order to the incoming test. If they do not match, the system indicates an order mismatch.

If the system finds multiple orders that match a test, no order is attached/linked to the test.

If the test has an Order number that is not found for that patient ID in the HIS data, there will be a PID/Order mismatch.

Mismatch Errors in the MUSE system

A test is marked as having a mismatch when information in the test is in conflict with other information on the system, such as the patient list, and the ADT, Visit, and Orders information received from the HIS.

Tests with mismatches after acquisition are placed in the system in-basket. If a test would otherwise be going to the edit list, then any mismatch other than **ADT not found** or **Invalid PID** results in the test going to the system in-basket. If a test is going to the database, any of those statuses cause it to be unconfirmed, and then sent to the Edit List and system In-Basket. If a test is still going to the database but has the **Invalid PID** mismatch, it is also sent to the Edit List and system In-Basket.

ECGs with mismatches may or may not be serial compared, depending on the location setup. The same is true when sending a test through serial comparison from the Edit List.

Report distribution (which can print previous ECGs for a newly acquired test), can optionally suppress printing those previous ECGs for a newly acquired test with a mismatch.

The **Mismatch** column in lists is **No** for no mismatch and for no ADT record. All other mismatches are listed as **Yes**.

A test with a mismatch can only be saved as **Diagnosis Complete** until the mismatch is resolved. The exceptions to this are:

- Date of birth mismatch is resolved by updating.
- Overreader mismatch is resolved by confirming.
- **Invalid PID** and **No ADT record found** are only warnings.

Only the highest priority mismatch status is displayed at a time. However, resolving it can reveal that another lower priority mismatch still exists

Following are individual mismatch statuses, in order of decreasing priority, along with an explanation of how to resolve them.

Mismatch	Description and Resolution
HIS PID/Name Mismatch	An ADT record exists with the same PID but a different last name. Resolve it by correcting the patient ID, selecting the ADT name, or by sending updated ADT/order from HIS to MUSE.
HIS Date of Birth	An ADT record exists with the same PID but a different date of birth. Resolve it by correcting the patient ID or date of birth, or by sending updated ADT/order from HIS to MUSE.
PID/Order Mismatch	The order number in the test is not in the list of orders for this PID. Resolve it by correcting the patient ID or order number, or by sending updated ADT/order from HIS to MUSE.
PID/Visit Mismatch	The visit number in the test is not in the list of visits for this PID. Resolve it by correcting the patient ID or visit number, or by sending updated ADT/order from HIS to MUSE.
Order/Visit Mismatch	The order number in the test is not part of the visit. Resolve it by correcting the visit number or order number, or by sending updated ADT/order from HIS to MUSE.
Order Type Mismatch	The test type does not match the order test type. This mismatch is typically encountered during normalization and can be resolved correcting the patient ID or order number, or by sending updated ADT/order from HIS to MUSE.
Order Status Mismatch	The order status is not open or pending. This mismatch is only encountered during normalization and can be resolved by correcting the patient ID or order number, or by sending updated ADT/order from HIS to MUSE.

Mismatch	Description and Resolution
System PID/Name Mismatch	A patient record already exists with the same PID but a different last name. Resolve it by correcting the patient ID or name on the test, or by selecting the correct name (for example, the Test name, the System Name, or the Admitting Name).
System Date of Birth Mismatch	A patient record already exists with the same PID and name, but a different date of birth. Resolve it by correcting the patient ID or date of birth in the test, or by updating the test.
Overreader Mismatch	A test was confirmed at the Cart, but the overreader name/id does not exist in the users list. Resolve it by confirming the test and saving it as demographics complete.
Invalid PID	For customers (or languages) that have patient IDs in specific formats, or with check digits, this status indicates the patient ID is invalid. Includes the Scandinavian patient IDs. This is not necessarily a mismatch, but can indicate a problem.
No ADT record for patient	The PID in the test is not in the ADT patient list. This is not necessarily a mismatch, but can indicate a problem.

Creating a New Test

If the electronic version of a test did not get acquired into the system, you can create a new record of that test by entering the patient information, measurements and diagnosis from the original copy. This created test may be linked to HIS ADT and order data and may be confirmed and added to that patient's test directory. The created test will not include any waveforms.

1. At the **Edit List**, select **Test > Create New Test**.

The **Create Test** window opens.

2. Type the **Patient ID**, select the **Test Type**, and click **OK**.

A blank patient test window opens.

MUSE® System - Edit/Retrieve Site:1 User:2003 - Investigational Use Only.

System Go List Test Patient Tools Help

System

Go

Test

Tools

Waveform Tools

Patient ID:

Last, First Name:

Test Date/Time: 06-Nov-2014 15:03:01

Age/DOB:

Sex, Race:

HT, WT (in, lb):

Location:

Cart Number:

Room Number:

Test Reason:

No Mismatch Detected

Referring Phys:

Ordering Phys:

Acquiring Tech:

Admitting Phys:

Attending Phys:

Primary Care Phys:

Editor:

Fellow:

Confirmed by:

Edt Date/Time:

Order Number:

Visit Number:

Account Number:

User Defined: Do not bill

Secondary ID:

Ventricular Rate: bpm

PR, QRS: ms

QT, QTc: ms

PRT Axis: °

BP: / mm Hg

Change Log

User: 2003 Site: 1 Overreader: 2003 Patient: Test: Newly Acquired ECG on 06-Nov-2014 15:03:01 Edit List: #0 of 0

3. Enter the appropriate information in the fields provided.

NOTE:

Because a created test does not display waveforms, it can be useful to include a statement as to the location of the waveforms for the created test.

4. Save the test by selecting **Test > Save** and the appropriate state.

Setting Up Default Patient ID(s)

To set up default patient ID(s) for your institution:

1. On the **Edit List** in **Edit/Retrieve**, create a report for each default patient ID number you want to use by selecting **Test > Create New Test**.

The **Create Test** window opens.

2. Enter the default PID in the **Patient ID** field and click **OK**.

A blank report form opens.

3. Enter **Unknown Patient** (or similar) in the **Patient Name** field.
4. Confirm the report.

Any subsequent records with default patient IDs you set up, and no patient name, now have the name field populated with **Unknown Patient**. This alerts the user that the record needs to be assigned correct patient demographics.

WARNING:

INCORRECT TREATMENT: If a record containing a default PID (for example, 000000911) comes into the MUSE system with a patient name, it triggers a mismatch. When you open the name field, the system report displays Unknown Patient, and the Report Name displays the patient's name (for example, John Doe).

If the report does belong to John Doe, change the PID number to John Doe's correct PID.

WARNING:

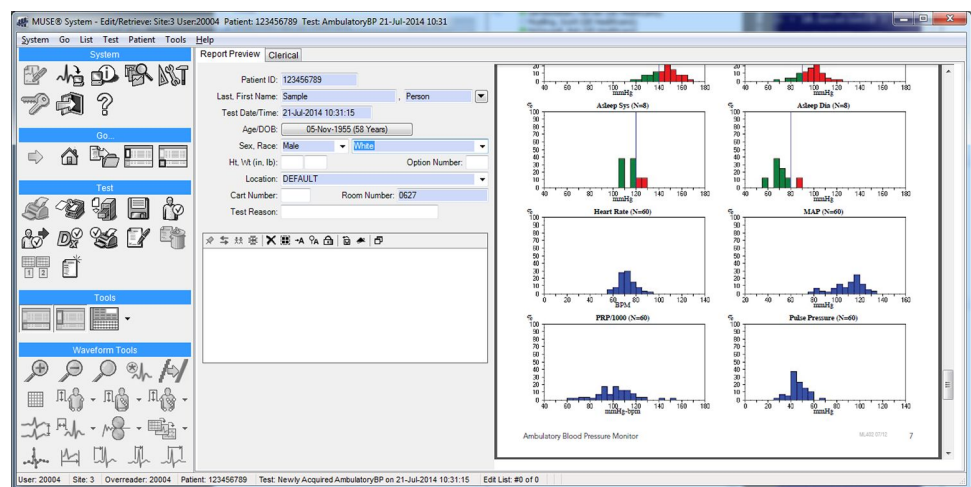
INCORRECT TREATMENT: Failure to have a unique Patient ID (PID) in patient demographics may cause incorrect patient data associated with the PID.

Always assign the proper PID and name before transmission to the system. Do not confirm patient records containing default PIDs.

Importing a Report in a Newly Created Test

Perform the following procedure to import an electronic document directly into a newly created test.

1. Follow the steps in “[Creating a New Test](#)” on page 46 for creating a new test.
2. Import the report by performing the following steps:
 - a. Select **Test > Import Report > Add**.
The **Open** window opens.
 - b. Navigate to the desired file and click **Open**.
The **Report Preview** tab and image are displayed.



3. Manually update the patient and test demographics, including the order and visit number. If the GE Healthcare Service team previously set up this up, you can parse and automatically display the order number.

Importing Supplemental Report Images

Perform the following procedure to attach supplemental electronic test documents to Stress, Holter, and other non-Resting ECG tests. You can attach as many report

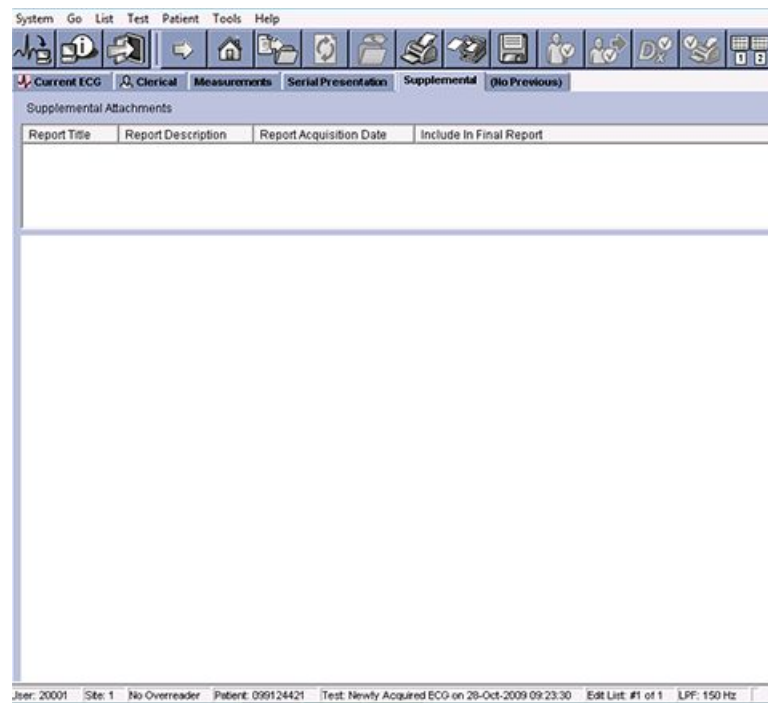
images as required, including a primary image, and additional (or supplemental) images that support the primary image.

NOTE:

You need to perform these steps for each image you want to attach to a report.

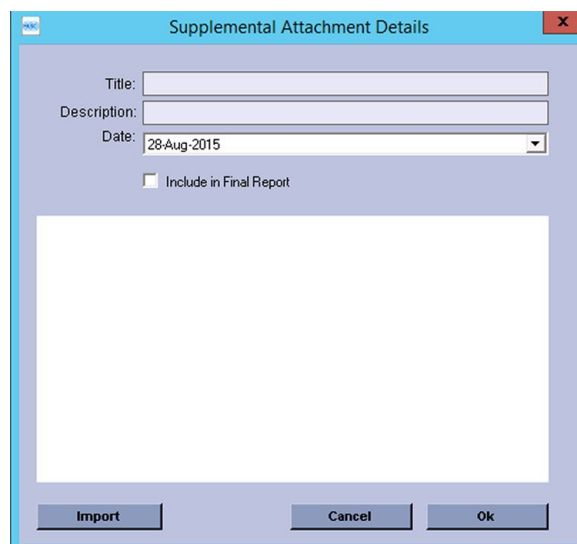
1. Go to the Edit list and open a patient test and click **Tools > Test Editor Layouts > Supplemental Attachment Layout**.
2. Click the **Supplemental** tab.

The **Supplemental Attachments** window opens.



3. Right-click in the top half of the **Supplemental Attachments** window and select **Add**.

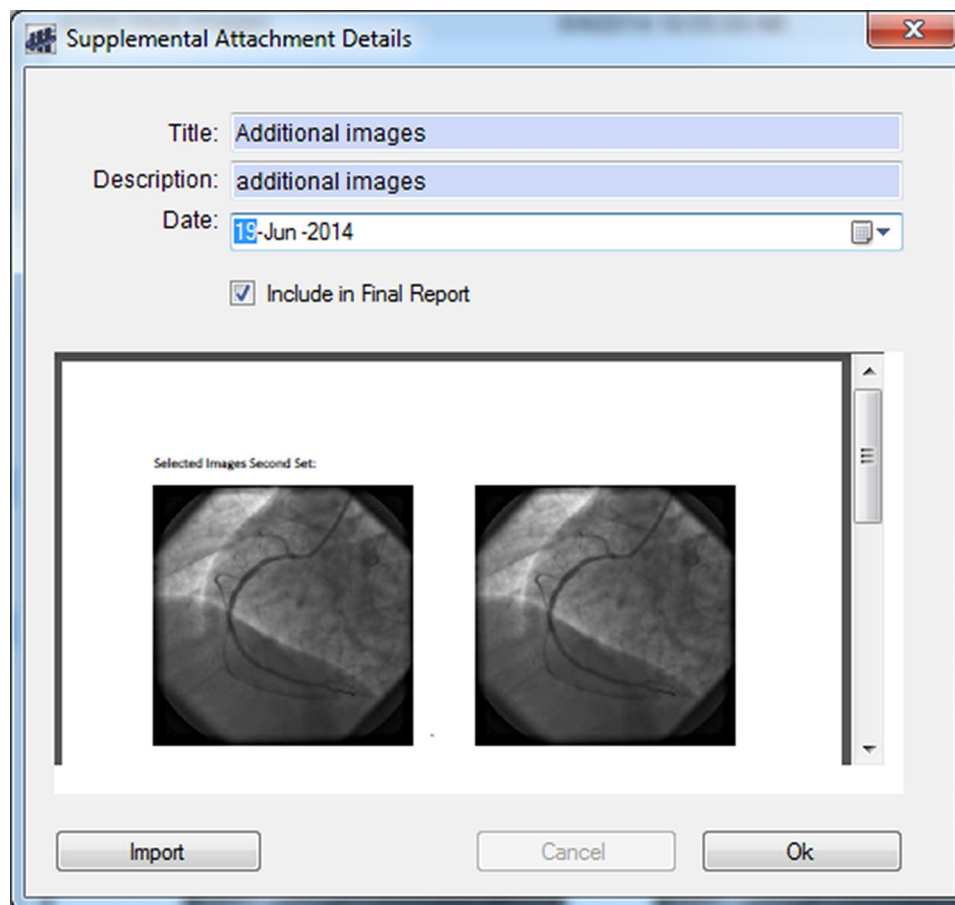
The **Supplemental Attachment Details** window opens.



The screenshot shows a window titled "Supplemental Attachment Details" with a standard Windows-style title bar (blue with a red close button). The window has a light blue background. It contains three input fields: "Title:" (a text box), "Description:" (a text box), and "Date:" (a dropdown menu showing "28-Aug-2015"). Below these fields is a checkbox labeled "Include in Final Report" which is currently unchecked. At the bottom of the window, there are three buttons: "Import", "Cancel", and "Ok".

4. Click **Import**.
The **Open** window opens.

- Navigate to the selected file and click **Open**.
The system returns to the **Supplemental Attachment Details** window.



- Edit the **Title**, **Description**, and **Date**.
- If you want to include the attachment in the final report, enable the **Import in Final Report** check box.
- Click **OK**.
The image will display in the **Supplemental** tab.

Setting a Test as Baseline

This feature can be used to mark a test as baseline prior to the introduction of a drug used in a drug trial.

- At the **Edit List**, highlight the test you want to baseline.
- To set a test as a baseline, select **Test > Baseline > Set as Baseline**.
The test is now set as the baseline.
- To remove a baseline from a test, select **Test > Baseline > Unset as Baseline**.

Copying a Test to Another Site

NOTE:

Tests can be copied from a Clinical site to a Research site, but not from a Research site to a Clinical site.

1. In the **Edit List**, highlight the test(s) you want to copy to another site.
2. Select **Test > Copy**.
The **Select Site** window opens.
3. Select the site you want the test(s) copied to.
4. To have the test display in the new site without various patient demographics, select the **Anonymize Patient Data** check box. This is usually used when copying a test from a clinical site to a research site.

If a test is copied to another site when **Anonymize Patient Data** is enabled, the following fields are changed to random data:

- **Patient ID**
- **Last Name**
- **First Name**
- **Date of Birth**
- **Acquisition Date**

The following fields are set to blank:

- **Acquiring Tech**
- **Admitting Physician**
- **Attending Physician**
- **Primary Care Physician**
- **Editor**
- **Fellow**
- **Ordering Physician**
- **Confirmed By**
- **Referring Physician**
- **All confirmation dates**
- **Order Number**
- **Visit Number**

NOTE:

In addition to the above, any attachments are removed from the tests, including the MARS formatted report. The MARS formatted report can be recreated by opening the anonymized test on a new site.

5. Click **OK**.
The test(s) are copied to the site you specified.

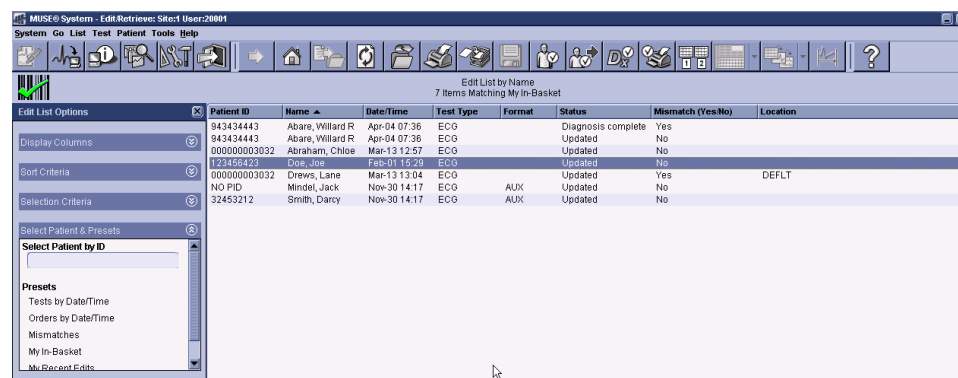
Sending Patient Tests

Patient tests at the **Edit List** can be sent to the following:

- In-basket
- Serial Comparison
- Discarded Data List
- Reanalysis

In-Basket

At the In-Basket you can assign tests to specific users. There is an In-Basket for each individual system user and a system In-Basket for mismatched tests.



When the system acquires tests, they are added to the **Edit List**. Tests can not be added to an In-Basket if they are unassigned.

All mismatched tests are sent to the system In-Basket.

Tests with a Patient ID name mismatch or an order number or status mismatch are sent directly to the system In-Basket after they are acquired.

The System Owner or Site Manager can restrict individual users to view only their In-Baskets or to view certain types of reports.

There are three ways tests get assigned to a user's In-Basket:

- A user can manually assign tests to another user.
- A test can be automatically assigned to an In-Basket based on the location it came from. This is an administrative function.
- A user can have the system automatically send tests to an In-Basket based on the test status. For example, if a user updates, completes, or confirms a test, the system can be set up to automatically send that test to an In-Basket based on those particular actions.


Switching to Another User's In-Basket

1. In the **Edit List Option** panel, expand **Selection Criteria**.




2. Scroll to **In-Basket** and select the option button next to the appropriate In-Basket name. The options are described in the following table.

Option	Description
System	Displays all tests in the system In-Basket.
Unassigned	Displays tests not currently in an In-Basket.
Current User's	Displays tests in the current system user's In-Basket.
Current Overreader's	Displays tests of the overreader you are logged in as.
User	Displays tests assigned to a selected user in the system. The Select User for In-Basket window opens. Go to Step 3.
All	Displays all In-Baskets, including System and Unassigned tests.

3. Do one of the following:
 - If you selected **System**, **Unassigned**, **Current User's**, **Current Overreader's** or **All**, click the **Refresh** icon or select **List > Refresh Selected List**. The In-Basket you selected is displayed.
 - If you selected **User**, add the user ID in the field provided.
Click on the ellipses icon . The **select user for in-basket** window opens. Do the following:
 - a. Type the user's first and last name, or user ID, in the appropriate fields and click **Search**.
A list of user names opens.
 - b. Highlight the appropriate user's name in the list, and click **OK**.
 - c. Click the **Refresh** icon or select **List > Refresh Selected List**.
The user's In-Basket you selected displays.

Adding Records to An In-Basket

Perform the following procedure to add an assigned or unassigned record(s) to a user's In-Basket:

1. Highlight the test(s) and select **Test > Send to > In-Basket** or click the **Send Test to In-Basket** icon .
The **Select In-Basket** window opens.
2. Locate the user's In-Basket:
 - a. Type the user's first and last name or user ID in the appropriate fields.
 - b. Click **Search**.
A list of user names is displayed if there are multiple users with that name.
3. Highlight the appropriate user's name in the list if appropriate and click **OK**.
The test is sent to that user's In-Basket.

Serial Comparison

Serial Comparison is a feature that compares a current ECG (newly acquired) with the first previous ECG for the same patient. This process typically occurs during the current ECG data acquisition phase and prior to the current ECG record being placed on the **Edit List** for editing. During the Serial Comparison process, the current ECG is compared with the first previous ECG, and diagnostic serial comparison statements are appended to the original 12SL diagnosis in the current patient ECG record. These serial statements are always preceded with the statement **When compared with...** (this only happens if serial comparison is activated for the specific location the ECG came from).

In previous versions of the system, Serial Comparison occurred only during data acquisition. For example, incoming ECGs had only one opportunity to be compared. As a workflow enhancement, an optional feature on the system now enables Serial Comparison on demand, which allows the user to dynamically run/rerun Serial Comparison on a selected ECG in the **Edit List**. The most typical scenario for this type of operation is to run Serial Comparison after the patient demographic information is edited to resolve Patient ID/Name mismatches or missing patient identifier data.

To run Serial Comparison on demand:

CAUTION:

USE ERROR: The MUSE Cardiology Information System is not intended for pediatric serial comparison.

1. At the **Edit/Retrieve** window, select the appropriate patient test in the **Edit List**.
2. Select **Test > Send to > Serial Comparison** or the **Send Report to Serial Comparison** icon.

A message window opens stating **All changes to the diagnosis will be lost, and the original 12SL statements will be restored before serial comparison is run. Continue with this operation?**

3. Select **Yes** to proceed or **No** to cancel.

NOTE:

If any changes are made to the diagnosis prior to this message, all changes are lost if **Yes** is selected.

Discarded Data List

The **Discarded Data List** is a list of tests that have been discarded by the system or by a user. The system discards a test because of an invalid site. A user can discard a test for any of the following reasons.

- Poor quality
- Patient was excluded from a study
- Wrong patient
- Duplicate ECG
- Send the test to a different site
- Incorrect lead placement
- Acquired with incorrect acquisition profile.

Test can be recovered from the **Discarded Data List**, if necessary.

To navigate to the **Discarded Data List**, select **System > Status** and click on the **Discarded Data List** link in the **Navigation** pane.

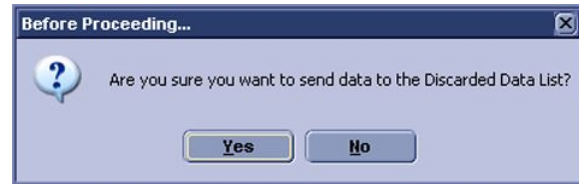
To discard a test from the **Edit List**:

1. In the **Edit List**, highlight the test(s) to be discarded and select **Test > Send to > Discarded Data List**.

NOTE:

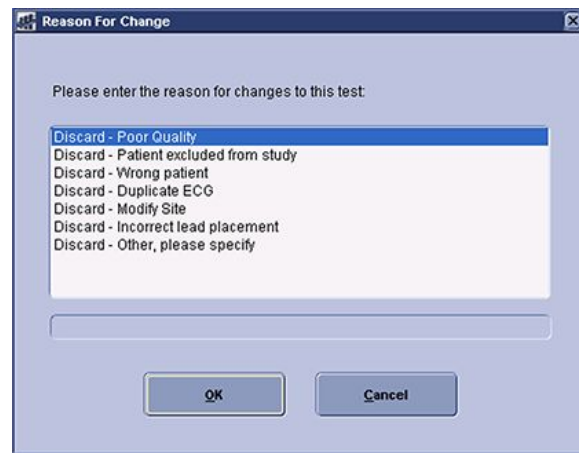
You can also open a test in the **Edit List** and then select **Test > Send to > Discarded Data List**.

The **Before Proceeding...** window opens.



2. Click **Yes**.

If the 21 CFR feature is enabled, the **Reason For Change** window opens.



3. If the reason for change window opens, select the reason and click **OK**.

The test is sent to the **Discarded Data List** in **System > Status**.

For instructions on recovering a test back to the **Edit List**, moving a test from the **Discarded Data List** to a new site, as well as additional functions, see [Chapter 6 "Status" on page 213](#).

Reanalysis

You can use the reanalysis feature on incoming ECGs to analyze the ECGs using the latest version of the 12SL algorithm, thus providing consistency of interpretation for ECGs that have been recorded on a device that uses a prior version of the 12SL algorithm.

In a research site, there is the additional capability of reanalyzing records of any data type, using any algorithms that are installed on the system.

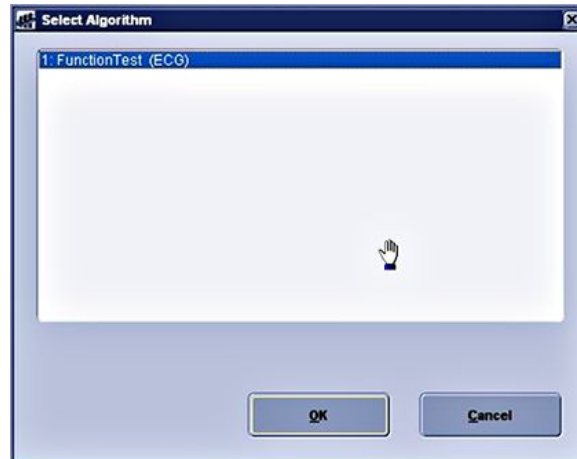
At a clinical site, ECGs are automatically reanalyzed when they arrive at the system if the location is configured for reanalysis.

At a research site, you can manually reanalyze any data type at the **Edit List** or during **Database Search**.

To reanalyze a test during **Database Search**, see the chapter on Database Search.

To reanalyze a test at the **Edit List**:

1. Select **Test > Send To > Reanalysis**.
The **Select Algorithm** window opens.



2. Select the appropriate algorithm and click **OK**.
The test is reanalyzed.

NOTE:

Printing from a Research site is limited. Reports cannot be printed to these device types:

- HL7
- FAX
- Email
- MAC 1200 or MAC 5000

Reports cannot be printed to any device in HL7 or Hilltop format.

Selecting an Overreader

NOTE:

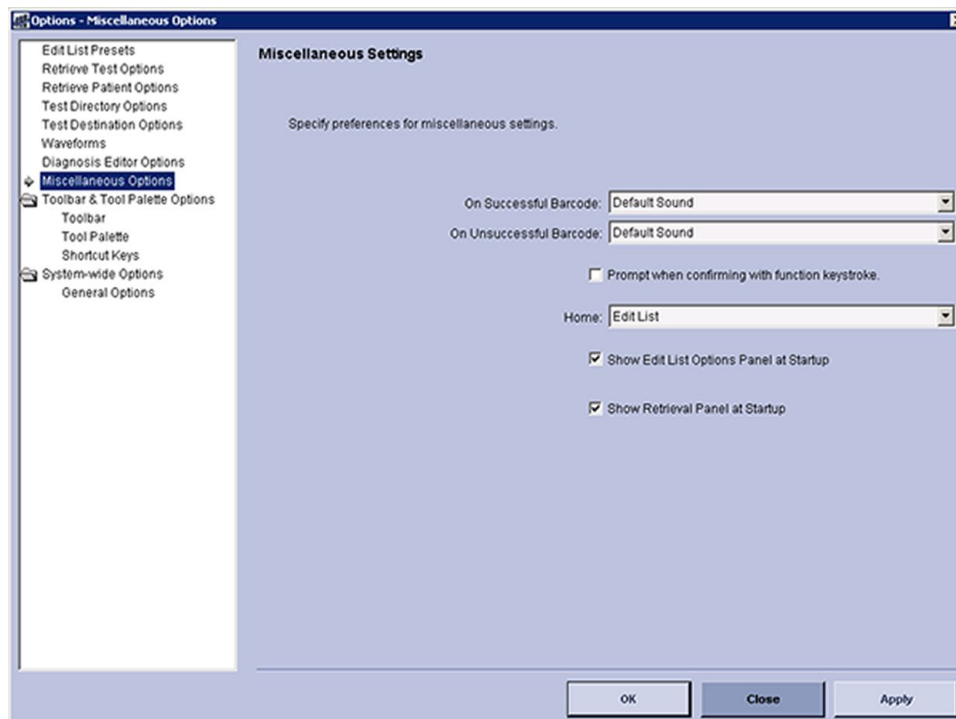
Make sure the person being selected as **Overreader** is set up in the system as an **Overreader**. Refer to your hospital administrator for setting up users.

1. On the **Edit List**, select **Tools > Select Overreader**.
The **Select Overreader** window opens.
2. Do one of the following:
 - a. Type all or part of a user name in the **First and Last Name** fields.
 - b. Type the User ID in the **User ID** field
3. Click **Search** to search for matching overreaders.
4. Highlight the correct overreader and click **OK**.

The overreader's name displays as the overreader for any reports confirmed by that overreader who is currently selected or logged into the system.

Setting Up Miscellaneous Options

1. On the **Edit List**, select **Tools > Options**.
2. Highlight **Miscellaneous Options**.



3. Set up the following fields:

Field	Description
<i>On Successful Barcode</i>	Allows you to select the sound, from the pull-down menu, to hear when the barcode function is successful .
<i>On Unsuccessful Barcode</i>	Allows you to select the sound, from the pull-down menu, to hear when the barcode function is not successful .
<i>Prompt when confirming with function keystroke</i>	Enabling this option displays the message <i>Do you really want to confirm?</i> each time the user confirms a test using a shortcut key.
<i>Home</i>	Allows you to select the user's default <i>Home</i> window from the pull-down menu.
<i>Show Edit List Options Panel at Startup</i>	Enabling this option displays the Edit List Options panel each time a user starts the application.
<i>Show Retrieval Panel at Startup</i>	Enabling this option displays the Retrieval panel each time a user starts the application.

4. Click **OK** when finished.

Change Log

The **Change Log** tracks changes to patient data and can facilitate finding a test that had incorrect data entered on the device and has since been corrected in the system.

The Change Log function must be activated within **System > Setup > Sites > Test Type Settings**. All changes made to a record appear in the **Change Log**. This includes changes to patient demographics, test measurements, and diagnostic statements within the interpretive window.

The **Change Log** button location varies depending on the **Test Editor Layout** chosen. It is on the **Clerical** tab if that tab exists in the **Test Editor Layout** being used.

1. At the **Edit list**, open a patient test.
2. Select the appropriate tab depending on the **Test Editor Layout** you have chosen.

NOTE:

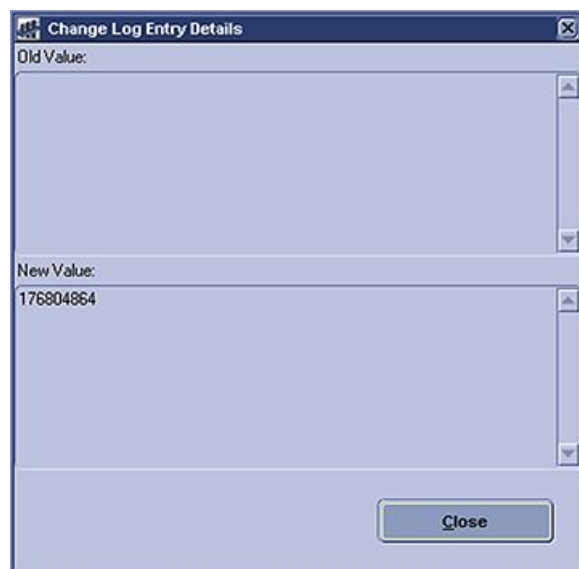
The **Change Log** button is not available on the **Serial Presentation** or **Measurements** screen.

3. Click the **Change Log** button to open the **Change Log** window.

Change	Table	Field	Old Value	New Value
--------	-------	-------	-----------	-----------

Each time a change is made to a patient test, manually by a user or by the MUSE system auto-updating the test with data from the HIS, the change will be recorded. After a test is updated or saved in the database, the changes are saved by date.

4. To view the change log details, double-click on a changed item to expand it. The **Change Log Entry Details** window opens.



This window is helpful when displaying long fields such as the diagnosis.

5. To print the **Change Log**:
 - a. Click the **Print** button
The **Select Device and Formatting Options** window opens.
 - b. Make the appropriate choices and click **OK** to print the log.
6. To enable the display of supplemental test fields that are generated and maintained by the system, select the **Show Changes for Virtual Fields** check box. Examples of some of these fields are: **Edit Time**, **Edit Date** and identification codes that uniquely identify the patient to the system.
7. Click **Close** when finished to exit the **Change Log**.

Test/Order Retrieval



The **Test/Order Retrieval List** displays confirmed tests, unconfirmed tests, open, pending, and **Complete** orders, and discarded orders currently in the system.

There are three high-level records in the system:

- Local Patient Records - Patient records local to the system and reflect patients that have tests in the database.
- ADT Patient Records - Patient records that are admitted from a HIS System known as the HL7 Interface.
- Test Records - Test records that were acquired from an acquisition device.

Retrieving a Patient Test or Order

1. Type the patient ID in the **Patient ID** text box, or type the **Last Name, First Name, Test Date, Test Type, or Order Number**.

The **Order Number** can be up to 22 characters long.

NOTE:

It is not necessary to type the entire name. You can type just the first letter of the patient's last name. However, you then have to find the patient in a list of all patients whose last names begin with the same letter. Typing more letters in the patient's name results in a shorter list of patient matches.

2. Select or clear the **Match Phonetically** check box to search patient names phonetically or exactly as typed.
3. Click **Search**.

A list opens displaying all of the patients in the system matching the name and other criteria you entered.

4. Click **More** to further refine your search options.

The **Additional Test/Order Search Options** window opens.

Fill in the desired fields and click **Search**.

A list opens displaying all of the patients in the system matching your search criteria.

The screenshot shows a window titled "TestOrder Retrieval List by Test Date/Time, 6 Items Matching Current Search". It contains a table with the following columns: Patient ID, Name, Date/Time, Test Type, Format, Status, Mismatch (Yes/No), and Location. The table lists four entries for patient Smith, Mary, with test dates ranging from Mar-05 to Sep-15. The left sidebar contains search filters for Patient ID, Last Name, First Name, Match Phonetically (checked), Test Date (19-Aug-2010), Test Type (All), and Order Number. Search and More... buttons are at the bottom of the sidebar.

Patient ID	Name	Date/Time	Test Type	Format	Status	Mismatch (Yes/No)	Location
000151926	Smith, Helen	Sep-15 11:03	ECG	R4x2.5	Updated	Yes	
589954261	Smith, Mary	Mar-18 16:00	ECG	R4x2.5	Updated	Yes	
000000004	Smith, Beverly	Mar-05 19:04	LP		Updated	No	
000000004	Smith, Beverly	Mar-05 19:09	LP		Updated	No	
589954261	Smith, Mary	Aug-09 12:27	ECG		OPEN		

5. Highlight and double-click on the name of the patient test you want to view.


The report opens in the **Report Editor** window. For information on the Report Editor, refer to ["Report Editor Window" on page 74](#).

If you click on an order, the **Order Information** window opens.

Retrieving a Patient Test/Order using a Barcode Reader

You can retrieve patient tests and orders by scanning the barcode on the paper copy of the test or order.

NOTE:

A green check mark  is displayed in the upper left-hand corner of the screen, indicating you can use a barcode reader for retrieval when the cursor is placed in a specific field.

Do one of the following to retrieve a test with the barcode reader:

- Scan from the **Select Patient by ID** field in **Edit List Options > Select Patient & Preset**.
 - a. Place the cursor in the **Select Patient ID** field.
 - b. Scan the barcode with the barcode reader.
The **Edit List** displays the Patient ID and the patient tests or orders, depending on which preset is currently selected. If only one is found, the test or order opens in the **Report Editor**.
- Scan from the **Edit List**.
 - a. Place the cursor at the **Edit List**.
 - b. Scan the barcode with the barcode reader.
The test or order opens in the **Report Editor**.
- Scan in **Test/Order Retrieval List > Test/Order** field.
 - a. Place the cursor in the **Patient ID** field at the **Test/Order** tab.
 - b. Scan the barcode with the barcode reader.
If there is only one test, it will open in the **Report Editor**.
If there is more than one test or order, the **Test/Order Retrieval list** opens displaying the tests or orders.
- Scan in the **Patient** test directory tab.
 - a. Place the cursor in the **Test/Order Retrieval List > Patient ID** field.
 - b. Scan the barcode with the barcode scanner.
If there is only one patient report, the **Test Directory** for that patient opens.
If there is more than one patient report, a list of reports displays.

Setting Up the Retrieval List

NOTE:

The following changes need to be saved to your profile to be made permanent. If they are not saved to your profile, they will be lost as soon as you log out of the system. See [“Updating a Profile” on page 210](#) for instructions on updating your profile. You may need to work with your administrator.

1. Select **Tools > Options...**
The **Options** window opens.
2. Highlight **Retrieve Test Options** in the left window pane.
3. To specify the columns to display when retrieving tests and/or orders, click the box next to your selections to add a check mark.

4. Select **Move Up** or **Move Down** to order the columns.
If you place an item at the top of the list, it displays to the left of the **Edit List**. Items at the bottom of the selection list display at the right of the **Edit List**.
5. In the **Sort Column** list, click on the column name you want to sort.
An up or down arrow is displayed, indicating that item is sorted in ascending or descending order.
NOTE:
You can sort the items only one column at a time.
6. If applicable, select **Match Phonetically**.
7. If the orders option is enabled, you can apply a filter by typing a value in the field next to **Retrieve Orders that are up to this many days in the future**.
8. At the **Retrieve Matching** field, if orders are enabled, select whether orders, tests, or both are retrieved by default.
9. Select **Apply > Close** or **OK**.

Setting Up the Patient List

NOTE:

The following changes need to be saved to your profile to be made permanent. If they are not saved to your profile, they will be lost as soon as you log out of the system. See ["Updating a Profile" on page 210](#) for instructions on updating your profile. You may need to work with your administrator.

1. Select **Tools > Options....**
The **Options** window opens.
2. Highlight **Retrieve Patient Options**.
3. In **Displayed Columns**, click the check boxes to add a check mark to the columns you want to display when retrieving patients.
4. Select **Move Up** or **Move Down** to order the columns.
If you place an item at the top of the list, it is displayed on the left of the **Edit List**. Items at the bottom of the list are displayed on the right of the **Edit List**.
5. In the **Sort Column** window, click on the column you want to sort.
An up or down arrow indicates ascending or descending order.
NOTE:
You can only sort the items one column at a time.
6. If applicable, select **Match Patient Names Phonetically**.
This allows you to search for a patient by their name phonetically instead of by spelling.
7. Click **OK**.

Patient Retrieval List

Patient ID	Last Name	First Name	Name	Date of Birth	Sex
000000004	Smith	Beverly	Smith, Beverly		Female
000005058	Smith	Mary	Smith, Mary		Female
000151926	Smith	Helen	Smith, Helen		Female
689954261	Smith	Mary	Smith, Mary	30-Mar-1982	Male

The **Patient Retrieval List** displays patients with tests in the system (Local) or patients admitted via the Hospital Information System (HIS) Interface (ADT).

Retrieving a Patient Record

1. Click the **Patient** tab at the **Patient Retrieval List** window.
2. Type the patient ID in the **Patient ID** text box, or type the patient's last name, first name, date of birth, or select the gender (sex).

NOTE:

It is not necessary to type the entire name. You can type just the first letter of the patient's last name. However, you then have to find the patient in a list of all patients whose last names begin with the same letter. Typing more letters in the patient's name results in a shorter list of patient matches.

3. If applicable, select **Match Phonetically**.
The **Match Phonetically** search option is selected by default.
4. To search for patients contained in the system database with corresponding tests, click the **Local** option button.
5. To search ADT records from the HIS Interface, click the **ADT** option button.
The ADT option button is only active if your system has the HIS Interface option enabled.

NOTE:

If you receive a message stating **No ADT record for the patient** make sure the primary patient data (PID, name and date of birth) in the system match the data in the HIS. Review the **HIS Event Log** in **Status** to determine if the ADT message was received in the system.

6. Click **Search**.
A list displays all the patients in the system matching the criteria you entered.
7. Double-click the patient name.
The **Test Directory** window opens.

Setting Up Test Directory List Options

The **Test Directory List Options** window allows you to specify which columns are displayed in the **Test Directory List**, and the default order of the list.

NOTE:

The following changes need to be saved to your profile to be made permanent. If they are not saved to your profile, they will be lost as soon as you log out of the system. See [“Updating a Profile” on page 210](#) for instructions on updating your profile. You may need to work with your administrator.

1. Select **Tools > Options...**
The **Options** window opens.
2. In the menu tree, highlight **Test Directory Options**.
3. In **Displayed Columns**, select the check boxes to add a check mark to the columns you want in the test directory.
4. Select **Move Up** or **Move Down** to order the columns.
If you place an item at the top of the list, it is displayed on the left of the **Edit List**. Items at the bottom of the list are displayed on the right of the **Edit List**.
5. In the **Sort Column** window, click on the item you want to sort.
An up or down arrow is displayed, indicating ascending or descending order.
NOTE:
You can sort the items only one column at a time.
6. To view the list of all physicians assigned to read a certain ECG, enable the **Show All Overreads of Multiple Overread Tests** check box.
This can be helpful when doing clinical trials or research ECGs.
7. Click **OK**.

Opening Test Directory

The **Test Directory** displays confirmed and unconfirmed tests, and/or orders in the system. If your hospital does not have a Hospital Information System (HIS) interface, you can edit patient information in the **Test Directory, Local Patient Information** tab. The **Local Patient Information** tab can be edited if information is displayed on the screen. If the screen is blank, no information may be entered and it is grayed out. The **Local Patient Information** screen is populated when a patient test is updated or demographics completed.

If your hospital does have a HIS, you can also merge data from the HIS to the system at the **Test Directory**.

If you update the **Local Patient Information** tab, you will need to open every test in the directory list and change the information on the test by selecting the **System Name** in the Editor to associate the changes made on the **Local Patient Information** tab with the test.

To enter the **Test Directory** window:

1. In the **Edit List** or **Test Retrieval List**, open a patient test.
2. Select **Go > Test Directory**.
3. The **Test Directory** window opens at the bottom of the screen with a list of tests and/or orders for that patient.

The screenshot shows the MUSE v9 System - Edit Retrieval List window. The top section contains patient information fields: Patient ID (000005058), Last, First Name (Smith, Mary), Date of Birth, Sex (Female), Race (Caucasian), Kanji Name (YYYYYYYYYYYY), Mailing Address, City, State, Postal Code, Country, Phone Number 1, and Phone Number 2. A 'Merge Data from ADT' button is located on the right. Below the patient information is a table titled '22 Items in Test Directory Sorted by Test DateTime'. The table has columns: Name, Date/Time, Test Type, Format, Class, Status, Mismatch (Yes/No), and Location. The table lists 22 items, all with a status of 'Newly Acquired' or 'Updated' and a mismatch of 'Yes'. The bottom of the window shows a status bar with the text: 'MUSE v9.0001 - Edit Retrieval List - Patient: 000005058 - Test Order: (None) - Test Retrieval #1 of 1, Test Directory: 002'.

Local Patient Information Tab

The **Local Patient Information** tab contains patient demographic information for patients who have tests in the system.

1. Enter the patient information in the fields provided.

NOTE:

If your administrator enabled the new enhanced race list supported in MUSE v9, the new races are displayed in the **Race** field. See [Appendix A "Enhanced Patient Race List" on page 237](#) for a complete list of legacy and enhanced races supported in the MUSE v9 application.

2. To merge data from ADT into the system, click **Merge Data from ADT**.
3. When finished, select **Patient > Update**.

Admitting Information Tab

MUSE System - Edit/Retrieve: Site:1 User:20001 Patient: 000000004

System Go List Test Patient Tools Help

Local Patient Information **Admitting Information** **Visit Information**

Patient ID:

Last, First Name: , Mailing Address:

Date of Birth:

Sex: City:

Race: State:

Kanji Name: Postal Code: Extra Data 1:

Prior ID: Country: Extra Data 2:

Secondary ID: Phone Number 1: Extra Data 3:

Prior Alternate ID: Phone Number 2: Extra Data 4:

Update ADT Info

HIS Change Log

24 Items in Test Directory
Sorted by Test Date/Time

Name	Date/Time	Test Type	Format	Class	Status	Mismatch (Yes/No)	Location
Crusher, Beverly	05-Mar-1996 19:00	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:01	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:02	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:03	LP		N	Newly Acquired	Yes	
Smith, Beverly	05-Mar-1996 19:04	LP		N	Updated	No	
Crusher, Beverly	05-Mar-1996 19:04	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:05	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:06	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:07	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:08	LP		N	Newly Acquired	Yes	
Smith, Beverly	05-Mar-1996 19:09	LP		N	Updated	No	

The **Admitting Information** tab contains admitting patient information from the HIS.

The **Admitting Information** fields are grayed out indicating you cannot edit them.

NOTE:

The **Admitting Information** tab is not updated when refreshing the screen by clicking the **Refresh** button.

1. Click **Update ADT Info** to update the system with any admitting information changes that were made at the HIS.

NOTE:

Update ADT Info is only enabled when the **ADT Query** option is enabled in **System > Setup > Sites > HIS Settings**.

2. Click **HIS Change Log** to view the changes made to the MUSE ADT and Order records via the transactions sent by the HIS system for a particular patient.

Visit Information Tab

MUSE System - Edit/Retrieve: Site:1 User:20001 Patient: 000000004

System Go List Test Patient Tools Help

Local Patient Information **Admitting Information** **Visit Information**

Account Number: Visit Number: Admit Date: Discharge Date: Status:

Referring MD Name: Admit Diagnosis: Patient Class:

Referring MD HIS ID: Current Diagnosis: Ambulatory Status:

Admitting MD Name: Other Diagnosis: Service Facility:

Admitting MD HIS ID: Primary Diagnosis: Discharge Disposition:

Attending MD Name: Secondary Diagnosis: Hospital Service:

Attending MD HIS ID: Tertiary Diagnosis:

Consulting MD Name: Extra Data 1: Admission Type:

Consulting MD HIS ID: Extra Data 2: Admission:

Patient Location: Extra Data 3: Admission Type:

24 Items in Test Directory
Sorted by Test Date/Time

Name	Date/Time	Test Type	Format	Class	Status	Mismatch (Yes/No)	Location
Crusher, Beverly	05-Mar-1996 19:00	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:01	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:02	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:03	LP		N	Newly Acquired	Yes	
Smith, Beverly	05-Mar-1996 19:04	LP		N	Updated	No	
Crusher, Beverly	05-Mar-1996 19:04	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:05	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:06	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:07	LP		N	Newly Acquired	Yes	
Crusher, Beverly	05-Mar-1996 19:08	LP		N	Newly Acquired	Yes	

User: 20001 Site: 1 No Overreader Patient: 000000004 Test/Order: (None) Test Retrieval: #1 of 1, Test Directory: 1/24

The **Visit Information** tab contains patient visit information from the HIS. You cannot edit this information.

NOTE:

The **Visit Information** tab is not updated when refreshing the screen by clicking the **Refresh** button.

1. The patient's **Account Number**, **Visit Number**, **Admit Date**, **Discharge Date**, and **Status** are displayed.
2. Highlight the appropriate visit to view the visit information displayed in each row at the top of the tab.

National Health Service of Great Britain (NHS)

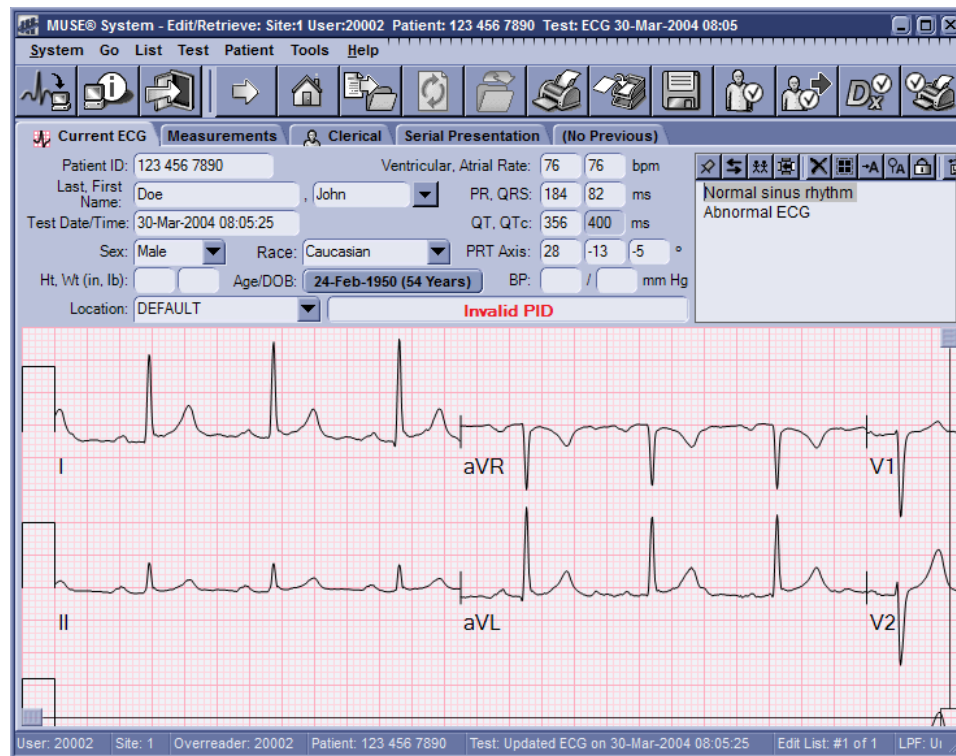
NOTE:

See the *MUSE Cardiology Information System Service Manual* for steps on enabling the NHS option.

The system supports the NHS (National Health Service of Great Britain) patient identifier schema specified in the *Information Standards Board for Health and Social Care* in *DSC Notice 32/2008 NHS Number Standard for Secondary Care (England)*.

If this option is enabled on the system, it displays both a NHS Number validation status, and a NHS Number verification status, as well as consistently display the 10 digit numeric patient identifier in the required 3 3 4 format (for example, 123 456 7890) on all screens, printed and exported data.

The NHS Number is validated by the required modulus 11 algorithm and if the patient identifier fails the check the **Invalid PID** text is displayed in the **Editor**.



The NHS Number is verified by comparing the patient identifier and the patient Last Name stored on the system, with the patient identifier and Last Name on a secondary system such as the HIS (where the system has an ADT interface enabled) or a Multi-Patient Index (MPI) accessed through ADT Query. The verification status is displayed in the **Patient Test Directory** on both the local **Patient** information and the **Admitting** information tabs near the **Patient ID** text box. The mismatch status displayed for a test also indicates the NHS Number verification status.

The screenshot displays the MUSE® System interface for editing or retrieving patient data. The top bar shows the patient ID: 123 775 6357. The main window is divided into several sections. On the left, there are tabs for 'Local Patient Information', 'Admitting Information', and 'Visit Information'. The 'Local Patient Information' tab is active, showing a form with fields for Patient ID, Last Name, First Name, Date of Birth, Sex, Race, Kanji Name, Mailing Address, City, State, Postal Code, Country, Phone Number 1, and Phone Number 2. Below this, there is a table titled '1 Items in Test Directory Sorted by Test Date/Time'. The table has columns for Test Database ID, Name, Date/Time, Test Type, Format, Cla..., Status, Mismatch (Yes/No), and Location. The table contains one row with the following data: Test Database ID: 171, Name: 1237756357, Date/Time: 13-Nov-2014 09:49, Test Type: ECG, Format: A, Status: Updated, Mismatch (Yes/No): Yes, Location: . The bottom status bar shows 'User: 20004 Site: 1 Overreader: 20004 Patient: 123 775 6357 TestOrder: (None) Edit List: #1 of 1, Test Directory: 0/1'.

Test Database ID	Name	Date/Time	Test Type	Format	Cla...	Status	Mismatch (Yes/No)	Location
171	1237756357	13-Nov-2014 09:49	ECG		A	Updated	Yes	

The following are a list of possible NHS number verification status values supported by the system.

Code	Status	Definition
01	<i>Number present and verified</i>	Verified NHS number and patient.
02	<i>Number present but not traced</i>	Verification not performed for existing number.
03	<i>Trace required</i>	Verification required.
04	<i>Trace attempted – No match or multiple match found</i>	Verification attempted, still required.
05	<i>Trace needs to be resolved – (NHS Number or patient detail conflict)</i>	Verification attempt yields a mismatch.
06	<i>Trace in progress</i>	Verification initiated.
07	<i>Number not present and NO PID for patient trace not required</i>	NO PID for patient.
08	<i>Trace postponed (baby under six weeks old)</i>	Verification postponed.

These values can be transmitted directly from the HIS system to the MUSE system to describe the current verification status of the patient's NHS Number. However if this data is not provided as part of the patient from the HIS system the MUSE system will provide the following rules to automatically set the value:

ADT data stored on the system for the patient will be automatically marked as ***Number present and verified***.

Patient test data stored on the system verifies the NHS Number (Patient ID) in tests by the following rules:

- If the Site has ADT enabled, ADT data is found for the Patient ID, and no PID/Name mismatches exist, the Patient ID status is set to ***Number present and verified***.
- If the Site has ADT enabled, ADT data is found for the Patient ID, and a PID/Name mismatch exists, then the Patient ID status is set to ***Trace needs to be resolved***.
- If the Site has ADT enabled, ADT data is NOT found for the Patient ID, and the patient ID is not the status of ***NO PID***, then the Patient ID status is set to ***Number present but not traced***.

- If the Patient ID is the status of **NO PID**, the Patient ID status is set to **Number not present**.
- When the test is set to **Demographics Complete**, the Patient ID verification status is marked as verified.

MUSE® System - Edit/Retrieve: Site:1 User:20002 Patient: 123 456 7890

System Go List Test Patient Tools Help

Local Patient Information Admitting Information Visit Information

Patient ID: 123 456 7890 Number present but not traced

Last, First Name: Doe, John Mailing Address:

Date of Birth: 24-Feb-1950

Sex: Male

Race: Caucasian

Kanji Name:

City:

State:

Postal Code:

Country:

Phone Number 1:

Phone Number 2:

1 Items in Test Directory
Sorted by Test Date/Time

Name	Date/Time	Test Type	Format	Class	Status	Mismatch (Yes/No)	Location
Doe, John	30-Mar-2004 08:05	ECG		A	Updated	No	DEFLT

User: 20002 Site: 1 Overreader: 20002 Patient: 123 456 7890 Test/Order: (None) Edit List: #1 of 1, Test Directory: 0/1

The system allows the NHS number to be entered by users/devices or other systems in any format (non 3 3 4), still successfully matches the correct Patient ID when searching, and also reformats the number into the required 3 3 4 format.

NOTE:

When performing order download or remote query from the MAC family of electrocardiographs, it is important when querying by patient ID that the cart has its patient ID length set to 10 characters so that the NHS number lookup functions correctly on the system.

For example, if the cart's patient ID length is set to 12, it adds leading zeros to the Patient ID and the system does not return the patient information.

Refreshing the Test Directory Patient List

To refresh the **Test Directory** patient list, select **List > Refresh Selected List** or the **Refresh Selected List** icon.

NOTE:

The patient data tabs are not refreshed. Only the actual test list at the bottom of the page is refreshed.

Printing the Test Directory List

To print the **Test Directory** List:

1. Select **List > Print List** to print a list of tests and/or orders in the test directory.
2. To print a selected item, highlight the correct patient test(s) and select **Test > Print**.

The **Select Device and Formatting Options** window opens.

3. Select the appropriate fields and click **OK**.

Opening Multiple Tests

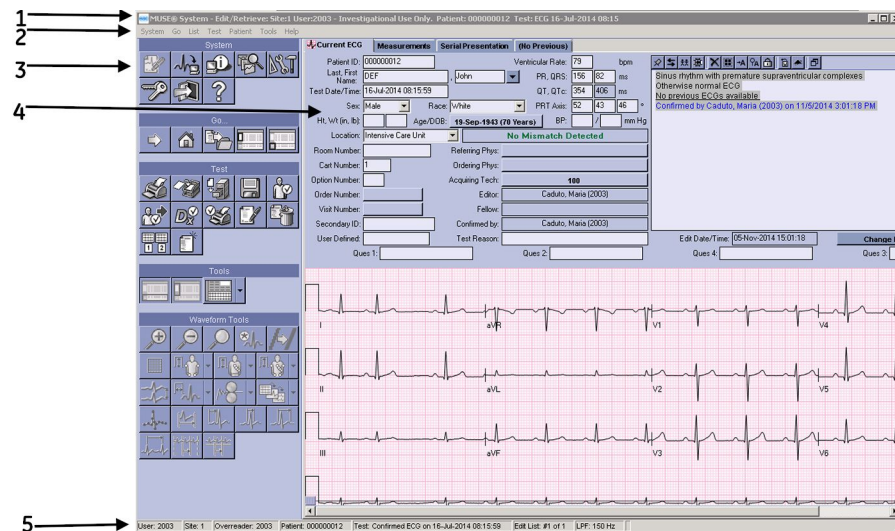
1. Highlight the test(s) you want to open.
2. Select **Test > Open**.

The **Report Editor** displays the tests.

Report Editor

Once a patient record is selected, you can open the record to view or modify it in the **Report Editor**.

Report Editor Window



This is an example of the Enhanced Clinical Layout window

Report Editor Window Description

Item	Name	Description
1	Title Bar	Displays current application name, site number, user number, patient ID, test type, test date, and test time.
2	Menu Bar	Displays the name of current menus.

Report Editor Window Description (cont'd.)

Item	Name	Description
3	Left Window Pane	Displays toolbar icons for easy access to Menu Bar functions as well as Waveform tools. NOTE: In the Waveform Layout, the toolbar icons are located at the top of the screen.
4	Right Window Pane	Displays patient demographics and report for editing. To edit patient demographics, place your cursor in the appropriate field (for example, Patient ID) and begin typing. NOTE: In the Waveform Layout, the patient demographics are located at the top of the screen.
5	Status Bar	Displays information regarding the user, site, overreader, patient ID, test status and date, placement of the ECG on the Edit List and of the Test Directory, filter, and caliper(s).

Report Editor Menu Bar Selections

The menu bar provides access to all tasks available within the **Report Editor** application. Clicking on a menu item opens a drop-down menu of related commands. You can also access most items on the drop-down menu using the shortcut keys assigned to them, or by clicking the corresponding toolbar icon.

See “Edit List Menu Bar” on page 35 for additional descriptions.

Report Editor Toolbar Icons

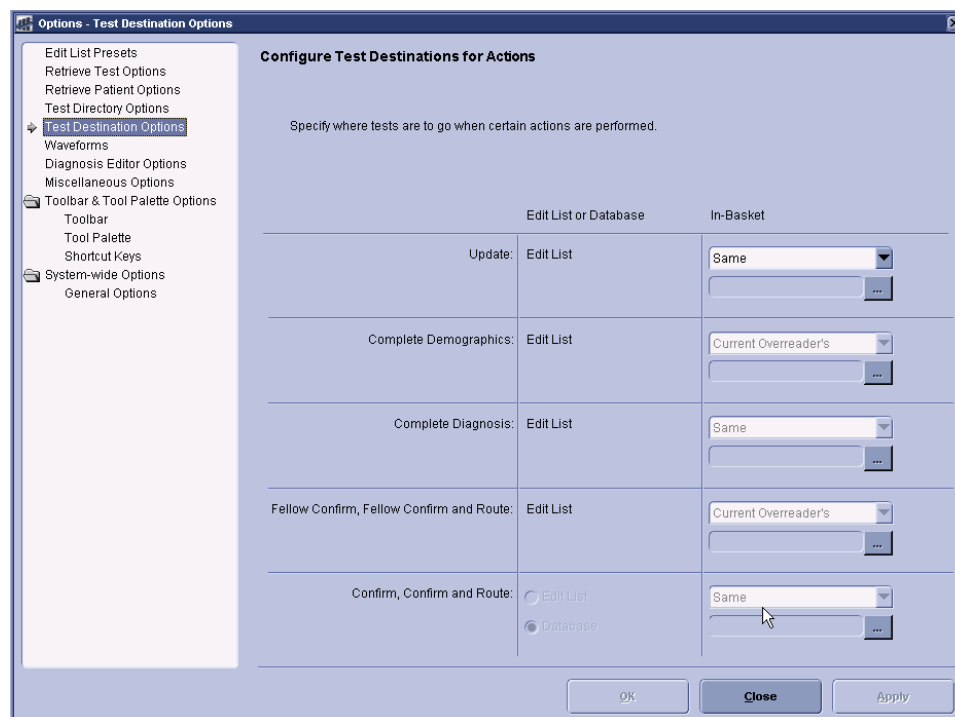
The toolbar provides access to many of the same commands found in the menu bar. To identify a toolbar icon, hold the pointer over it. A tool tip describing the command opens.

Changing Test Destination Options in the Report Editor

The **Test Destination Options** window allows you to specify test report destinations when certain actions are performed, such as updating a test in the edit list, completing demographics, completing diagnosis, and so on.

To configure test destination options:

1. Select **Tools > Options....**
The **Options** window opens
2. Highlight **Test Destination Options**
The **Options — Test Destination Options** window opens.



3. For each action, from the drop-down list, select where the tests will go when performing that action.

The following actions will only update the test on the **Edit List**:

- **Update**
- **Complete Demographics**
- **Complete Diagnosis**
- **Fellow Confirm**
- **Fellow Confirm and Route**


The **Confirm, Confirm and Route** action can be set to **Edit List** or **Database**.

Field	Description
Edit List	Confirm the test to the Edit List.
Database	Confirm the test to the Database. This is the default setting.

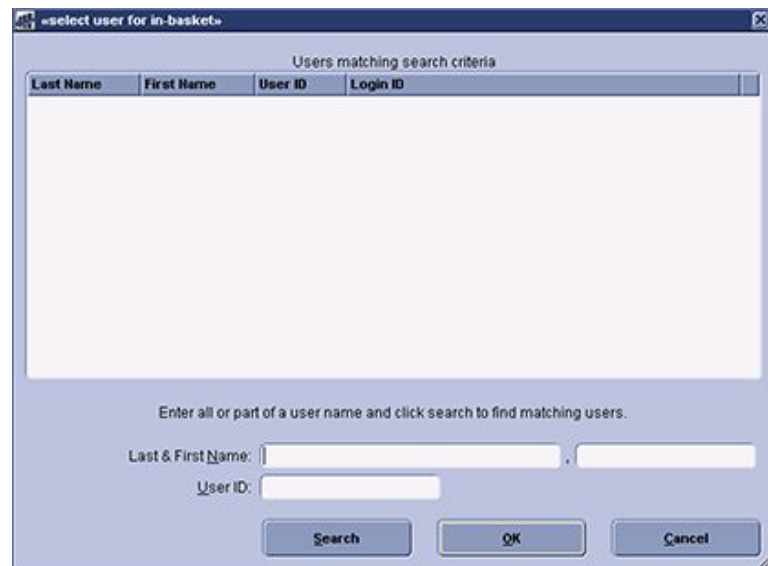
4. Each action can be configured to send a test to a specific In-Basket.
A description of the In-Basket selections are as follows:

Field	Description
Same	The In-Basket of the test will not be changed.
Current Overreader's	The test will be sent to the current overreader's In-Basket.
User's	The test will be sent to the current user's In-Basket.
System	The test will be sent to the system In-Basket.

Field	Description
No In-Basket	The test will not be sent to an In-Basket.
Specific User's	The test will be sent to a specific user's In-Basket. The following Steps a through d can be used to select a specific user.

- a. Select **Specific User's** from the drop-down list.
- b. Select the  icon.

The **select user for in-basket** window opens.



- c. Enter all or part of the user's first or last name, or the user ID and click **Search** to find matching users.
 - d. Select the correct user from the list, and click **OK**.
5. Click **OK** when finished.

Changing Report Editor Waveform Options

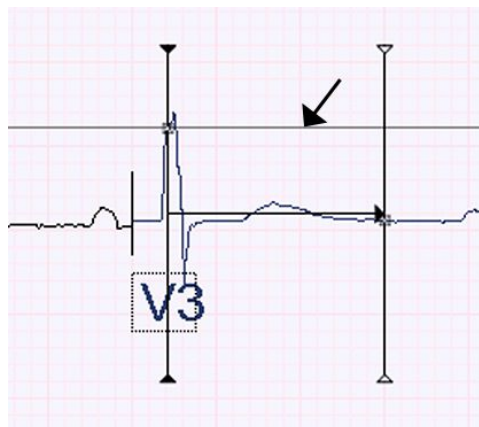
The **Report Editor Options** window allows you to select a specific layout, waveform, and diagnosis editor settings for the **Report Editor** window.

To change waveform options:

1. At the **Report Editor**, select **Tools > Options...**
The **Options** window opens.
2. Select **Waveforms**.
The **Options — Waveforms** window opens.



3. To change the waveform, background, foreground, caliper, and grid colors:
 - a. Place your cursor over the color square until a hand appears.
 - b. Click the mouse button.
The **Color** window opens.
 - c. Make the appropriate change(s) to the color and click **OK**.
4. Select the up/down arrows to enable or disable horizontal highlighting.
 - If you select **No Horizontal Highlighting**, the feature is disabled.
 - If you select **Horizontal Highlighting While Dragging**, the feature is enabled. When this featured is enabled, while dragging the caliper, a horizontal line displays where the caliper intersects the waveform. This line extends across the entire waveform window.



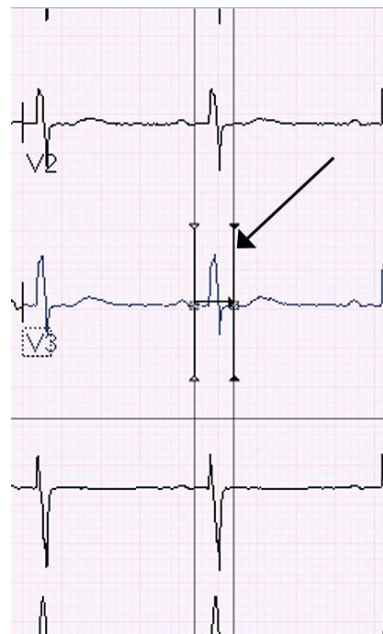
Horizontal Highlighting

5. Select the up/down arrows to enable or disable extending calipers.
You may select the following options:

Available Options When Enabling or Disabling Extended Calipers

Option	Description
<i>Extend Calipers While Dragging</i>	Extends the caliper to the height of the waveform window while you are dragging.
<i>Extend Calipers While Not Dragging</i>	While moving a caliper, it displays the height of the lead you are measuring. Once you stop moving the caliper, it reverts back to the height of the window.
<i>Always Extend Calipers</i>	Calipers are always extended to the height of the waveform window.
<i>Never Extend Calipers</i>	Calipers are never extended to the height of the waveform window.

When the extend calipers feature is enabled, the caliper extends vertically across the entire height of the waveform window as shown in the following figure.



Extended Calipers

NOTE:

Extended calipers is a feature of the ***Enhanced Editor***.

6. Select the up/down arrows to enable or disable the march out feature.
"March Out" means that multiple vertical bars display in a lighter color (phantom calipers), to the left and right of the actual calipers, at the distance between the calipers, to determine if a beat-to-beat measurement is consistent across a strip.
For example, if you place the left caliper at the T wave of one beat, and the right caliper at the T wave of the next beat, the phantom calipers should march out and potentially land on all T waves. The degree to which they do not land

on T waves is the degree to which that part of the heart rate is not consistent from beat-to-beat.



March out calipers to left and right are lighter.

NOTE:

March out calipers is a feature of the **Enhanced Editor**.

7. Select the up/down arrows to enable or disable the baseline feature.
 - To enable baseline, select **Always Show Baseline**.
 - To show the baseline while not dragging, select **Show Baseline While Not Dragging**.
8. Select the up/down arrows to enable or disable the show caliper tooltip feature.

Available Options When Enabling or Disabling Caliper Tooltip

Option	Description
Never Show Caliper Tooltip	Disables the caliper tooltip feature.
Show Caliper Tooltip While Not Dragging	Enables the caliper tooltip to open only while not dragging.
Show Caliper Tooltip While Dragging	Enables the caliper tooltip to open only while dragging.
Always Show Caliper Tooltip	Enables the caliper tooltip to open while dragging or not dragging.

9. Select the up/down arrows to adjust the **Caliper Phantom Darkness**.
Caliper Phantom Darkness refers to the color darkness of march out calipers, extended calipers, and horizontal highlighting calipers.
10. To change the caliper font:
 - a. Place your cursor over the font name until a hand appears and the text is underlined.
 - b. Click the mouse button.
 The **Font** window opens.
 - c. Make your changes to font style, size, or format and click **OK**.
11. To enable the **Smooth Waveforms** feature, select **Smooth Waveforms**.
 When this feature is enabled, gray pixels are added to the waveform to make it appear smoothly drawn in the waveform window.
12. To display the grid in the waveform window, select **Display Grid**. Refer to Step 3 to change the grid color.
13. Set the leads to Standard or Cabrera order by clicking **Set Leads to Standard Order** or **Set Leads to Cabrera Order**.
14. Click **Reset** to reset the options on this page to their default settings.

15. Click **Cancel** to revert to the previous settings.
16. Click **OK** to apply the changes you made.

Differences Between the Standard ECG Editor and the Enhanced ECG Editor

The following table describes the feature differences between the Standard ECG Editor and the Enhanced ECG Editor.

Differences Between Standard and Enhanced ECG Editors

Feature Layout	Standard ECG Editor	Enhanced ECG Editor
Waveform Layout		√
Clinical Layout	√	√
Serial Presentation Layout		√
Enhanced Clinical Layout		√
Clerical Layout	√	√
Supplemental Attachment Layout	√	√
Median ECG Presentation	√	√
Rhythm ECG Presentation	√	√
1mm Grid Lines	√	√
Tool Palette	√	√
First/Oldest ECG Tabs	√	√
All Legacy ECG Tab		√
Change Filter	√	√
Change Speed	√	√
Change Gain	√	√
Change Lead	√	√
MUSE eDOC Connect functionality	√	√
Magnification Tools		
Incremental Zoom	√	√
Highlighted Zoom		√
Normal Zoom	√	√
Unlimited Zoom Levels		√
Measurement Tools		
Single Pair Calipers	√	√
Measurement Dialog Box	√	√

Differences Between Standard and Enhanced ECG Editors (cont'd.)

Feature Layout	Standard ECG Editor	Enhanced ECG Editor
Linked Calipers	√	√
March Out Calipers		√
Measurement Interval Selection	√	√
Caliper Phantoms		√
Display horizontal "highlight" line for the selected caliper		√
Display extended vertical lines for both calipers		√
Option to show the caliper baseline		√
Diagnosis Statement Editing		
Acronyms Only	√	√
Free Text Only	√	√
Matching Mode (Acronym/Free Combo)		√
Statement Tree Structure		√
Serial Comparison Analysis		
Serial On Demand		√

Standard ECG Editor

The Standard ECG Editor provides two layout options, **Clinical Layout** and **Clerical Layout**.

NOTE:

If your administrator enabled the new enhanced race list supported in MUSE v9, the new races are displayed in the **Race** field at the Editor **Current ECG** and **Clerical** tab, and the **Patient Information** tab of the **Test Directory**.

If your administrator did not enable the new enhanced race list, and you have a test with a race that is supported by the new enhanced list, it still displays the correct race in the Editor and report.

Clinical Layout



Example of a Clinical Layout Screen

The **Clinical Layout** uses tabs to display the **Current ECG**, **Serial Presentation**, **Measurements**, **First Previous ECG**, and **Oldest ECG**. See the following table for a description of each tab.

Clinical Layout Tab Description

Tab Name	Description
Current ECG	Contains textual fields with patient and test information. Not intended for serial presentation, but rather to place fields on the screen, along with the basic waveform.
Serial Presentation	Displays three ECGs simultaneously, current, first previous, and oldest, without the interpretation. Once reviewed, a user can switch back to the Current ECG tab and enter the diagnostic statements.
Measurements	Contains the ECG measurement matrix. You can sort the measurement by left-clicking on the column heading until an arrow appears. ACI/TIPI statements and score also display if performed.
First Previous ECG	Displays patient and test information and ECG measurements. You can only edit patient demographics and test data at the Current ECG screen, not at the First Previous ECG screen.
Oldest	Displays the oldest patient record, test information, and ECG measurements. You can only edit patient demographics and test data at the Current ECG screen, not at the Oldest ECG screen.

Clerical Layout

System Go List Test Patient Tools Help

System

Go

Test

Tools

Waveform Tools

Findings:

Left axis deviation

Left ventricular hypertrophy with QRS widening

Inferior infarct, age undetermined

Anterolateral injury pattern

*** ACUTE MI ***

Abnormal ECG

No ADT record for patient

Patient ID: 020304050

Last, First Name: Bear, Berry

Test Date/Time: 25-Nov-2009 14:23:01

Age/DOB: 03-Jul-1976 (33 Years)

Sex, Race: Male, White

Ht, Wt (in, lb): ,

Location: # 65535

Cat Number: 1 Room Number:

Test Reason: chest pain

Glasses?: No

Hair Color:

Eye Color:

Smokes?: No

Referring Phys:

Ordering Phys:

Acquiring Tech:

Admitting Phys:

Attending Phys:

Primary Care Phys:

Editor:

Fellow:

Confirmed by:

Edit Date/Time:

Order Number:

Visit Number:

Account Number:

User Defined: ☐ Do not bill

Secondary ID:

Ventricular Rate: 181 bpm

PR, QRS: 230 ms

QT, QTc: 352 611 ms

PRT Axis: 57 84 °

BP: / mm Hg

Change Log

User: 20001 Site: 1 No Overreader Patient: 020304050 Test: Newly Acquired ECG on 11/25/2009 2:23:01 PM Edit List: #1 of 1

The **Clerical Layout** displays patient demographic information without displaying a waveform. You can edit this information.

New in MUSE v9, the **Primary Care Physician** field in the **Clerical Layout** tab facilitates routing a patient test to a primary care physician, displaying the primary care physician field in the printed report, and running a database search query on the primary care physician.

Use the **Clerical** layout when entering text fields instead of examining waveforms.

NOTE:

You cannot edit the waveform from this window.

1. Click in any of the fields to edit them.
Other actions that may be performed are correcting and verifying patient and test demographics, and looking for and resolving mismatches. If you have a HIS, a visit number, and/or order number may be required for you to enter here.
2. Click on **Order Number**, the **Select an Order** window opens.

Order Number	Status	Order Date	Ordering Physician	Test Type	Visit Number
130104	OPEN	8/9/2010 12:27:32 ...	ORDERING	Resting ECG	566751

No Order OK Cancel

3. To manually attach an order, highlight the order from the list and click **OK**.
4. To manually remove an order from a test, select the order and click **No Order**.
5. Click on **Visit Number**.

The **Select a Visit** window opens.

Visit Number	Disposition	Referring Physician	Location	Admit Time	Status
566751	INPAT	REFERRING		8/9/2010 12:27:32 ...	OPEN

No Visit OK Cancel

6. To manually attach or change a visit number, highlight the visit number from the list and select **OK**.

NOTE:

To set up how many days to retain the visit account number after the patient has been discharged, see the ["Setting Up Your System" on page 129](#).

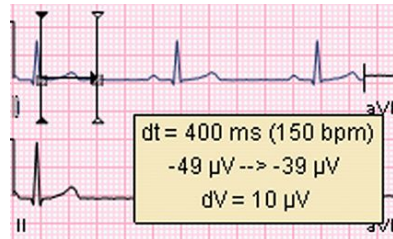
7. To manually remove a visit number from a test, select the visit number and click **No Visit**.
8. To select the appropriate names for a role, select the **Referring Phys**, **Ordering Phys** and **Acquiring Tech** fields.
9. Click the **Change Log** button to view changes made to the patient test you have open in the **Clerical Layout**.

The **Change Log** window opens. See ["Change Log" on page 61](#) for additional information.

Measuring Waveforms in the Standard ECG Editor

1. Click in the **ECG Report** window, select the **Clinical Layout**, and select the **Show Calipers** icon.

A set of calipers and caliper measurements are displayed.

**To move**

the left caliper,

the right caliper,

both calipers to a different waveform

complete the following action:

press and hold the left mouse button until the single horizontal arrow displays, and drag the left caliper to the desired position.

press and hold the left mouse button until the single horizontal arrow displays, and drag the right caliper to the desired position.

to move both calipers at the same time, place the cursor at the appropriate waveform and click the left mouse button until the cross-arrows display.

2. Once the calipers are in the desired positions, note the time difference (dt) and voltage difference (dV) in the caliper window.

- When calipers are in the desired position, click the appropriate icon to save this measurement to the current ECG.

Caliper Icon Descriptions

Icon	Description
Measure PR Interval	Saves the current time (dt) to the P-R Interval field in ECG.
Measure QRS Duration	Saves the current time (dt) to the QRS duration field in the ECG.
Measure QT Interval	Saves the current time (dt) to the QT/QTc field in the ECG.
Measure R-R Interval for QTc	Saves the current time (dt) to the QTc R-R field in the ECG.

- To exit the calipers view, click the **Show Calipers** icon.

Selecting Waveform Tools

Right-click in the waveform window until a menu list opens (be careful not to click on the lead label). Select the appropriate tool from the menu list, as shown in the following figure.



Waveform Tool Menu List and Descriptions

Menu Item	Description
<i>Zoom In, Zoom Out</i>	Magnification tools that allow for different levels of magnification. NOTE: Zoom magnifies the grid and the waveform together.
<i>Zoom Normal</i>	Select <i>Zoom Normal</i> to return to the normal magnification view.
<i>Reset All</i>	Resets changed waveform display to standard view.
<i>Precordial Lead Gain</i>	Allows you to change Precordial Lead Gain to 1/8 Normal Gain, 1/4 Normal Gain, 1/2 Normal Gain, Normal, 2x Normal Gain, 4x Normal Gain and 8x Normal Gain.
<i>Limb Lead Gain</i>	Allows you to change Limb Lead Gain to 1/8 Normal Gain, 1/4 Normal Gain, 1/2 Normal Gain, Normal, 2x Normal Gain, 4x Normal Gain and 8x Normal Gain.
<i>Overall Lead Gain</i>	Allows you to change both precordial and limb leads to 1/8 Normal Gain, 1/4 Normal Gain, 1/2 Normal Gain, Normal, 2x Normal Gain, 4x Normal Gain and 8x Normal Gain.

Waveform Tool Menu List and Descriptions (cont'd.)

Menu Item	Description
Waveform Speed	Allows you to set the Waveform Speed to 1/8 Normal Speed, 1/4 Normal Speed, 1/2 Normal Speed, Normal Speed, 2x Normal Speed, 4x Normal Speed and 8x Normal Speed.
Smoothly Drawn Waveforms	Enables/disables waveform smoothing (anti-aliasing).
Show Grid	Displays or hides the grid.
Low Pass Filter	Enables/disables a low pass filter to ECG waveforms when displaying them (20, 40, 80, 100, 150 μ V).
Automatic Waveform Spacing	Clicking this toolbar button toggles a mode of displaying ECG waveforms, to eliminate any overlapping waveforms between channels.
Display Individual Waveform Samples	Clicking this toolbar button toggles a mode of displaying ECG waveforms to highlight where each individual sample lies. To view samples adequately, the zoom magnification should be set very high.
Select Waveform Display Format	Enables/disables different 12 different waveform display formats such as Overview Format, Median Format, Rhythm Format, or 4 x 2.5s + 1 channel of rhythm.
Show Calipers	Displays or hides the calipers.
Measure PR Interval	Saves the measure at the current time (dt) to the P-R Interval field in ECG when Show Calipers is selected.
Measure QRS Duration	Saves the measure at the current time (dt) to the QRS duration field in the ECG when Show Calipers is selected.
Measure QT Interval	Saves the measure at the current time (dt) to the QT/QTc field in the ECG when Show Calipers is selected.
Measure R-R Interval for QTc	Saves the measure at the current time (dt) to the QTc RR field in the ECG when Show Calipers is selected.
Preferences	Allows you to save lead order and select current format as Overview, Median or Rhythm layout.

Setting Up Waveform Display Formats

During measurement, you can select a different waveform display without overriding your set preferences. These choices depend on your screen resolution.

1. Right-click in the waveform window until a menu list opens (be careful not to click on the lead label).
2. Select **Select Waveform Display Format**.
A second menu list of the waveform formats opens.
3. Select the appropriate waveform format.

NOTE:

Waveform format choices depend on your screen resolution. The recommended screen resolution is 1280 x 1024.

Setting Up Waveform Preferences

It is recommended that you set up and save waveform preferences as your default view.

1. Right-click in the waveform window until a menu list opens (be careful not to click on the lead).
2. Select **Preferences**. A second menu list opens.

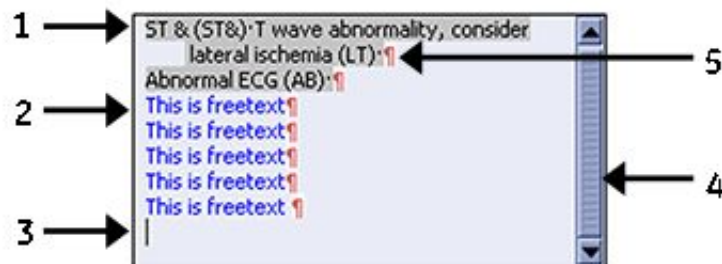
Save Lead Order
 Select Current Format as Overview
 Select Current Format as Median
 Select Current Format as Rhythm

3. Select the appropriate format. The format is now saved.
4. You can retrieve the saved waveform preferences by clicking the **Select Waveform Display Format** icon and choosing the **Overview**, **Median**, or **Rhythm** format.

Diagnosis in the Standard ECG Editor

Once a report is open, you can edit the diagnosis statement at the **Diagnosis Editor** window.

Diagnosis Window in the Standard ECG Editor



Diagnosis Window Description in the Standard ECG Editor

Item	Name	Description
1	Original Diagnosis Statement	The original 12SL diagnosis appears shaded. You can configure the color shading per profile. The default color is gray.
2	Free Text	Free text entered appears in a different color. You can change the text color in the Options screen.
3	Cursor	The cursor can be placed anywhere in the diagnosis to add or delete statements or free text.
4	Scroll bar	Allows for vertical scrolling as necessary to view entire diagnosis.
5	Reveal Formatting	To enable displaying of formatting symbols, select the Reveal Formatting check box in Tools > Options > Diagnosis Editor Options . A paragraph tag indicates a line ending, and a dot indicates a space.

Diagnosis Editor Toolbar

See Appendix A for a description of the **Diagnosis Editor** toolbar icons.

Adding Free Text to the Current Diagnosis Statement

NOTE:

The free text limit is 32,256 characters.

1. In the **Diagnosis Statement** window, insert the cursor at the point where you want to insert a free text statement.
2. Begin typing.
Notice the text displays in the color selected when you set up the diagnosis formatting options.

NOTE:

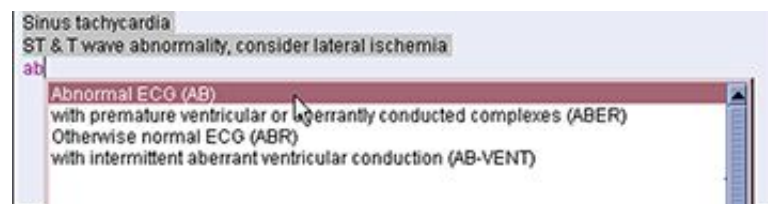
If you begin typing and the acronym drop-down box appears, continue typing until it disappears.

3. Press **Enter** to move to the next line.
4. To delete free text, highlight the text and press the **Delete** key, or insert the cursor and press the **Backspace** key (this deletes one character at a time).
5. Select the appropriate acronym and continue.

Adding An Acronym Statement from Matching Mode Acronym Statement List

1. Type the one or two letters of the acronym you want to add to the diagnosis editor. For example, type **A** for **Abnormal ECG (AB)**.

The **Matching Mode** list opens, with a list of the acronyms that contain the letter(s) you typed



2. Highlight and double-click on the correct acronym statement in the list.
It displays in the diagnosis.
3. To delete the acronym statement, highlight the statement and press the **Delete** key, or place the cursor at the end of the statement and press the **Backspace** key.

Restoring the Original 12SL Diagnosis

1. Right-click on the diagnosis statement.
A menu opens.
2. Select **Original 12SL Diagnosis**.
The **Original 12SL Diagnosis** window opens.
3. Click **Restore**.
The diagnosis statement is restored to the original 12SL diagnosis, including any statements that were deleted during editing.
All new statements and free text are deleted if **Restore Original Diagnosis** is selected.

Restoring the Last Saved Diagnosis

1. Right-click on the diagnosis statement.
A menu opens.
2. Select **Last Saved Diagnosis**.
The **Last Saved Diagnosis** window opens.
3. Click **Restore**.
The diagnosis statement is restored to the last saved diagnosis.
All new diagnoses and free text are deleted.

Setting up Diagnosis Editor Options

NOTE:

The following changes need to be saved to your profile to be made permanent. If they are not saved to your profile, they will be lost as soon as you log out of the system. See [“Updating a Profile” on page 210](#) for instructions on updating your profile. You may need to work with your administrator.

1. Right-click on the **Diagnosis Statement**.
2. Select **Options**.
The **Options - Diagnosis Editor Options** window opens.
3. Set up the following and click **Close** when finished.
 - Free Text Statement Color
 - Acronym Statement Color
 - Edited Statement Background Color
 - Original 12SL Statement Background Color
 - Matching Mode Text Color
 - Matching Mode Background Color
 - Diagnosis Editor Font
 - Statement Library Font
 - Display Toolbar
 - Display Acronym
 - Reveal Formatting

- Window Height Scale Factor
 - Statement Matching Mode Options
 - Display Delay
 - Minimum Length
 - Statement Tree — Recently Used Items
4. Select the **Enable Free Text Lock** check box to prevent the user from adding free text.

Adding a Signature Statement at the End of Diagnosis

You may set up the MUSE system to have the confirming physician's signature display at the end of a diagnosis statement for a particular test type. To enable this task on a per site basis, see ["Setting Up Signature Message in Diagnoses" on page 145](#).

Enhanced ECG Editor

The **Enhanced ECG Editor** incorporates all of the features of the **Standard Editor**, as well as a serial presentation layout, a waveform layout, and all legacy ECGs displayed in tabs across the top of the window.

The **Enhanced ECG Editor** also allows you to dynamically change the rhythm lead(s) on an ECG.

Magnification tools allow you to highlight a particular section of the ECG and rapidly zoom in on the selected area. The magnification is substantially greater than the **Standard ECG Editor**, allowing for enhanced resolution detail.

The **Enhanced ECG Editor** measurement tools include linked calipers for quick assessment of rhythm abnormalities. Caliper phantoms are also available for refined measurement analysis. To darken marched out calipers, extended calipers, horizontal highlight and baseline, see ["Changing Report Editor Waveform Options" on page 77](#).

NOTE:

If your administrator enabled the new enhanced race list supported in MUSE v9, the new races are displayed in the **Race** field at the Editor **Current ECG** and **Clerical** tab, and the **Patient Information** tab of the **Test Directory**.

If your administrator did not enable the new enhanced race list, and you have a test with a race that is supported by the new enhanced list, it still displays the correct race in the Editor and report.

Waveform Layout

The **Waveform Layout** displays waveforms at a higher resolution and uses tabs to display the **Current ECG**, **Serial Presentation**, **Measurements**, **First Previous ECG**, **Oldest**, and other tests in the **More** tab.



Enhanced ECG Editor Waveform Layer Tab Names and Descriptions

Tab Name	Description
Current ECG	Contains textual fields with patient and test information. Not intended for serial presentation, but rather to put as many form fields on the screen, along with the basic waveform.
Measurements	Contains the ECG measurement matrix. You can sort the measurement by left-clicking on the cell until an arrow is displayed. ACI-TIPI statements and score also display if performed.
Serial Presentation	Displays three ECGs simultaneously: current, first previous, and oldest, without the need for navigation. Once reviewed, you can switch back to the Current ECG tab and enter the diagnostic statements.
First Previous ECG	Displays patient and test information and ECG measurements. You can only edit patient demographics and test data at the Current ECG screen, not at the First Previous ECG screen. NOTE: You can only rerun Serial Comparison on the current ECG, not the first previous, oldest or any previous test in this window.
Oldest	Displays patient and test information and ECG measurements. You can only edit patient demographics and test data at the Current ECG screen, not at the Oldest ECG screen. NOTE: You can only rerun Serial Comparison on the current ECG, not the oldest.
More	Displays a list of patient tests. Highlight and double-click on the selected date to open the test.

Serial Presentation Layout

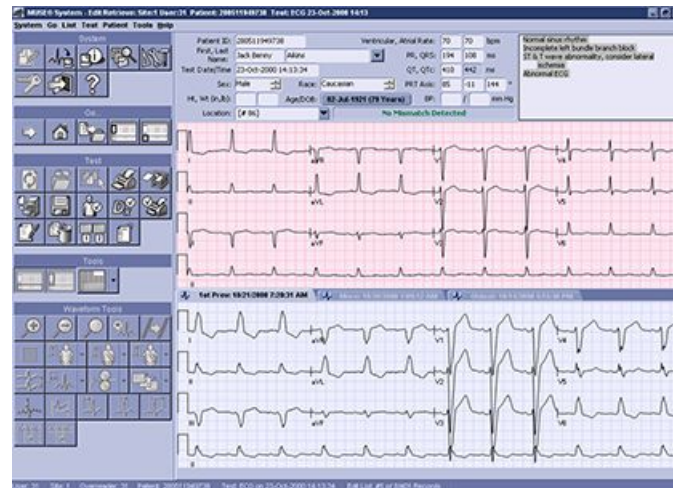
The **Serial Presentation** layout allows for overreading ECGs and comparing them with previous ECGs for the same patient.

WARNING:

PATIENT SAFETY — All computer-generated tracings should be overread by a qualified physician.

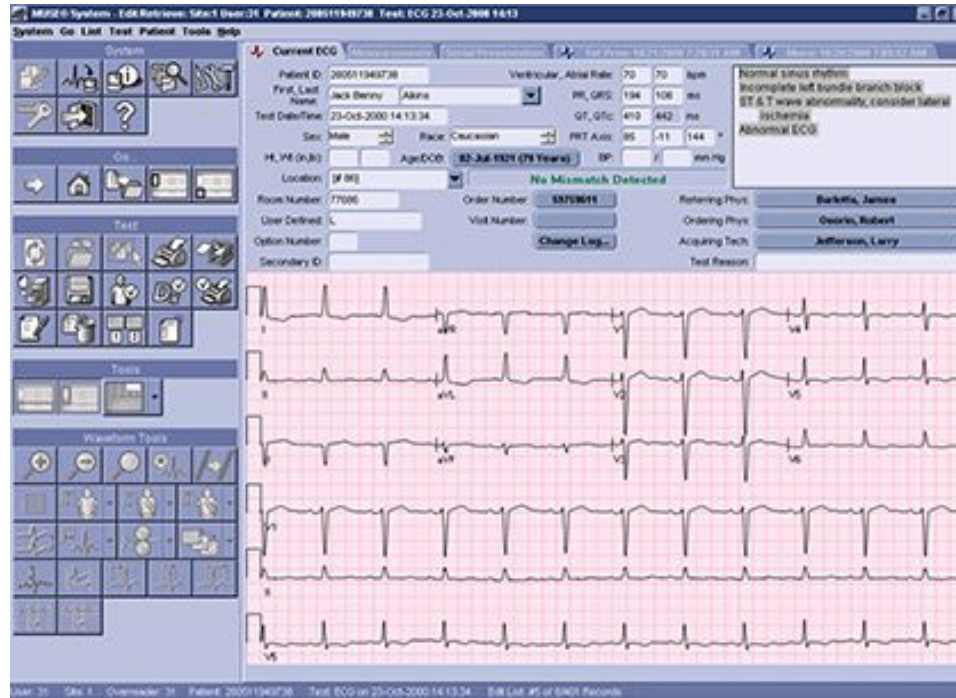
The ECG at the top of the screen is the current test. The first previous ECG(s) displays at the bottom of the screen.

The two ECGs displayed in the following figure are in the serial presentation format and are the current and 1st previous ECGs for that patient. Use the **More** tab to view additional ECGs for that patient. Use the **Oldest** tab to view the oldest ECG for that patient.



Enhanced Clinical Layout

The **Enhanced Clinical** layout is designed for tasks where reviewing previous ECGs is less important than being able to see the waveforms at a higher resolution or the ACI-TIPI statements and score.



The **Enhanced Clinical** layout uses tabs to display the **Current ECG**, **Measurements**, **Serial Presentation**, **First Previous ECG**, **Oldest** and other tests in the **More** tab.

See "Waveform Layout" on page 93 for a description of the different tab functionality.

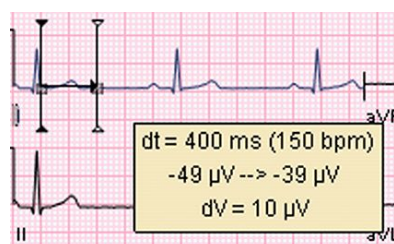
Measurements in the Enhanced Editor

Measuring Waveforms

To measure waveforms at the **Enhanced Report Editor** window:

1. Click in the **ECG Report** window, and either select the **Show Calipers** icon or press the **H** key.

A set of calipers and caliper measurements are visible.



To move

the left caliper,

the right caliper,

both calipers to a different waveform

complete the following action:

press and hold the left mouse button until the single horizontal arrow displays, and drag the left caliper to the desired position.

press and hold the left mouse button until the single horizontal arrow displays, and drag the right caliper to the desired position.

to move both calipers at the same time, place the cursor at the appropriate waveform and click the left mouse button until the cross-arrows display.

2. Once the calipers are in the desired positions, note the time difference (dt) and the voltage difference (dV) in the caliper window.
3. After the calipers are moved into the desired position, click the appropriate icon to save this measurement to the current ECG.

Caliper Icon Descriptions

Icon	Description
Measure PR Interval	Saves the current time (dt) to the P-R Interval field in ECG.
Measure QRS Duration	Saves the current time (dt) to the QRS duration field in the ECG.
Measure QT Interval	Saves the current time (dt) to the QT/QTc field in the ECG.
Measure R-R Interval for QTc	Saves the current time (dt) to the QTc R-R field in the ECG.

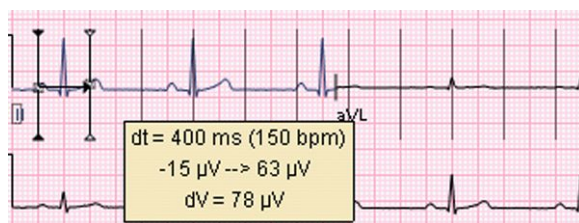
4. To exit the calipers view, click the **Show Calipers** icon.

Marching Out Calipers

To see the horizontal interval between the "two main calipers" across the waveform:

1. Set the desired caliper distance.
2. Right-click in the waveform window until a menu opens (be careful not to click on the lead).
3. Select the **March Out Calipers** icon.

Calipers are visible across the waveform at the appropriate distance. These are called "phantom" calipers.



NOTE:

To adjust the "phantom" caliper darkness, see ["Changing Report Editor Waveform Options"](#) on page 77.

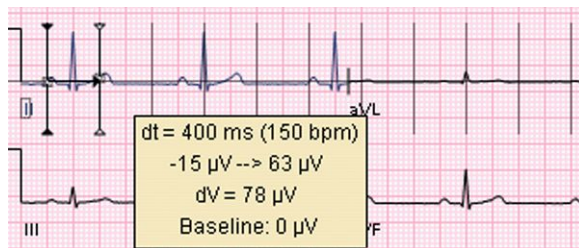
NOTE:

To set the march out caliper color darkness, see ["Setting Up Waveform Preferences"](#) on page 90.

Showing Caliper Baseline

1. Right-click in the waveform window until a menu opens (be careful not to click on the lead) and click **Show Calipers** until a check mark displays to enable it.
2. Select the **Show Caliper Baseline** icon.

The measurements window and baseline are visible across the waveform and intersect the calipers.



3. To move the baseline, place the cursor over the baseline until an up and down arrow is visible.



4. Drag and drop the baseline at the appropriate distance.
The change will be reflected in the caliper tooltip.

NOTE:

See [“Changing Report Editor Waveform Options” on page 77](#) for instructions on setting up the view baseline option.

Measuring Pediatric QTc

The Pediatric QTc feature allows you to find the shortest R-R interval to calculate QTc. The QTc calculated is the longest QTc because it is inversely related to the R-R interval.

1. Click **Tools > Test Editor Layouts > Waveform Layout**.
2. Click **Tools > Options**.
The **Option** window opens.
3. Click **Waveforms**.
4. Confirm that **Extend Calipers while dragging** is visible. This allows you to extend the calipers to the top and bottom of the waveform window to easily compare between leads.
5. Click **OK**.
6. Click the **Show Calipers** icon to display the calipers.
7. Position the calipers on what appears to be the shortest interval or, barring that, a convenient pair of beats.

NOTE:

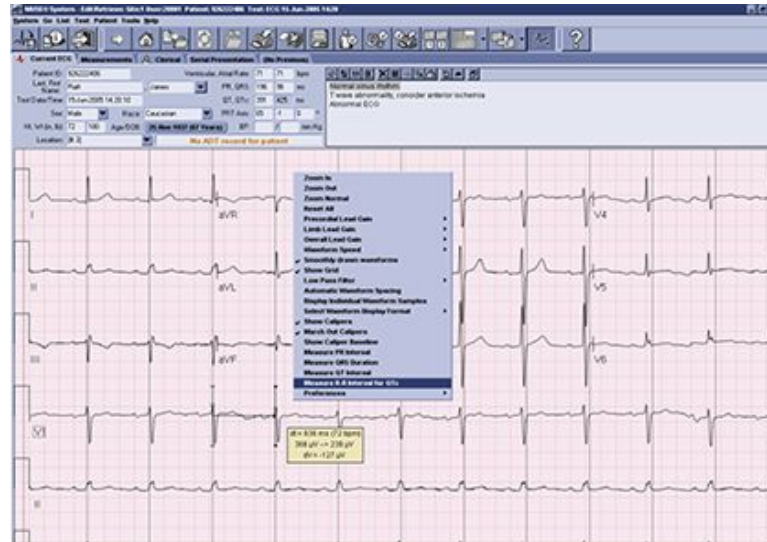
Better position the caliper with the keyboard by selecting the left or right caliper. Press the **Ctrl+Arrow** keys to move the caliper left or right.

8. Place your cursor at the caliper and right-click. Select **March Out Calipers**.
9. Watching the marched out calipers on each pair of neighboring beats, slide the calipers back and forth as a pair to see if any other beats are closer than the one measured.

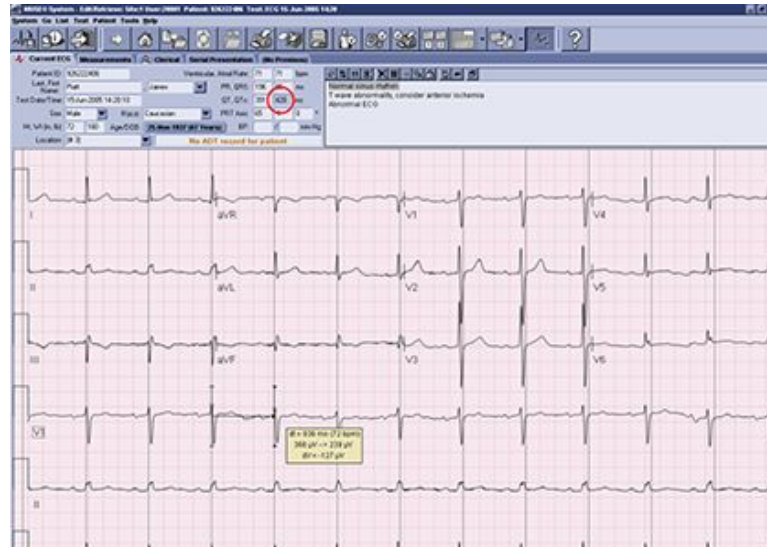
You can slide the calipers as a pair by positioning the cursor between them to get the four-way arrow cursor, and then clicking and dragging the mouse.

If a smaller R-R interval is found, move the calipers to those beats and repeat the sliding process.

10. Once you find the shortest beat, right-click and select **Measure R-R Interval for QTc**.



The QTc recalculates based on the measured R-R interval and the QTc field on the form updates.



The **QTc RR, ms** field on the **Measurements** tab is populated with the recalculated QTc.

The screenshot shows the 'Measurements' tab with the following values:

Avg RR, ms:	888
# QRS:	11
SPS:	500
QTc RR, ms:	160
ms:	400
	1000
	736
QTc RR, ms:	

Both the Bazett and Fridericia calculations of QTc are displayed (QTcb and QTcf, respectively), whereas only Bazett is displayed on **Current ECG** tab.

To go back to the default of using ventricular rate to calculate QTc, clear the value from the **QTc RR** field. You need to move out of the **QTc RR** field to trigger the recalculation.

Selecting Waveform Tools

To select a Waveform tool, right-click in the waveform window until a menu list appears (be careful not to click on the lead). See [“Selecting Waveform Tools” on page 87](#) for a description of waveform tools.

You can also select a Waveform tool by clicking on the appropriate toolbar icon. See Appendix A for a description of waveform toolbar icons.

Setting up Waveform Preferences

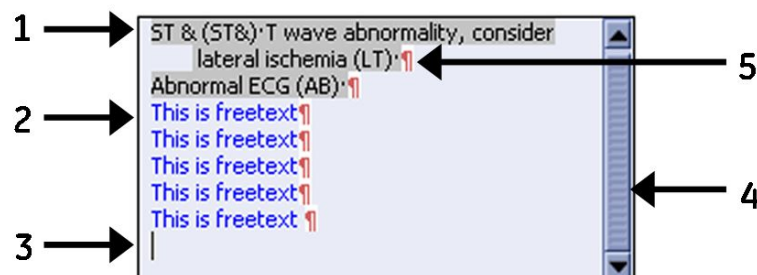
It is recommended that you set up and save waveform preferences as your default primary view. To set up waveform preferences, see [“Setting Up Waveform Preferences” on page 90](#).

Setting up Waveform Display Formats

During the measurement process, you can select a different waveform display format without overriding your set preferences. See [“Setting Up Waveform Display Formats” on page 89](#) for instructions.

Diagnosis Editor in the Enhanced ECG Editor

The diagnosis statement can be edited at the **Diagnosis Editor** window in a report that has been opened.



Item	Name	Description
1	Original Diagnosis Statement	The original 12SL diagnosis is displayed. You can configure the color shade. The cursor is not visible unless converted to free text.
2	Free Text	Free text entered is displayed with a different background color. You can configure the background color. The cursor is over each character.
3	Blinking Cursor	Indicates where library statements or free text is inserted.
4	Scroll bar	Allows for vertical scrolling as necessary to view entire diagnosis.
5	Reveal Formatting	Paragraph tag indicates line ending; dot indicates space. You can turn this on and off by right-clicking and selecting options.

Diagnosis Editor Toolbar

For a description of the **Diagnosis Editor** toolbar icons, see [“Status” on page 213](#).

Restoring the Original 12SL Diagnosis

1. Right-click at the **Diagnosis Statement**. A menu opens.
2. Select **Original 12SL Diagnosis**.
The **Original 12SL Diagnosis** window opens.
3. Click **Restore**.
The **Diagnosis Statement** is restored to the original 12SL diagnosis, including any statements that were deleted during editing, and any new diagnoses and free text are deleted.

Restoring the Last Saved Diagnosis

1. Right-click at the **Diagnosis Statement**. A menu opens.
2. Select **Last Saved Diagnosis**.
The **Last Saved Diagnosis** window opens.
3. Click **Restore**.
The **Diagnosis Statement** is restored to the last saved diagnosis.
Any new diagnoses and free text are deleted.

Adding Free Text to Diagnosis Statement

Perform the following procedure to add a free text statement to the current diagnosis.

NOTE:

The free text limit is 32,256 characters.

1. In the **Diagnosis Statement** window, insert the cursor at the point where you want to insert a free text statement.
2. Begin typing.
Notice the text displays in the color selected when you set up the diagnosis formatting options.

NOTE:

If you begin typing and the acronym drop-down box opens, continue typing until it closes.

3. Press **Enter** to move to the next line.
4. To delete free text:
 - Highlight the text and press **Delete**. This deletes the entire highlighted selection.
 - Insert the cursor and press **Backspace**. This deletes one character at a time.
5. To insert an acronym in a free text sentence:
 - a. Begin typing the sentence. Select **Statement Tree Insert/Replace**.
The **Statement Tree** drop-down menu opens.
 - b. Select the appropriate acronym and continue.

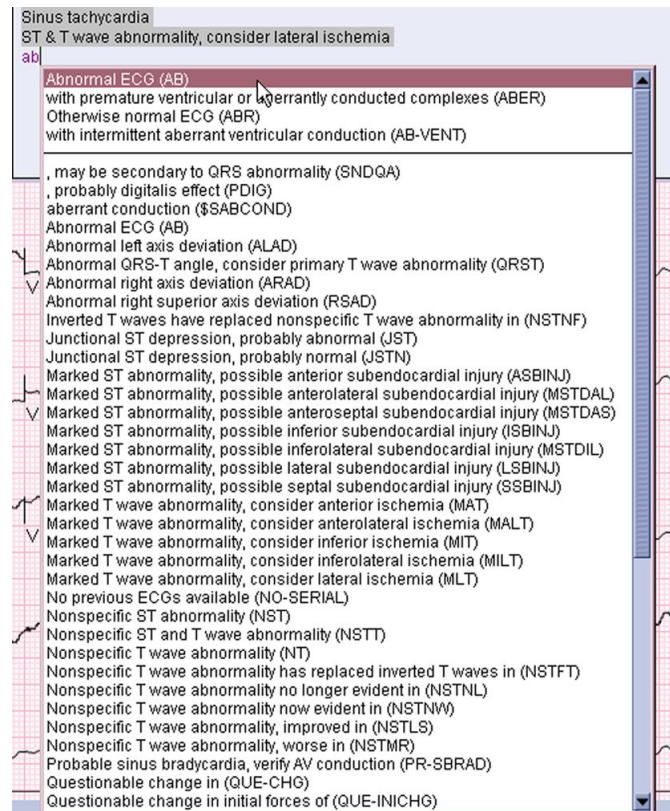
Adding A Statement from Matching Mode Acronym/Free Text Statement Library List

1. In the diagnosis window, begin typing the first and/or second letters of a word or acronym, or an entire word.

For example, typing the letter **A** displays all acronyms beginning with the letter **A** as well as words and statements containing the letter **A**.

Typing the word "abnormal" displays the acronym associated with "abnormal" (abnormal ECG), as well as all statements containing the word "abnormal" (for example, "Nonspecific ST Abnormality").

A menu opens listing acronyms.



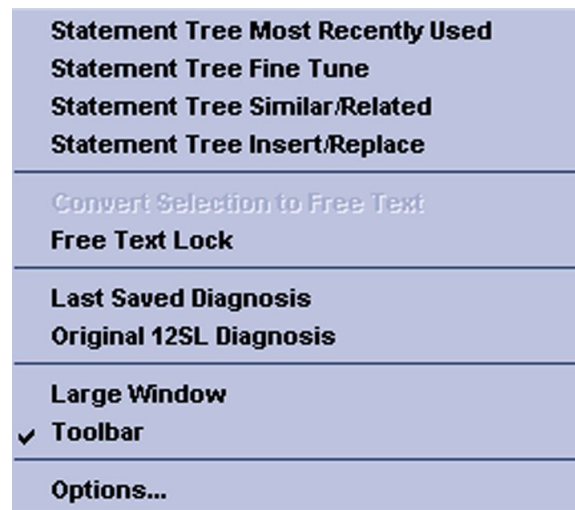
2. Double-click on the appropriate statement from the **Matching Mode** list to select it.
The selected statement is displayed in the diagnosis.
3. To delete the acronym statement:
 - Highlight the statement and press **Delete**. This deletes the entire highlighted selection.
 - Place the cursor at the end of the statement and press **Backspace**. This deletes one acronym at a time.

Statement Tree

The **Statement Tree** is a categorized list of statements.

Viewing Statement Tree Structure

1. Right-click at the diagnosis statement.
A menu opens.
2. Select **Statement Tree**.
A second menu opens



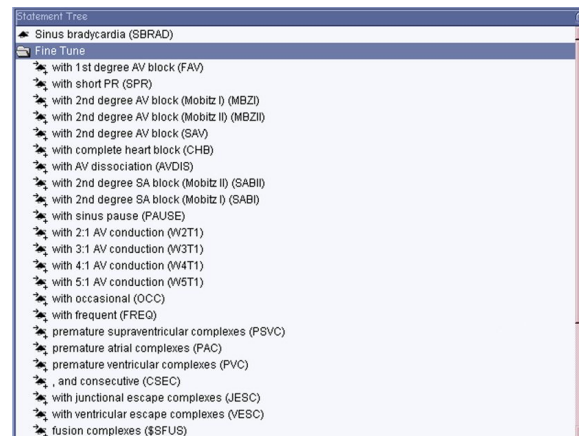
Statement Tree - Most Recently Used


1. Select **Most Recently Used**.
A list of the most recently used statements for that user's session opens.
2. Double-click the statement to add it to the current diagnosis.

Fine Tune Folder

The **Fine Tune** folder contains modifier statements you can place at the beginning or end of a statement.

1. In the **Diagnosis Editor** window, highlight the statement that requires a modifier.
For example, "Sinus tachycardia."
2. Right-click and select **Statement Tree Fine Tune**.
A list of modifier statements for that diagnosis statement opens.

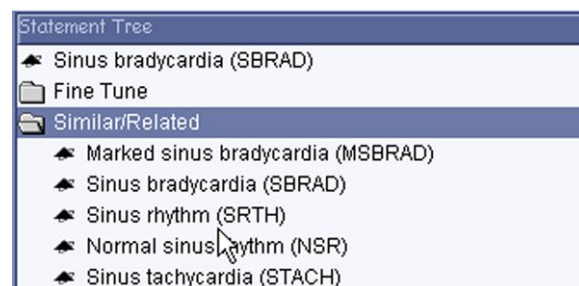


3. The modifier statement is preceded by the  icon. If a right arrow is visible, the modifier is placed at the end of the diagnosis statement. If a left placing arrow is visible, the modifier is placed at the beginning of the diagnosis statement.
4. Double-click the modifier statement to add it to the current diagnosis.

Similar/Related

The **Similar/Related** folder contains similar or related statements in the same category of a specified diagnosis statement.

1. In the **Diagnosis Editor** window, highlight the statement that requires a similar or related statement.
For example, "Sinus bradycardia."
2. Right-click and select **Statement Tree Similar/Related**.
A list of similar and related statements for that diagnosis statement opens.



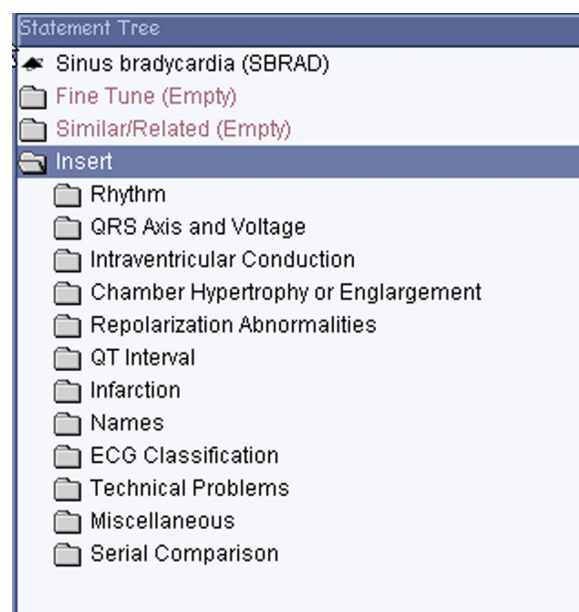
3. Double-click the appropriate statement to add it to the current diagnosis.

Insert/Replace

The **Insert/Replace** folder contains all **Statement Library** statements that you can insert in the current diagnosis or use to replace a current diagnosis.

1. Do one of the following:
 - a. To insert a statement, place your cursor at the **Diagnosis Editor** window.
 - b. To replace a statement, highlight the statement that you want to replace.
2. Right-click and select **Statement Tree Insert/Replace**.

The **Statement Library List** opens with the statements categorized in specific folders.



3. Double-click the appropriate folder to find the statement.
4. Double-click the statement to insert it or to replace the current diagnosis.

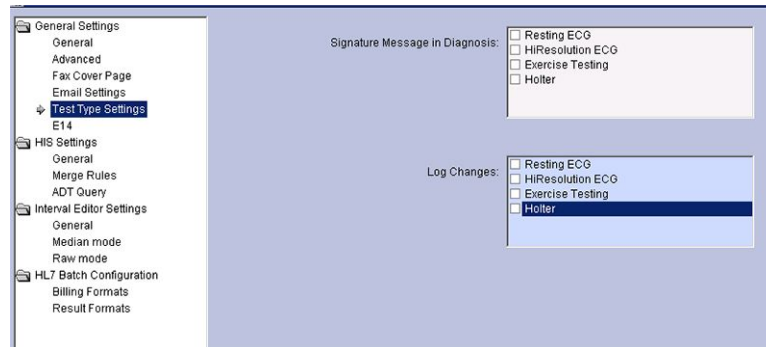
Setting Up Diagnosis Editor Options

See “Setting up Diagnosis Editor Options” on page 92.

Adding a Signature Statement at the End of Diagnosis

You may set up the MUSE system to have the confirming physician's signature display at the end of a diagnosis statement for a particular test type. To enable this task on a per site basis, see “Setting Up Signature Message in Diagnoses” on page 145 .

1. Select **System > Setup**.
The **Setup** window opens.
2. Highlight **Sites**.
3. Double-click on the site you want to set up the signature statement.
The **Site Properties** window opens.

4. Select **Test Type Settings**.5. Select the check box(es) next to the test type(s) at the **Signature Message in Diagnosis** field.

The physician's signature displays at the end of the diagnosis statement for the test type chosen here.

6. Click **OK**.

Each time a record is confirmed, the confirming physician's signature is visible at the end of the diagnosis statement for the selected , at the selected site, as shown in the following figure:

**NOTE:**

Contact the GE Healthcare Technical Support Center to make configuration changes to the signature message.

Holter Report Editor

The system supports viewing and editing tests generated by GE Healthcare's Holter system.

The **Holter Report Editor** uses tabs to display **Clerical**, **Measurements**, **Strips**, and **Report Preview**. To open the **Holter Report Editor**, open a Holter test from the **Edit List**. The test editor opens.

NOTE:

The data type **HOL** designates Holter reports in the **Edit List**.

NOTE:

The new Primary Care Physician field will now display in the Holter reports.

MUSE System - Edit/Retrieve: Site:1 User:20001 Patient: 666 Test: Holter 10-Jul-2003 06:46

System Go List Test Patient Tools Help

System

Go

Test

Tools

Waveform Tools

Clerical Measurements Strips Report Preview

Interpretation:

Patient ID: 666

Last, First Name: S48_HOUR JOEL

Test Date/Time: 10-Jul-2003 06:46:00

Age/DOB: 52 Years

Sex, Race: Male

Ht, Wt (in, lb):

Location: DEFAULT

Cart Number: Room Number:

Test Reason:

Acquisition Duration: 24:00:00

Reason for Study:

Referencing Phys:

Ordering Phys:

Acquiring Tech: Phartalot, Willie

Admitting Phys:

Attending Phys:

Primary Care Phys:

Editor:

Fellow:

Confirmed by:

Edit Date/Time:

Order Number:

Visit Number:

Account Number:

User Defined: ☐ Do not bill

Secondary ID:

Change Log

User: 20001 Site: 1 No Overreader Patient: 666 Test: Newly Acquired Holter on 10-Jul-2003 06:46:00 Edit List: #1 of 1 ILFF: Unfiltered

Tab Descriptions on Holter Report Editor

Tab Name	Description
Clerical	Displays patient demographic information that you can edit.
Measurements	<p>Displays measurement information that you can edit.</p> <p>This screen shows all the significant values as they relate to beat count, heart rate, ventricular counts, and supraventricular counts. These values were calculated on the MARS system and sent to the MUSE system as part of the report.</p> <p>NOTE: Editing the values in the MUSE system does not change them in the MARS system.</p>
Strips	<p>Displays ECG strips that were saved to this Holter report.</p> <p>To view each strip, click on the strip name and the waveform displays on the lower half of the screen.</p>
Report Preview	Displays the Holter Report for viewing, saving, and printing.

You may save final third-party Holter reports in a PDF, jpeg, Microsoft Word, or png format to removable storage media, acquire the stored reports into the MUSE system to store and review reports, as well as notify their billing system via an HL7 message when demographics on the report have been verified, and email the report to the referring physician on confirmation.

See [“Importing Supplemental Report Images” on page 49](#) for information on including supplemental attachments in a patient report.

Stress Test Editor

The system supports viewing and editing of tests generated by GE Healthcare's stress systems.

The stress test editor uses tabs to display **Clerical**, **Interpretation**, **Strips**, and **Report Preview**. To open the stress test editor, open a stress test from the **Edit List**. The test editor opens.

NOTE:

The data type **GXT** designates **Stress Reports** in the **Edit List**.

NOTE:

The new Primary Care Physician field will now display in the Stress reports.

Tab Name	Description
Clerical	Displays patient demographic information populated from the CASE system that you can edit.
Interpretation	Displays an interpretation populated from the CASE system that you can edit.
Strips	Displays ECG strips stored as part of the Stress Final Report configuration.
Report Preview	<p>Displays the configured stress report sent from the CASE system for viewing.</p> <p>NOTE: See the <i>MUSE v9 Cardiology Information System Devices and Interface Guide</i> for details on copying user-created, configured reports from the CASE system to the MUSE system.</p>

See [“Importing Supplemental Report Images” on page 49](#) for information on including supplemental attachments in a patient report.

Hi-Res Report Editor

The system supports viewing and editing tests generated by GE Healthcare electrocardiograph systems.

The Hi-Res test editor uses tabs to display **Clerical** and **Report Preview**. To open the Hi-Res test editor, open a Hi-Res test from the **Edit List**. The test editor opens.

NOTE:

The data type **LP** designates Hi-Resolution reports in the **Edit List**.

NOTE:

New in MUSE v9 is the **Primary Care Physician** field, which displays in Hi-Res reports if appropriate for your institution.

Tab Name	Description
Clerical	Displays patient demographic information and can be edited.
Report Preview	Displays the Hi-Res report for viewing.

See [“Importing Supplemental Report Images” on page 49](#) for information on including supplemental attachments in a patient report.

Database Search

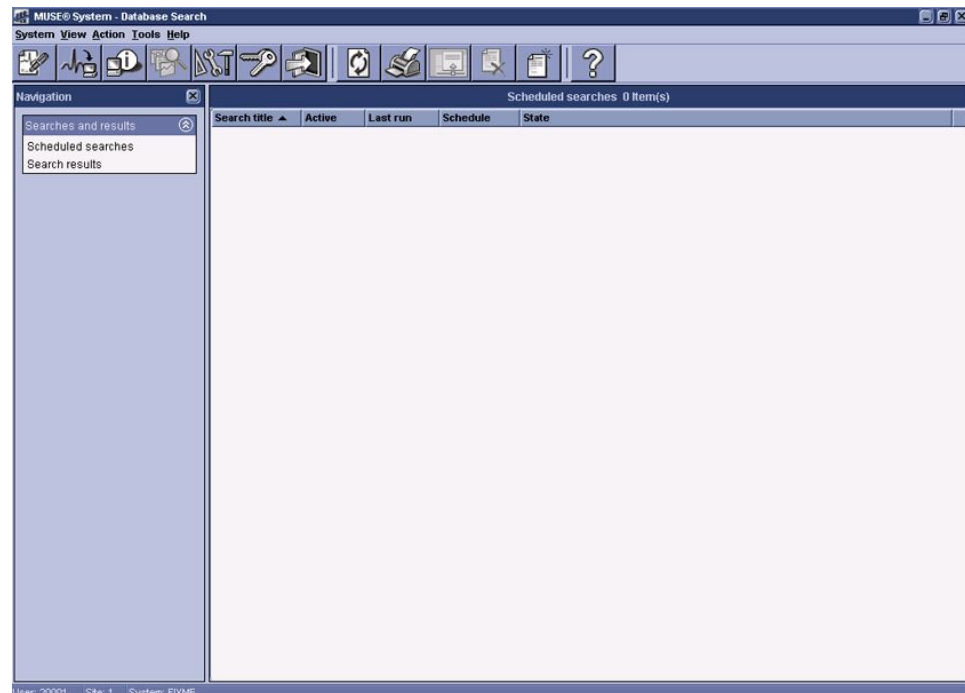
This chapter provides instructions on setting up searches, both pre-defined templates and user-defined searches. After you have set up a search, you can edit the search as need or copy it to create a new search. You can locked searches to prevent modification or deletion. You also can view the data from a search and print a report of the search data.

New Search Using a Pre-Defined Template

Template searches are pre-defined to allow you to obtain general statistics on a daily, weekly, or monthly basis easily and quickly. You can use these templates repeatedly.

1. Select **System > Database Search**.

The **Database Search** window opens.



2. Highlight **Scheduled searches** in the **Navigation** pane and select **Action > New Search**.

The **Select search type** window opens with a list of templates.

3. Select a template and click **OK**.

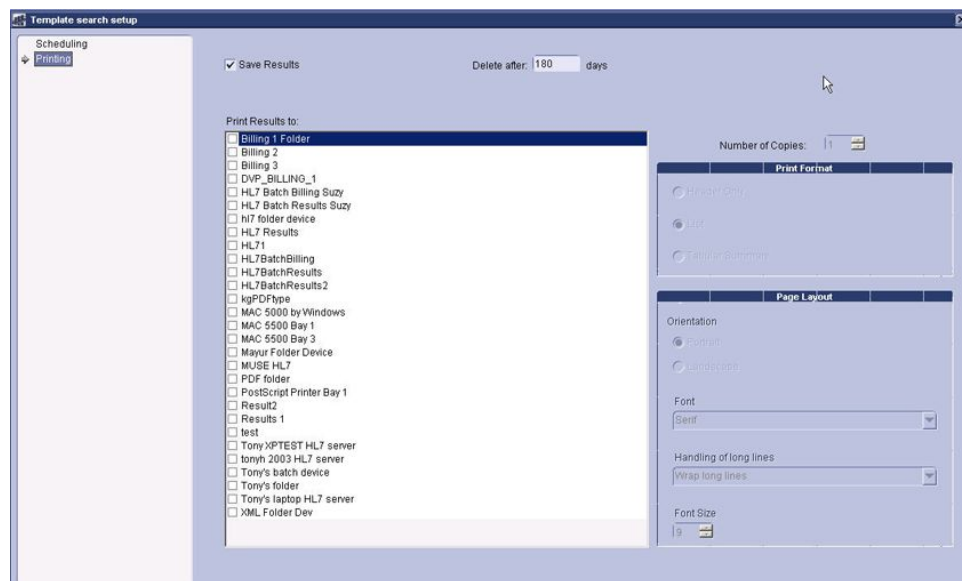
The **Template search setup** window opens.

4. Highlight **Scheduling** and set up the following options.

Name	Description
Report Title	Displays the default name of the report; you can change this. If you change the name, be sure to name the report as specifically as possible so that there is no confusion on what the report does. If you have multiple hospitals under one site, you can precede the search name with the hospital acronym.
Group	Allows you to assign this report to the Template searches group or the User-defined searches group.
Date Field	Select the type of date range you want to use for this search. Your choices are: <ul style="list-style-type: none"> • No date Range — Searches records throughout the entire database. • Acquisition Date — Based on the date the record was taken at the cart. • Confirmed Date — The date when the record was confirmed on the system. • Edit Date — The date when the record was last edited on the system. • Fellow Confirmed Date — The date when a fellow confirmed the record. • MUSE Acquisition Date — The date when the record arrived at the system. • Order Placement Date — The date the order was placed on the HIS. <p>The field you select displays below the Scheduling portion of the screen.</p>

Name	Description
Search range for...	Allows you to select a range of user IDs. To search all system users, select the All check box.
Manually	Select this radio button to schedule a manual search to run now or at the scheduled time. Select the option buttons to Run Once Now or Run Once at Scheduled Time . Select the date range in the From and To fields as appropriate for your search. NOTE: The system schedules time to automatically run searches at 2:00 a.m. You cannot change this in the Database Search application.
Daily	Select to schedule a search to run every day. Enter the number of days to delay running the report in the Days to delay running the report field. Delaying a search allows all carts to be downloaded before running the search. It is recommended that you delay the running of a daily search by at least one day.
Weekly	Select to schedule a weekly search. Select the day of the week you want it to run. The field for the previous week ending on indicates the last day of the seven day period. For example, if you select Sunday, the system searches from the previous Saturday to Sunday. If you select for the previous week ending on to the same day, the system searches the previous week to generate the report.
Monthly	Select to schedule a monthly search. Determine the day to run the report and enter a number in Run on this day of each month for the previous . Determine if you want to use the previous Calendar month or the previous Month Ending on Day . If you select Month Ending on Day , the system searches one complete month from the day you select.
Report Active	Select to activate the report.
Search Only Primary Overread of Multiple Overread Tests	Select to search multiple overread tests for only the ones with a primary overread.
Search All Overreads of Multiple Overread Tests	Select to search all overreads of multiple overread tests.
Maximum Matches	Maximum number of matches to show for the search. This option is disabled for pre-defined templates.

5. Highlight **Printing** as shown in the following illustration and set up the following parameters for the report.



Field Descriptions for Template Search Setup

Name	Description
Save Results	Select this check box to save the results of the search to the system. This allows you to reprint results if the original printout is misplaced or lost.
Delete Results after [] days	Type the number of days the saved results remain on the system before they are automatically purged.
Print Results to:	Select the check box next to each device where you want the results printed (for example, Overreading, M.D. or Temporary Email). You can select more than one device.
Number of Copies:	After you select your device, use the arrow keys to select the number of copies you want to print.
Print Format	Specifies the printing results format. Select from the following formats: <ul style="list-style-type: none"> • Header Only— prints the header information only, including the search title and search count. • List — prints a patient list. • Tabular Summary —prints a tally of search results.

Field Descriptions for Template Search Setup (cont'd.)

Name	Description
Page Layout	Select the orientation of the page printout. Select either Portrait or Landscape format. Select Font type, Fixed Width , Serif , or Sans Serif Handling of long lines allows you to select how the system handles the text when the text line is too long. Select Truncate long lines , Wrap Long Lines , or Split across multiple pages .
Font Size	Sets the text font size.

- To run the search, select **OK**.
The **Template search setup** window closes.
To view the results, see ["Viewing Search Results"](#) on page 124.

User-Defined Searches

To schedule a user-defined search:

- Select **Action > New Search**.
The **Select search type** window opens.
- Select the **User-defined search** check box.
- Click **OK**.
The **User-defined search setup** window opens.

4. Set up the following report parameters.

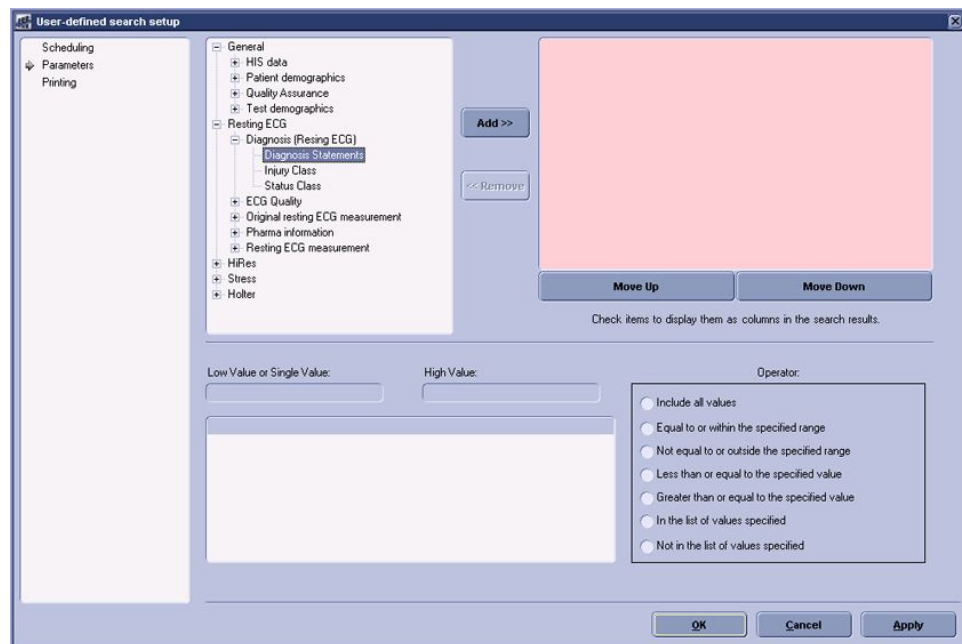
Field Descriptions for User-defined Search Setup Window

Name	Description
Report Title	<p>Displays the default name of the report. You can change this title. In a new user-defined search, the report title is blank.</p> <p>If you change the name, be sure to name the report as specifically as possible so that there is no confusion on what the report does. If you have multiple hospitals under one system site, you can precede the search name with the hospital acronym.</p>
Group	<p>Allows you to assign this report to the Template searches group or the User-defined searches group.</p>
Date Field	<p>Select which type of date range you want to use for this search. Your choices are:</p> <ul style="list-style-type: none"> • No date Range — Searches records throughout the entire database. • Acquisition Date — The date when the record was taken at the cart. • Confirmed Date — The date when the record was confirmed on the system. • Edit Date — The date when the record was last edited on the system. • Fellow Confirmed Date — The date when a fellow confirmed the record. • MUSE Acquisition Date — The date when the record arrived at the system. • Order Placement Date — The date when the order was placed on the HIS. <p>The field you select displays below the Scheduling portion of the screen.</p>
Manually	<p>Select this radio button to schedule a manual search to run now or at the scheduled time.</p> <p>Select the option buttons to Run Once Now or Run Once at Scheduled Time.</p> <p>Select the date range in the From and To fields as appropriate to your search.</p> <p>NOTE: The system schedules time to manually run searches at 2:00 a.m. You cannot change this in the Database Search application.</p>

Field Descriptions for User-defined Search Setup Window (cont'd.)

Name	Description
Daily	<p>Select to schedule a search to run every day.</p> <p>Enter the number of days to delay running the report in the Days to delay running the report field.</p> <p>Delaying a search allows all carts to be downloaded before running the search. It is recommended that you delay the running of a daily search by at least one day.</p>
Weekly	<p>Select to schedule a weekly search.</p> <p>Select the day of the week you want the search to run. The field for the previous week ending on indicates the last day of the seven day period. Therefore, if you select Sunday, the system searches from the previous Saturday to Sunday. If you select for the previous week ending on to the same day, the system goes back to the previous week to generate the report.</p>
Monthly	<p>Select to schedule a monthly search.</p> <p>Determine the day to run the report, and enter a number in Run on this day of each month for the previous.</p> <p>Determine if you want to use the previous Calendar month or the previous Month Ending on Day. If you select Month Ending on Day, the system goes back one complete month from the day you select.</p>
Report Active	Select to activate the report.
Search Only Primary Overread of Multiple Overread Tests	Select to search for primary overread of multiple overread tests.
Search All Overreads of Multiple Overread Tests	Select to search multiple overread tests for only the ones with a primary overread.
Maximum Matches	Maximum number of matches to show for the search.

5. Highlight **Parameters**.



6. Select a search field category from the list in the left side of the window.

NOTE:

Any enabled test types are listed in the search field category list.

- a. Click on the plus (+) sign to expand the category.
- b. Highlight the parameter and click **Add** to add it to the search list.

A check mark displays next to the item in the criteria box on the right. To have the field appear as a column in the search results page, leave the box checked.

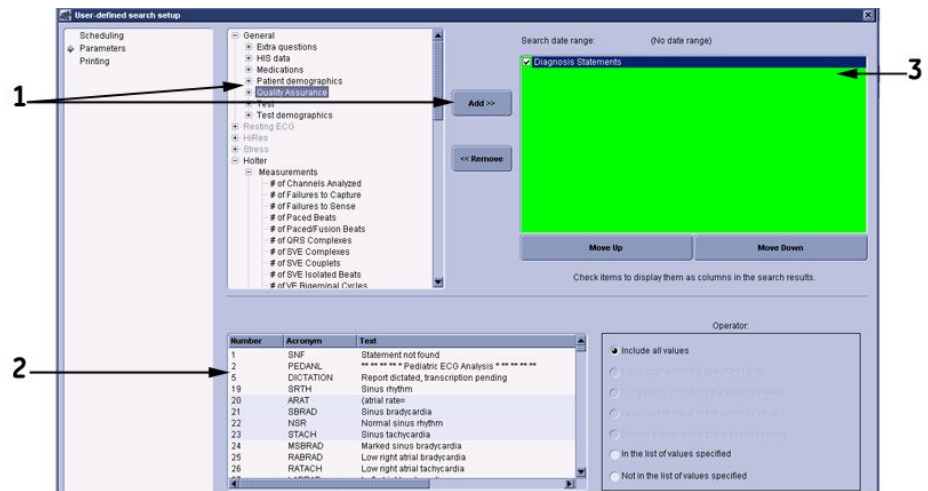
Some common categories are as follows:

Name	Description
Patient Demographics	Allows you to select fields related to the patient, such as patient full name, patient ID, gender, age, height, weight, and so on. Double-click on the item to add it to the criteria box to the right.
Test Demographics	Test Demographics allows you to select a criterion related specifically to the test itself. These include: Acquisition Date and Time, the Referring, Ordering, and Overreading Physicians, and so on.
Resting ECG	Select Resting ECG to search on a specific criterion, such as diagnosis statement.

Another window can open for you to select one or more values to search.

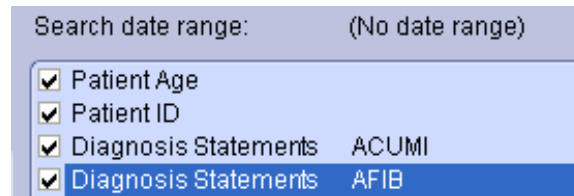
For example, if you select **Diagnosis Statements** as the search field, an acronym list is displayed where you select **Sinus rhythm** as a value. To select multiple values, double-click the statement while holding down the **Ctrl** key. The values selected are visible in the criteria list with an "or"

between them, indicating that if the diagnosis of any of these ECGs being searched has any of these values, the record satisfies the criteria.



(1) Select Search Field and click Add. (2) Select one or more values to search by double-clicking the value while holding down the Ctrl key. (3) The value is displayed.

- c. To search for ECGs with a combination of multiple acronyms in the diagnosis, add the **Diagnosis Statement** criteria to the criteria list twice with the statement you want included within the diagnosis. For example, if you want to find patients with both Acute MIs and Atrial Fibrillation, you add one Diagnosis statement line equal to Acute MI and another Diagnosis statement equal to Atrial Fibrillation. Both lines are visible in the statement criteria list.



Once you select your search parameters, you can move them up or down in the column.

The order in which they display is the order in which they are displayed in the results table. The results table is sorted by the first checked parameter on the list.

- d. Highlight the search field and click **Move up** or **Move down** to rearrange the order of the search criteria.

7. In the **Operator** field, specify a chosen value for the parameter selected in Step 6.

Operator:

- ☒ Include all values
- ☐ Equal to or within the specified range
- ☐ Not equal to or outside the specified range
- ☐ Less than or equal to the specified value
- ☐ Greater than or equal to the specified value
- ☐ In the list of values specified
- ☐ Not in the list of values specified
- ☐ Empty value
- ☐ Not empty value

Name	Description
<i>Include all values</i>	The system displays any value entered into the data field for each patient record.
<i>Equal to or within the specified range</i>	The system searches for patients that have values within the specified range or with the single value entered in the field labeled <i>Low Value or Single Value</i> . For example, if you select the patient age parameter and you are searching for patients between the ages of 50 to 60, you type 50 in the <i>Low Value or Single Value</i> field and 60 in the <i>High Value</i> field.
<i>Not equal to or outside the specified range</i>	Allows you to set a range or specific value that you do not want the criteria to equal. For example, setting a value of 50 to 60 results in a search of all values outside this range.
<i>Less than or equal to the specified value</i>	The system searches for all values that are less than or equal to a specified value.
<i>Greater than or equal to the specified value</i>	The system searches for all values that are greater than or equal to a specified value.
<i>In the list of values specified</i>	The system searches only among the list of values specified for the field.
<i>Not in the list of values specified</i>	The system searches for all values not among the list of values specified for the field.
<i>Empty value</i>	The system searches for all the empty values for the field.
<i>Not empty value</i>	The system searches for all populated values for the field.

8. Highlight **Printing**.
The **Printing** window opens.

9. Set the following print parameters.

Field Descriptions for Template Search Setup

Name	Description
Save Results	Select this check box to save the results of the search to the system. This allows you to reprint results if the original printout is misplaced or lost.
Delete Results after [] days	Type the number of days the saved results remain on the system before they are automatically purged.
Print Results to:	Select the check box next to each device where you want the results printed (for example, Overreading, M.D. or Temporary Email). You can select more than one device.
Number of Copies:	After you select your device, use the arrow keys to select the number of copies you want to print.
Print Format	Specifies the printing results format. Select from the following formats: <ul style="list-style-type: none"> • Header Only— prints the header information only, including the search title and search count. • List — prints a patient list. • Tabular Summary —prints a tally of search results.
Page Layout	Select the orientation of the page printout. Select either Portrait or Landscape format. Select Font type, Fixed Width , Serif , or Sans Serif Handling of long lines allows you to select how the system handles the text when the text line is too long. Select Truncate long lines , Wrap Long Lines , or Split across multiple pages .
Font Size	Sets the text font size.

10. To run the search, select **OK**.
The **User-defined search setup** window closes.
11. To view the results, see [“Viewing Search Results” on page 124](#). Make sure the **Save Results** check box is enabled so that the search results are saved.

Editing an Existing Search

1. In the **Navigation** pane, click **Scheduled searches**.
2. On the **Scheduled searches** window, double-click on the specific search to edit the scheduled search.

If you selected a template search for editing, the **Template search setup** opens. If you selected a user-defined search for editing, the **User-defined search setup** window opens.

- Repeat Steps 4 through 6 at “New Search Using a Pre-Defined Template” on page 113 to modify the search parameters.

Copying User-Defined Search

NOTE:

You can only copy user-defined searches. You cannot copy pre-defined templates.

- Highlight **Scheduled searches** at the **Navigation** pane.
- At the **Scheduled searches** window, highlight the search name.
- Right-click and select **Copy**.

The **User-defined search setup** window opens.

- Repeat Steps 4 through 6 at “User-Defined Searches” on page 117 to modify the search parameters.

Viewing Search Results

- In the **Navigation** pane, select **Search Results**.
- On the **Search Results** window, highlight and double-click the search you want to view.

The **Search Results** window opens.

Report Title: Which/how many tests were edited by each user

Edit Date: 12/1/2009 12:00:00 AM - 2/18/2010 11:59:59 PM

Date Run: 2/18/2010 2:30:13 PM

Total records found: 13

Patients: 10

Editor ID: All values

☒ Details ☐ Tabular Summary ☐ Hourly Breakdown

☐ Display full result set

Copy

Editor ID	Editor Last Name	Patient ID	Patient Last Name	Patient First Name	Edit Date	Type
		TEST DEMO 000000	TEST-DEMO	TEST-DEMO	16-Feb-2010 14:35:20	GXT
		TEST DEMO 000000	TEST-DEMO	TEST-DEMO	16-Feb-2010 15:46:16	GXT
		TEST DEMO 000000	TEST-DEMO	TEST-DEMO	16-Feb-2010 15:43:47	GXT
		TEST DEMO 000000	TEST-DEMO	TEST-DEMO	16-Feb-2010 13:39:30	GXT
100	Mikulich	666666666	Test	Jim	16-Feb-2010 13:35:50	ECG
200	Mikula	11-11-111	One	Patient	16-Feb-2010 14:58:40	GXT
200	Mikula	740005112	Tondreau	Greg	16-Feb-2010 13:59:53	ECG
789	editor	033333333	restored	setup	12-Feb-2010 14:58:15	ECG
12345	D	121212121			16-Feb-2010 02:07:09	ECG
12345	D	401 023 2137	ass	aa	17-Feb-2010 23:53:19	ECG
20001	MuseAdmin	000000003032	DOE	JOHN	12-Feb-2010 13:20:59	ECG
20002	MuseBkgnd	000151926	CNVRT MAR/19/96	CONVERSION	12-Feb-2010 13:56:47	ECG
20002	MuseBkgnd	000000001	Picard	John Luc	12-Feb-2010 13:56:58	ECG

Print results **Export results** **Print selected tests** **Print all tests** **Close**

Search Results window for Clinical Site

Search Results

Report Title: Which/how many tests were acquired for each location

Date Run: 2/18/2010 12:44:27 PM

Total records found: 1

Patients: 1

Location: All values

☒ Details ☐ Tabular Summary ☐ Hourly Breakdown

☐ Display full result set

Reanalyze Copy

Location	Abbreviation	Patient ID	Patient Last Name	Patient First Name	Acquisition Date	Type
0	DEFLT	6ABCDYKZB NPYB 5	6ABCDYKZB NPYB 5	6ABCDYKZB NPYB 5	11-Mar-2009 15:03:47	EXT

Print results Export results Print selected tests Print all tests Close

Search Results window for Research Site

3. Select the search options from the following parameters:

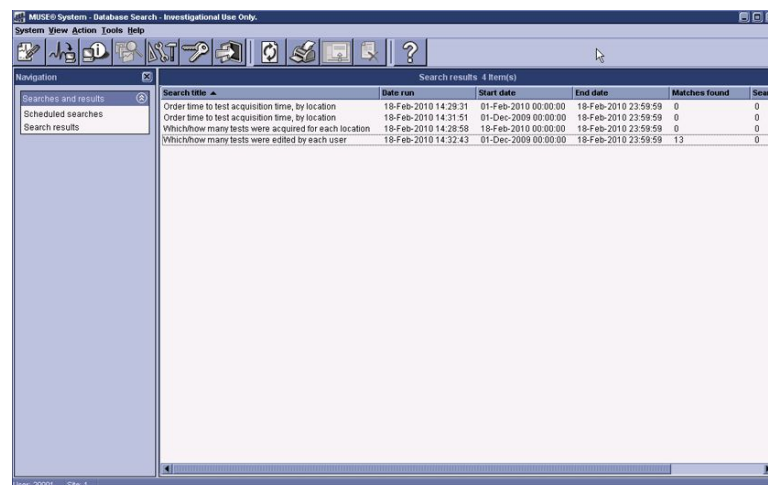
Option	Description
Details	<p>Click to view a list of all patient records that matched the search criteria.</p> <p>To view a patient test, double-click on it in the search results window. A Report Viewer window opens allowing you to view or print the report or ECG.</p> <p>NOTE: Details are only available in the canned searches. They are not available in the results of a User defined search.</p>
Tabular Summary	<p>Click to view the breakdown of every record count for the main search criteria.</p> <p>Tabular Summary is only available in the canned searches. They are not available in the results of a User defined search.</p>
Hourly Breakdown	<p>Click to view the breakdown of tests done per hour for the last 24 hours. This report is helpful in reviewing staffing needs.</p> <p>Hourly Breakdown is only available in the canned searches. They are not available in the results of a User defined search.</p>
Display full result set	<p>Click to display the full results of the search.</p> <p>NOTE: This check box is only enabled if there are more than 5,000 rows returned in the search results set.</p>
Copy	<p>Select a test in the results and click Copy.</p> <p>The Select Site window opens.</p> <p>Select the new site and click OK.</p>

Option	Description
Reanalyze (Research Site option only)	Select a test in the search results. Click Reanalyze to manually reanalyze it using any algorithm on the system. This feature is available only at Research Sites.
Print Results	Click to print the search results displayed on the screen in a report format. The Select Printer and Formatting Options window opens. Set up the appropriate printing and formatting options and click OK .
Export results	Click to export the search results in a spreadsheet format The Save As window opens. Save the results to the appropriate location.
Print selected tests	To print selected tests, highlight the tests you want to print and click Print Selected Tests . The Select Printer and Formatting Options window opens. Set up the appropriate printing and formatting options and click OK .
Print all tests	Click to print all the tests in the search result window.

- Click **Close** to exit the **Search Results** window.

Printing Report from Search Results Directory

- Highlight the report on the **Search Results** window.



- Select **Actions > Print Results**.
The **Select Device and Formatting Options** window opens.
- Select the appropriate settings and click **OK**.

The report prints at the specified device.

Locking/Unlocking a Search

You can lock a search to prevent accidental deletion or editing of a search.

1. At the **Scheduled searches** window, highlight the appropriate scheduled search.
2. Select **Action > Lock/Unlock**.
If the search was unlocked, this locks it.
If the search was locked, this unlocks it.

Deleting a Search

1. On the **Scheduled searches** window, highlight the appropriate search and select **Action > Delete**.
A message is displayed.
2. Select **Yes** to delete the search or **No** to cancel.

Toolbar

The toolbar provides access to many of the same commands in the menu bar. To identify a toolbar icon, hold the pointer over it. A tooltip describing the command becomes visible. See [Appendix B "Toolbar Icons & Keyboard Shortcuts" on page 239](#) for a description of the **Database Search** toolbar icons.

Setup Options

Select **Tools > Options** to define the **Scheduled search** and **Search results** options.

5

Setting Up Your System

This chapter describes the steps necessary to configure the MUSE system after installation.

System Setup

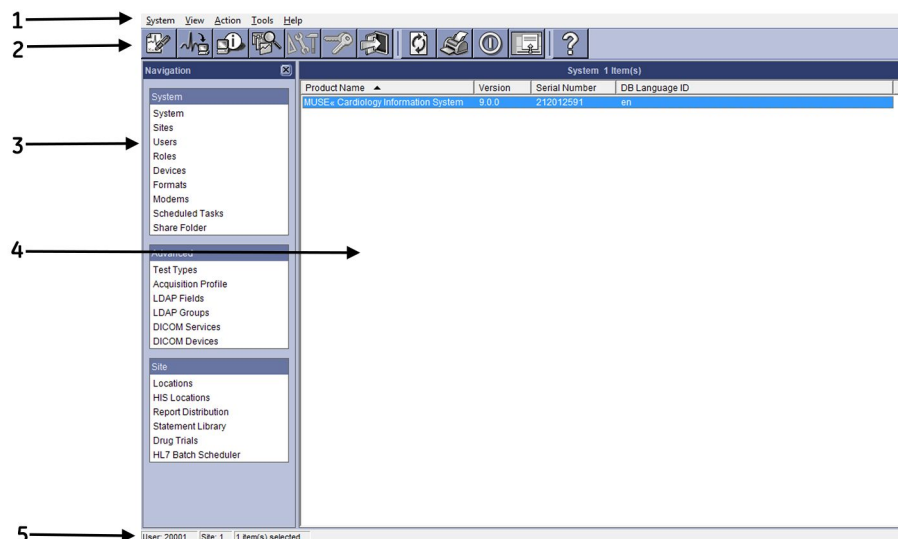
A system administrator can configure the following items before using the new system:

- System
- Sites
- Users
- Roles
- Devices
- Formats
- Modems
- Scheduled Tasks
- Share Folder
- Test Types
- Acquisition Profile
- LDAP Fields
- LDAP Groups
- DICOM Services
- DICOM Devices
- Locations
- HIS Locations
- Report Distribution
- Statement Library
- Drug Trials
- HL7 Batch Scheduler

Proper privileges are required to perform system setup.

To access the **Setup** window, select **System** > **Setup**.

The **Setup** window opens.



Setup Window Description

Item	Name	Description
1	Menu Bar	Displays the name of current menus.
2	Tool Bar	Displays icons for easy access to Menu Bar functions.
3	Navigation Pane	Allows easy access to System and Site Setup features.
4	Main Window	Displays System and Site information.
5	Status Bar	Displays information regarding the User, Site, and selected items.

Setting Up the System Properties

The **System Properties** window is where you set up password constraints, LDAP and DCP configurations, and enable the race list and enhanced patient race list.

Setting Up System Properties — General

- From the **Navigation** pane, click **System**.
A list of available systems is displayed.
- Double-click on the appropriate system to select it.
The **System Properties** window opens.

General is highlighted in the *Navigation pane*.

The screenshot shows the 'System Properties' dialog box with the 'General' tab selected. The left-hand 'Navigation pane' lists 'General', 'LDAP Configuration', and 'DCP Configuration', with 'General' highlighted. The main area on the right contains the following settings:

- Password Constraints:**
 - Minimum password length (6-15): 7
 - Password expiration (7-365 days):
 - ☐ Require complex passwords
- Installed Configurations:**
 - Database Language: en
 - Customer ID: 0
- Application Idle Shutdown:**
 - ☒ Enable Shutdown
 - Warning Title: Inactivity Shutdown Warning
 - Warning Text: Due to user inactivity, the application will close.
 - Shutdown Time (in minutes): 1
 - Idle Delay (in minutes): 15
- Checkboxes:**
 - ☒ Display "Race" field on forms
 - ☒ Allow users to login using MUSE authentication
 - ☒ Enhanced patient race list
 - ☐ Auto map legacy races
 - ☒ Log MUSE Configuration Changes

Buttons at the bottom: OK, Cancel, Apply.

3. Enter information for the following options:

Option	Action	Description
Minimum password length (6–15)	Type a number between 6 and 15.	Ensures passwords have a length greater than a configured value between 6 and 15. NOTE: This does not constrain the maximum password length, only the minimum.
Password expiration (7–365 days)	Type a number between 7 and 365.	Defines the time period in days before a new password expires, which the user must change on the next login. NOTE: To define password configuration rules per user, see "Adding Users" on page 155 .
Require complex passwords	Select the check box to enable this option.	Requires that new passwords meet the following complexity rules: <ul style="list-style-type: none"> Contains characters from three of the following four categories: lowercase alphabetic, upper case alphabetic, numeric, other characters. Does not contain the user name.

Option	Action	Description
Database Language	This option is information set up during installation and cannot be changed.	Displays the database language.
Customer ID	Default	The Customer ID is set up during initial installation of the MUSE system and cannot be changed.
Enable Shutdown	Select the check box to enable this option.	Allows you to enable or disable the MUSE idle/shutdown feature. The MUSE system will shutdown if there is no mouse or keyboard activity for the set period of time. The Warning Title , Warning Text , Shutdown Time (in minutes) and Idle Delay (in minutes) must also be configured.
Warning Title	Type title text that displays in the shutdown warning window.	Allows you to customize the warning title text that displays in the user's shutdown window before the MUSE system does a shutdown. The default text is Inactivity Shutdown Warning .
Warning Text	Type the warning text that displays in the shutdown warning window.	Allows you to customize the warning text that displays in the user's shutdown window before the MUSE system does a shutdown.
Shutdown Time (in minutes)	Select a number between 1 and 60.	Defines the time period in minutes that the shutdown warning screen displays on the screen before the MUSE system shuts down.
Idle Delay (in minutes)	Select a number between 1 and 60.	Defines the time period in minutes that the MUSE system is idle before the shutdown window is displayed on the screen.
Display "Race" field on forms	Select the check box to enable this option.	Displays the race field on forms. If disabled, the race field does not display.
Allow users to login using MUSE authentication	Select the check box to enable this option.	Allows you to log on with MUSE authentication.

Option	Action	Description
<i>Enhanced patient race list</i>	Select the check box to enable this option.	<p>Enables the enhanced race list to display in MUSE v9. The enhanced race list is displayed in the MUSE Editor at the patient information on the <i>Current ECG</i> and <i>Clerical</i> tabs, as well as in <i>Database Search</i>.</p> <p>NOTE: If <i>Enhanced patient race list</i> is not enabled, the database search still allows searching by both legacy races and races from the enhanced race list.</p>

Option	Action	Description
Auto map legacy races	Select the check box to enable this option only if Enhanced patient race list in System > System Properties > General is enabled.	<p>Enables the mapping of incoming retired legacy races from acquired tests or messages from the HIS. This option maps the retired legacy race to a race from the enhanced race list. For a table of auto-mapped races, see Appendix A "Enhanced Patient Race List" on page 237.</p> <p>NOTE: If both Enhanced patient race list and Auto map legacy races are enabled, and a test with a race (for example, "Oriental") is acquired from the cart that does not support the enhanced race list, the MUSE system auto-maps the retired race to a race in the enhanced list (in this case, "Asian") as shown in Appendix A "Enhanced Patient Race List" on page 237. If this test is printed at a cart that does not support the enhanced race list, the race field is displayed as blank at the cart.</p> <p>NOTE: If Auto map legacy races is not enabled, and a test acquired with a legacy race is manually changed to an enhanced race and saved in the system, an option to change it back to the retired legacy race is not be available.</p>
Log MUSE Configuration Changes	Select the check box to enable this option.	Logs any MUSE system configuration changes in the Configuration Change Log in Status .

4. Click **OK** or **Apply** to save your changes.

Setting Up System Properties – LDAP Configuration

The Lightweight Directory Access Protocol (LDAP) feature allows for centralized administration of MUSE users and roles, and allows the user single sign-on capabilities. The following steps configure the MUSE system to communicate with the LDAP server. Microsoft's Active Directory Server makes use of LDAP versions 2 and 3. In

conjunction with the Audit Logging feature, a properly configured LDAP feature provides authentication, authorization, and accounting.

Before enabling the LDAP feature, talk with your GE Healthcare field service representative or technical support specialist.

For instructions on setting up and configuring the MUSE system for LDAP authentication, refer to [Appendix E “Configuring MUSE System for LDAP Authentication”](#) on page 267.

NOTE:

For additional information in setting up LDAP, see the *MUSE Cardiology Information System Service Manual*.

Setting Up System Properties – DCP Configuration

1. In the **System Properties** window, click **DCP Configuration**.

The screenshot shows the 'System Properties' dialog box with the 'DCP Configuration' tab selected. The 'Device Friendly Name' field contains 'MUSE'. The 'Server Port' field contains '9240'. The 'Network Interface' field is empty and highlighted with a red border. The 'Server Addresses' field is empty. At the bottom right, there are three buttons: 'OK', 'Close', and 'Apply'.

2. Populate the following fields:

Field	Description
Device Friendly Name	Name to describe this system.
Server Port	DCP service TCP/IP port number.
Network Interface	Network Interface IP address for the DCP service. You can set this to the default unless you want to specify a specific network interface.
Server Address	This field is only available after the DCP server is run the first time. It displays a list of all of the addresses available to reach the DCP server. If you are unable to locate the MUSE system, enter this address in the device configuration as DCP WS Address to connect it to the MUSE system.

3. Click **OK** or **Apply** to save your changes.

Setting Up Sites

Sites are useful for organizing incoming patient tests and locations (including remote locations) within a hospital or large clinic setting, and assisting in the workflow of reading patient tests. You can assign specific users and devices to specific sites.

Setting up sites creates unique databases. The data in Site 1 is unique from the data stored in other sites.

All patients within a site need to have a unique patient ID. The MUSE system assumes that all patients with a single patient ID are one patient. If two patients could potentially share a patient ID, then they cannot share the same site.

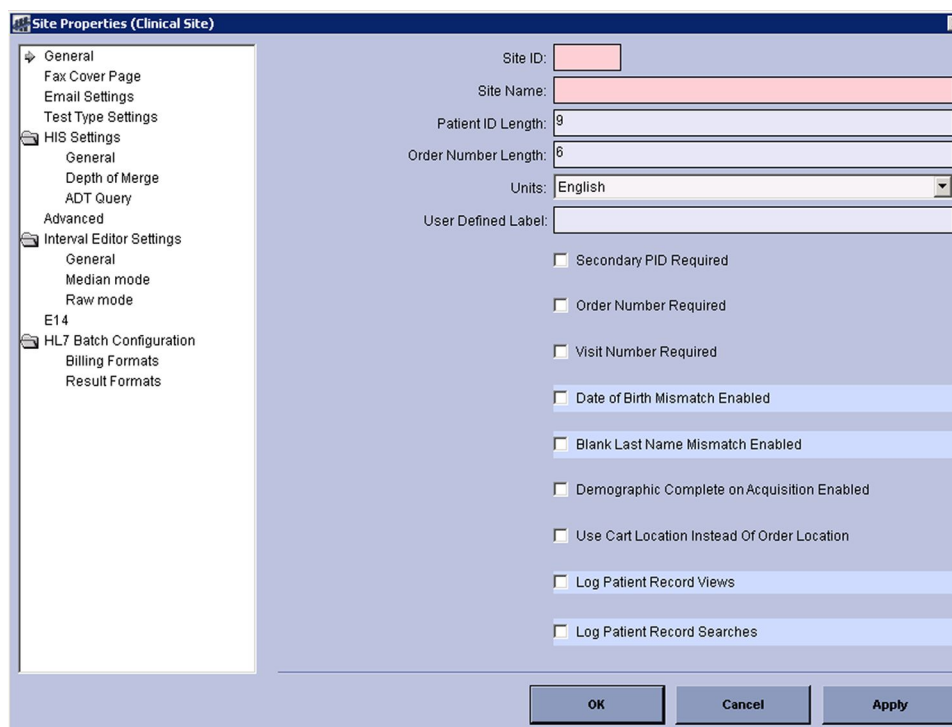
Complete the following fields for each site:

Field	Description
General Settings	See "Site Properties – General Setup" on page 138.
HIS Settings	See "Setting Up Sites – HIS Settings" on page 146.
Interval Editor Settings	See "Setting Up Drug Trials (Interval Editor Settings)" on page 207.
HL7 Batch Configuration	See "Configuring HL7 Batch" on page 152.

NOTE:

Research sites can only be created if the **Reanalysis** option is enabled in the MUSE installer. If you do not have the **Reanalysis** option and want to purchase it, contact your GE Healthcare representative.

- In the **Navigation** pane on the **Setup** window, highlight **Sites** .
 - Select **Action > New > Clinical** to set up a clinical site.
 - Select **Action > New > Research** to set up a research site.
 - Click on an existing site to open it for editing.
- The **Site Properties** window opens.

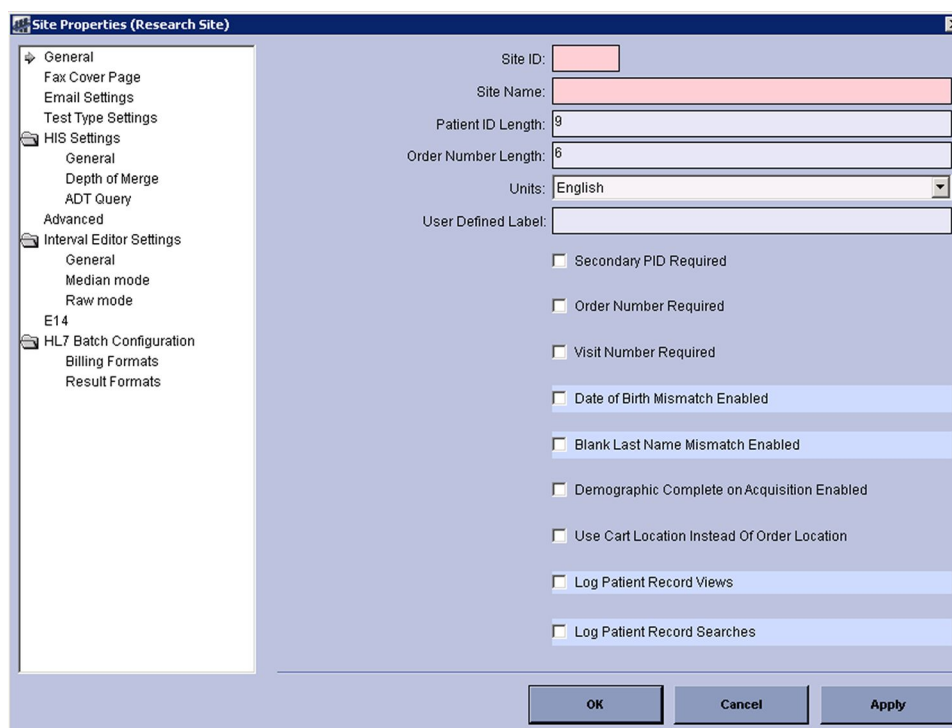


The 'Site Properties (Clinical Site)' dialog box features a tree view on the left with the following categories: General, Fax Cover Page, Email Settings, Test Type Settings, HIS Settings (General, Depth of Merge, ADT Query, Advanced), Interval Editor Settings (General, Median mode, Raw mode, E14), and HL7 Batch Configuration (Billing Formats, Result Formats). The main area contains the following fields and options:

- Site ID:
- Site Name:
- Patient ID Length:
- Order Number Length:
- Units:
- User Defined Label:
- ☐ Secondary PID Required
- ☐ Order Number Required
- ☐ Visit Number Required
- ☒ Date of Birth Mismatch Enabled
- ☒ Blank Last Name Mismatch Enabled
- ☐ Demographic Complete on Acquisition Enabled
- ☐ Use Cart Location Instead Of Order Location
- ☒ Log Patient Record Views
- ☒ Log Patient Record Searches

Buttons at the bottom: OK, Cancel, Apply.

Site Properties Window – Clinical Site



The 'Site Properties (Research Site)' dialog box is identical in layout and content to the Clinical Site version, with the same tree view and configuration options. The fields and options are:

- Site ID:
- Site Name:
- Patient ID Length:
- Order Number Length:
- Units:
- User Defined Label:
- ☐ Secondary PID Required
- ☐ Order Number Required
- ☐ Visit Number Required
- ☒ Date of Birth Mismatch Enabled
- ☒ Blank Last Name Mismatch Enabled
- ☐ Demographic Complete on Acquisition Enabled
- ☐ Use Cart Location Instead Of Order Location
- ☒ Log Patient Record Views
- ☒ Log Patient Record Searches

Buttons at the bottom: OK, Cancel, Apply.

Site Properties Window – Research Site

NOTE:

When you change a field value, the value line box turns blue. If you type an invalid entry, the value line box turns red. If the value line box is empty and turns red, you must enter a value.

Setting Up Sites — General Settings

Site Properties – General Setup

1. In the menu tree at the left side of the **Site Properties** window, select **General**.

2. Enter information for the following fields.

Field	Action	Description
Site ID	Type the site ID.	Sets up a new site, if necessary.
Site Name	Type the site name.	Names a new site, if necessary. This is the name that will display on the ECGs that are printed from the MUSE system (in the upper right corner).
Patient ID Length	Type a number from 6 to 16.	Configures the maximum number of characters that you can enter manually in the Patient ID field on the system.
Order Number Length	Type a number from 1 to 22.	Configures the maximum number of characters that you can enter manually in the Order Number field on the system if the site does not have the HIS orders interface.
Units	Select English or Metric.	Determines how units are displayed in reports from this site.

Field	Action	Description
User Defined Label	Type appropriate text.	Adds a field to the Clerical tab of the Editor . The maximum character length for this field is 12. For example, if you add "Medicare No." in the user defined field, every test record has a field for "Medicare No."
Secondary PID Required	Select the check box to enable the option.	If this field is enabled, the user is required to enter a secondary Patient ID on each patient test before it is confirmed, demographic completed, and diagnosis completed.
Order Number Required	Select the check box to enable the option.	If this field is enabled, the user is required to enter an order number in the clerical tab before a test is confirmed, demographic completed, and diagnosis completed.
Visit Number Required	Select the check box to enable the option.	If this field is enabled, the user is required to enter a visit number in the clerical tab before a test is confirmed, demographic completed, and diagnosis completed.
Date of Birth Mismatch Enabled	Select the check box to enable the option.	If this field is selected, the system detects a date of birth mismatch between a patient test already in the system and a newly acquired test for the same patient, or if there is a date of birth mismatch between the test and HIS data. NOTE: When this field is enabled, a message displays in the patient demographics at the Edit List when a date of birth mismatch is detected.

Field	Action	Description
<i>Blank Last Name Mismatch Enabled</i>	Select the check box to enable the option. (The default is set to enabled.)	<p>If this field is enabled, the system treats a test as a mismatch if it has a blank last name field, but with a matching patient ID with the patient demographics stored for the system or ADT. The system does not automatically merge patient demographics into the test.</p> <p>NOTE: If this option is disabled, the system automatically updates the last name and other relevant demographics stored in the system or patient demographics system (ADT).</p> <p>GE Healthcare recommends that this feature only be disabled if:</p> <ul style="list-style-type: none"> • Your facility has a validated patient ID scheme in place, for example, a scheme using a check digitX. or • Your facility exclusively enters Patient IDs using a barcode scanner.

Field	Action	Description
Log Patient Record Views	Select to enable the option	If this field is enabled, each time a user views a patient test, demographics (local and ADT), or order, an entry is made in the Patient Record View Log in MUSE Status for that site. NOTE: This field is enabled by default.
Log Patient Record Searches	Select to enable the option	If this field is enabled, each time a user performs a database search or searches the Editor using a patient ID, patient last name, first name, date of birth, or order number, an entry is made in the Patient Record Search Log in MUSE Status for that site. NOTE: This field is enabled by default.

- Click **OK** or **Apply** to save your changes.

Site Properties – Advanced Setup

- In the menu tree on the left side of the window, select **Advanced**.

Site Properties (Clinical Site)

Creation Date/Time: 26-Jun-2014 13:48:06
Modification Date/Time: 26-Jun-2014 13:48:06

Default Report: Resting ECG

☐ Enable CSI Remote Query ☐ Use Cart Location Instead Of Order Location
☐ Enable 21 CFR Part 11 ☐ Enable Reanalysis
☐ Allow Use of Temporary Devices
☐ Strip Patient ID Leading Zeroes
☐ Demographic Complete on Acquisition Enabled
☐ Require Password Prompt when Saving

21 CFR Part 11 eSignature Message:

Completing this signature by entering your password is the legally binding equivalent of your handwritten signature.

You are accountable and responsible for actions initiated under this electronic signature. Do not allow anyone to use your username and password.

Unauthorized use of someone else's username and password is a serious issue and is equivalent to falsification of records and is subject to disciplinary action.

OK Cancel Apply

- At the **Default Report** field, select a default report type for created reports.

3. Select the check boxes next to the following fields to enable them:

Field	Description
Enable CSI Remote Query	If this field is enabled, the cart or peripheral device has access to patient data through the Remote Query option.
Enable 21 CFR Part 11	<p>If this field is enabled, 21 CFR Part 11 security features are enabled for this Site.</p> <p>The 21 CFR Part 11 accomplishes the following:</p> <ul style="list-style-type: none"> Disables automatic updates, for example, merges of demographics that occur during acquisition. Requires a reason for change when saving changes to tests. If enabled, the prompt Require Password Prompt when Saving is displayed. If enabled, the MUSE user password is required when tests are saved both at the site level and user level. The site level overrides the user level, so if the field Require Password Prompt when Saving is enabled, all users at that site are prompted. If the field Require Password Prompt when Saving is not enabled, choose which users are required to enter a password in user setup. <p>Use this option in combination with log changes so that all changes to the test are logged.</p>
Allow Use of Temporary Devices	If this field is enabled, all users of this site can send to temporary devices such as fax machines, carts, or email addresses.
Strip Patient ID Leading Zeros	<p>If this field is enabled, the system evaluates the Patient ID number of the incoming records and removes any leading zeros added by the cart or peripheral device.</p> <p>This is useful if your site has variable length Patient IDs.</p>
Enable Reanalysis	<p>If this field is enabled at a clinical site, ECGs are reanalyzed automatically when they arrive at the system. This must be enabled at the site as well as the location. To set up the location, see “Setting Up Locations - Advanced” on page 201.</p> <p>If this field is enabled at a research site, the user is able to manually reanalyze any data type from the Editor or Database Search.</p>
Demographics Complete on Acquisition Enabled	<p>If this field is enabled, tests are marked automatically as Demographics Complete during test acquisition only if the test demographics match existing demographics and HIS data is already in the system.</p> <p>This function allows HL7 billing messages to be routed automatically during test acquisition, but only if the demographics are accurate and complete.</p>

Field	Description
Require Password Prompt when Saving	If this field is enabled, the user is prompted to provide a password whenever they save or confirm changes to a test. If biometric authentication is not used, 21 CFR Part 11 requires a password prompt for each change. Review the 21 CFR Part 11 eSignature Message, which defines an eSignature.
Use Cart Location Instead Of Order Location	This option is relevant when orders are downloaded to the cart. If this field is enabled, the location information coming from the cart is stored in the test, instead of the location information coming from an order through HIS.

- Click **OK** when finished.

Site Properties – Setting Up the Fax Cover Page

Configure the fax cover page defaults for the site you are setting up by performing the following steps:

- On the menu tree at the left side of the window, select **Fax Cover Page**.

Site Properties (Clinical Site)

General Settings
General
Advanced
➤ **Fax Cover Page**
Email Settings
Test Type Settings
E14

HIS Settings
General
Merge Rules
ADT Query

Interval Editor Settings
General
Median mode
Raw mode

HL7 Batch Configuration
Billing Formats
Result Formats

FAX Title: FACSIMILE COVER SHEET

Line 1:

Line 2:

Line 3:

Line 4:

Phone Number:

FAX Number:

☒ Include Requester Name

System Routed Text:

FAX Body:

The information contained in this facsimile message is privileged and confidential information intended for the use of the recipient. If you are neither the intended recipient nor the hospital or agent responsible for delivering this message to the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in the contents of this telecopied information is strictly prohibited. If you have received this fax inadvertently, please contact the hospital administrator of cardiology services.

OK Cancel Apply

- Enter the following information

Field	Description
FAX Title	Type the correct fax title that appears on every fax you send for the site you are setting up. For example, you can add the name of your institution here.
Line 1-4	Type the address of your institution from where the fax is being sent.

Field	Description
Phone Number	Type the <i>Reply</i> to phone number.
FAX Number	Type the <i>Reply</i> to fax number.
Include Requester Name	If this field is enabled, the fax requester's name is included in the fax.
System Routed Text	Type the text you want to display on every fax for the site you are setting up.
FAX Body	Type the text to display in the body of the fax for every fax you send for that site.

- Click **OK** or **Apply** to save your changes.

Site Properties – Setting Up Email

Configure the default email information for the site you are setting up by performing the following steps:

- On the menu tree at the left side of the window, select **Email Settings**.

The screenshot shows the 'Site Properties (Clinical Site)' window. On the left is a tree view with the following items: General, Fax Cover Page, Email Settings (highlighted), Test Type Settings, HIS Settings (with sub-items: General, Depth of Merge, ADT Query), Advanced, Interval Editor Settings (with sub-items: General, Median mode, Raw mode), E14, and HL7 Batch Configuration (with sub-items: Billing Formats, Result Formats). The main area on the right is for 'Email Settings' and contains the following fields and controls:

- SMTP Server Name: [Text Field]
- SMTP Server Port: [Text Field] with the value '25' entered.
- From Address: [Text Field] with the value 'muse.email' entered.
- Reply-To Address: [Text Field]
- ☐ Enable Subject Line Privacy

At the bottom right are three buttons: OK, Close, and Apply.

- Enter the following information

Field	Description
SMTP Server Name	SMTP is the Simple Mail Transfer Protocol. Type the SMTP server name.
SMTP Server Port	SMTP is the Simple Mail Transfer Protocol. Type the SMTP server port number.
From Address	Type the sender's address. The address you type is displayed as the default for every email you send from that site.

Field	Description
Reply-To Address	Type the address to which the email recipient should reply. The address you type is displayed as the default for every email you send.
Enable Subject Line Privacy	If this feature is enabled, the patient's name and identification in the subject line are hidden on every email you send from that site.

- Click **OK** or **Apply** to save your changes.

Site Properties – Setting Up Test Type

Enable the following options on the **Test Type Settings** window:

- A signature message in the diagnosis field of specific test types
- The ability to capture log changes for specific test types.

Setting Up Signature Message in Diagnoses

- On the menu tree at the left side of the window, select **Test Type Settings**.
- Select the check box(es) next to the test type(s) at the **Signature Message in Diagnosis** field to enable them.

The test types are set up and enabled in **Setup > Test Types**.

- Click **OK**.

Each time a record is confirmed, the confirming physician's signature is visible at the end of the diagnosis statement for the selected **Test Type** at the selected site, as shown in the following figure:

Normal sinus rhythm
 Right bundle branch block
 Abnormal ECG
 Confirmed by Smith, M.D., Frank (5) on 8/1/2005 10:14:59 AM

NOTE:

Contact GE Healthcare Technical Support to make configuration changes to the signature message.

Setting Up Log Changes

Each time changes are made to a test, they are logged in a change log for that test. Click **Change Log** in the MUSE Editor to view the **Change Log**.

- On the menu tree at the left side of the window, select **Test Type Settings**.
- At the **Log Changes** field, select the check boxes next to each test type to log changes for that test type.

NOTE:

The test types are set up and enabled in **Setup > Test Types**.

- Click **OK** to save the changes.

Site Properties — E14

Refer to the *MUSE Cardiology Information System Interval Editor Manual* for instructions on setting up E14.

Setting Up Sites – HIS Settings

Configure the following options at the HIS Settings field:

- General (includes orders and billing)
- Merge Rules
- ADT Query

Setting Up HIS – General

1. In the menu tree on the left of the window, select **HIS Settings > General**.

2. Select the check boxes next to the appropriate settings to enable them.

Field	Description
Interface Settings	
Site has ADT Interface	Select to enable ADT. When this field is enabled, the Patient/Order retrieval pane in the Editor becomes active so that you can query for Patient/Order details.

Field	Description
Use Visit Number if PID is Unavailable	<p>If this field is enabled, when a test is transmitted to the MUSE system with a visit number but no patient ID, the MUSE system will use the visit number on the test to locate the HIS ADT record and corresponding patient ID for the test. If the option is disabled, and a test is acquired in the same condition, the MUSE system will log the test as NO PID and HIS data will not be merged to the test.</p> <p>This option is grayed out if you have not selected Site has ADT Interface.</p>
No ADT Record for Patient Mismatch Enabled	<p>If this field is enabled, when a test comes in with no ADT information (HIS information), the test is marked with a mismatch status and cannot be confirmed.</p> <p>This option is grayed out if you did not selected Site has ADT Interface.</p>
Site has Orders Interface	<p>Select to enable Orders.</p> <p>This option is grayed out if you did not selected Site has ADT Interface.</p>
Allow Manual Order Cancellation	<p>If this field is enabled, a user can manually cancel an order.</p> <p>This option is grayed out if you did not selected Site has Orders Interface.</p>
Site has ADT Query Interface	<p>Select this check box to enable the ADT Query Interface.</p> <p>The ADT Query Interface adds/updates patient details from the ADT database to the system.</p> <p>This option is grayed out if you did not selected Site has ADT Interface.</p>
Site has Billing Interface	<p>Select this check box to enable Billing.</p>
Bill using Financial Transaction	<p>If this field is enabled, specific HL7 DFT messages are sent from the system across the interface.</p> <p>This option is grayed out if you did not selected Site has Billing Interface.</p>
HIS Data Maintenance Settings	
Days To Retain Visits after Discharge is Received	<p>Set the number of days to retain a visit after the patient has been discharged. Type a number up in the range of 0 to 366 days.</p> <p>This option is grayed out if you did not selected Site has ADT Interface.</p>
Days To Retain Completed Orders	<p>Set the number of days before completed orders are purged. Type a number from 0 to 255 days.</p> <p>This option is grayed out if Site has Orders Interface is not selected.</p>

Field	Description
<i>Days to Retain Open Orders After Order date</i>	Set the number of days you want an open order left in the open order list. Type a number from 0 to 255 days. This option is grayed out if <i>Site has Orders Interface</i> is not selected.
Order Download Settings	
<i>Hours before Current Time</i> <i>Hours after Current Time</i>	Set up the number of hours to use when downloading a list of open orders to the ECG device. The <i>Hours before Current Time</i> option gives you the number of hours before the current time for which an order is available to download. The <i>Hours after Current Time</i> option gives you the number of hours after the current time for which an order is available to download. For example, if the <i>Hours before Current Time</i> is set to 8, and the <i>Hours after Current Time</i> is set to 4, and the current time is 1:00 p.m., then all tests scheduled between 5:00 a.m. and 5:00 p.m. are on the order list at the ECG device. This option is grayed out if <i>Site has Orders Interface</i> is not selected.
<i>Maximum Visit Age in Months</i>	Set up a window of time in months. When a MAC 3500 or MAC 5500 (version 10 or higher), or a MAC 2000, queries the system for patient demographics based on a visit number, it ignores all visits older than XX months (XX is the number of months specified in this field). The visit number is not guaranteed to be unique at all facilities and can overlap after a certain amount of time passes. This option is grayed out if <i>Site has Orders Interface</i> is not selected.

- Click **OK** when finished.

Setting Up HIS – Merge Rules

The Depth of Merge (or “Merge Rules”) feature allows the system to automatically synchronize patient test demographics and visit/account information with the Hospital Information System (HIS). When the system receives specific HL7 messages for a patient, it modifies patient records using configured rules within **Setup**.

For example, if the Patient ID for a patient is changed, this can trigger the HIS to send an HL7 message to the system with the change. The system automatically finds all patient tests with the old Patient ID and updates them with the new one. Settings in **Setup** determine whether the target of this update is recent demographics, unconfirmed tests, or confirmed tests.

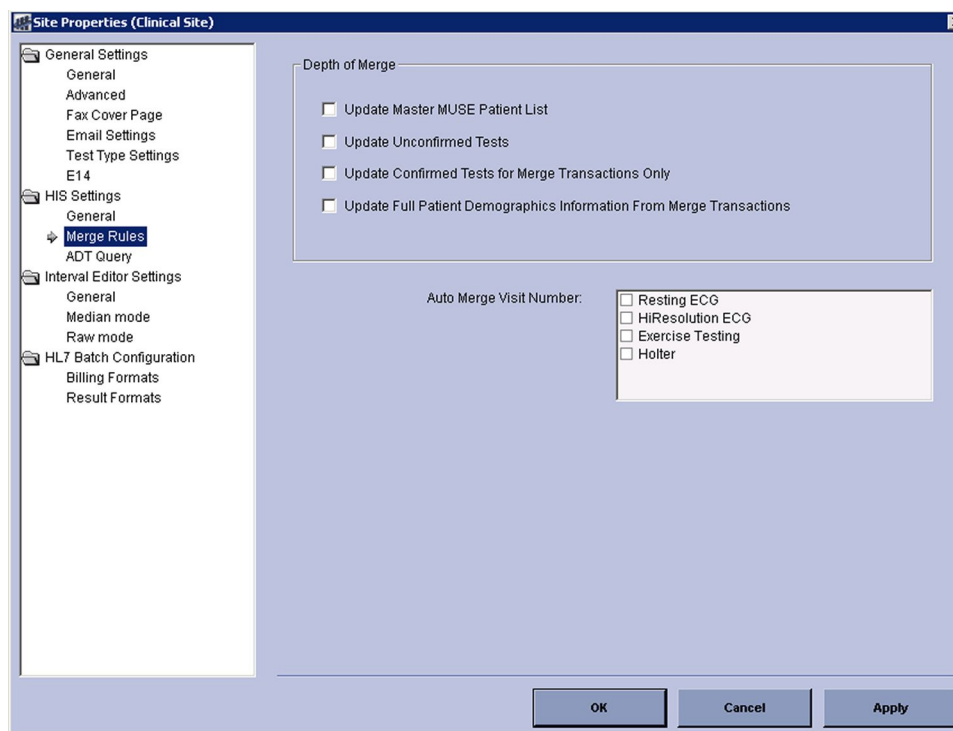
NOTE:

To use this feature, you must have the ADT Interface enabled. See [“Setting Up HIS – General” on page 146](#) to enable the ADT Interface.

NOTE:

Before making any changes to the **Merge Rules** settings, it is recommended that you consult with your IT department.

1. In the menu tree on the left of the window, select **HIS Settings > Merge Rules** to open the window where the configured rules are determined.



2. Select the check boxes next to the appropriate rules to enable them. The following table describes each available rule:

Depth of Merge Setting	Description
Update Master MUSE Patient List	<p>If this field is enabled, the local patient demographics stored on the system are automatically updated to match the HIS when changes occur to any of the following: Patient Admit, Patient Update, Patient Transfer, or Patient ID/ Visit/Account.</p> <p>It is not recommended that you enable this option. The HIS ADT interface will update the system and maintain the current patient demographics on the ADT tables. The Master MUSE Patient List is, therefore, irrelevant to test editing and will not be used.</p>
Update Unconfirmed Tests	<p>If this field is enabled, unconfirmed tests stored on the system are automatically updated to match the HIS when changes occurs to any of the following: Patient Admit, Patient Update, Patient Transfer, or Patient ID/ Visit/Account.</p>

Depth of Merge Setting	Description
<i>Update Confirmed Tests for Merge Transactions Only</i>	If this field is enabled, the patient demographics data on confirmed tests stored on the system are updated to match the HIS upon receiving Patient ID/Visit/Account Change messages from the HIS for a given patient.
<i>Update Full Patient Demographics Information From Merge Transactions</i>	If this field is enabled, all detailed attributes of Patient Demographics, Visit, and Account stored in the system test data are updated upon receiving Patient ID/Visit/Account Change messages from the HIS for a given patient. If this box is not selected, then only IDs and Names are changed.

- At the ***Auto Merge Visit Number*** field, enable this feature for the appropriate test types.

If this option is enabled, the system will only auto-associate a visit to the test when the test acquisition date/time is between the visit admit date/time and discharge date/time and the visit is open. This is the default behavior of MUSE v8. If the option is disabled, the visit's admit and discharge date/times and status are not considered. This behavior is consistent with that seen in MUSE v7 systems.

- Click **OK** to save your changes.

Setting Up HIS – ADT Query

ADT Query allows the system to automatically query the Hospital Information System (HIS) for patient demographics when a test arrives at the system, and when demographics are modified at the system.

NOTE:

If your institution has the ***ADT Query Interface***, make sure ***Site Has ADT Query Interface*** is selected in ***HIS Settings>General***, or this window is not enabled.

- At the ***HIS Settings*** folder in the menu tree on the left side of the window, select ***ADT Query***.

Site Properties (Clinical Site)

General Settings

- General
- Advanced
- Fax Cover Page
- Email Settings
- Test Type Settings
- E14

HIS Settings

- General
- Merge Rules
- ADT Query**

Interval Editor Settings

- General
- Median mode
- Raw mode

HL7 Batch Configuration

- Billing Formats
- Result Formats

ADT Query Settings

	Editor	Normal	Device
Enable ADT Query:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check MUSE ADT Database Before Query:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ADT Query Timeout (5-255s):	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="5"/>

General

Number Of Characters To Match In Last Name:

☐ Require ADT Information for Confirmation and Serial Comparison

Connection Properties

Server:

Port:

OK Close Apply

- To set up when you want the system to query the HIS, select the check boxes next to the appropriate settings.

Query can happen when the test is at the **Editor**, during normalization (**Normal**), or at the **Device**.

The following table describes each available setting:

ADT Query Setting	Description
Enable ADT Query	Select this check box for each setting to enable ADT Query. If the check box is not selected, ADT Query is not enabled.
Check MUSE ADT Database before Query	If this option is enabled, the system searches for patient demographics in the database first, and if not found, searches the HIS database. If patient demographics are found in the system database, the HIS is not queried.
ADT Query Timeout (5-255s)	After the ADT query is completed, this is the length of time, in seconds, that the system waits for a demographic response from the HIS. If the system does not receive a response within the specified amount of time, it displays a message indicating that a response was not received from the HIS. Enter a number between 5 and 255 seconds for each setting.

ADT Query Setting	Description
<i>Number of characters to match in last name</i>	<p>When the system queries the HIS, it sends the patient ID to the HIS and the HIS sends back the demographics for that patient ID.</p> <p>For example, if you set this field to 5, if the first 5 characters of the last name of the patient test on the system match the first 5 characters retrieved from the HIS, then the system merges the data and changes the last name to the value from the HIS. If the first 5 characters do not match, the test is marked as having a HIS PID/Name mismatch.</p> <p>Enter a number between 1 and 16 characters to enable this option.</p>
<i>Require ADT Information for Confirmation and Serial Comparison</i>	<p>When this option is enabled, incoming tests that do not have ADT Patient data:</p> <ul style="list-style-type: none"> • Incoming test are moved to the system in-basket • Incoming test do not have Serial Comparison run on them • Incoming test are not confirmed or marked as demographics complete.
<i>Connection Properties</i>	<p>Type the CCG server name and the CCG Server's ADT Query port number.</p> <p>If the CCG is configured to use the default (GE distribution) value for the <i>muse_prod</i> site, that port number is 9005.</p>

Interval Editor Settings

See the *MUSE Cardiology Information System Interval Editor Guide* for information on setting up the Interval Editor and E14 options.

Configuring HL7 Batch

Batch processing allows you to send results or billing information to the HIS in a single batch at a scheduled time. The batch device is a placeholder in the system where HL7 messages are stored until the time they are scheduled to be sent to the HIS as a batch file.

HL7 Batch is a purchasable option. These settings will be made by your HL7 engineer at the time of configuration and should not be altered.

Set up your billing and results formats as follows:

Configuring Billing Formats

1. In the menu tree at the left side of the window, select **HL7 Batch Configuration** > **Billing Formats**.

The **Billing Format** window opens.

2. Work with your IT department to complete the following fields for each billing format.

Billing Format Fields	Description
<i>Inter Record String</i>	Configure this field to specify what character the system uses as a record separator in the batch message it constructs. The default is <13><10> .
<i>Batch Segment Terminator</i>	Configure this field to specify the segment separator the system uses when constructing the batch message. The default is <13> .
<i>Number of Records Per Batch</i>	Configure this field to specify the limit of records in a batch the system constructs. The default is 10 .
<i>Number of Batches Per File</i>	Configure this field to specify the number of batches that should be present before a batch is created. If there are more batches based on the number of records, then multiple files are created. The default is 1 .

3. Click **OK** when finished.

Configuring Results Formats

1. In the menu tree at the left side of the window, select **HL7 Batch Configuration > Results Formats**.

The **Results Format** window opens.

The screenshot shows the 'Site Properties (Research Site)' window. On the left is a menu tree with the following structure: General Settings (General, Advanced, Fax Cover Page, Email Settings, Test Type Settings, E14), HIS Settings (General, Merge Rules, ADT Query), Interval Editor Settings (General, Median mode, Raw mode), and HL7 Batch Configuration (Billing Formats, **Results Formats**). The 'Results Formats' option is selected. The main area on the right displays three identical configuration panels for 'Result Format 1', 'Result Format 2', and 'Result Format 3'. Each panel contains four input fields: 'Inter Record String' with the default value '<13><10>', 'Batch Segment Terminator' with the default value '<13>', 'Number of Records Per Batch' with the default value '10', and 'Number of Batches Per File' with the default value '1'. At the bottom of the window are three buttons: 'OK', 'Cancel', and 'Apply'.

2. Work with your IT department to complete the following fields:

Results Format Fields	Description
<i>Inter Record String</i>	Configure this field to specify what character the system uses as a record separator in the batch message it constructs. The default is <13><10> .
<i>Batch Segment Terminator</i>	Configure this field to specify the segment separator the system uses when constructing the batch message. The default is <13> .
<i>Number of Records Per Batch</i>	Configure this field to specify the limit of records in a batch that the system constructs. The default is 10 .
<i>Number of Batches Per File</i>	Configure this field to specify the number of batches that should be present before a batch is created. If there are more batches based on the number of records, then multiple files are created. The default is 1 .

3. Click **OK** when finished.

Adding Users

Each individual using the system has a user account. The user account captures miscellaneous information such as email addresses, phone numbers, fax numbers, titles, user preferences, and routing information. The user account tracks a user's activity within the system and for auditing.

You can add users using Active directory authentication as well as MUSE and Windows authentication.

To add a new user:

1. In the Navigation pane on the **Setup** window, highlight **Users** to view the **Users** window.
2. Click **Action > New**.
The **User Properties** window opens.

Setting Up User Properties – General Information

1. On the menu tree at the left side of the window, highlight **General**.
2. Modify the fields described in the following table.

Field	Description
Last Name First Name	Type the user's first and last name. The user's first and last name are displayed in test reports and forms.
MUSE User Name	Type the appropriate MUSE user name to allow access to the system when logging in with MUSE authentication.
Windows User Name	If using Windows authentication to log on to the system, type the Windows user name entered at the Windows login screen.

Field	Description
Account is Enabled	This check box enables or disables user access to the MUSE system.
MUSE Password	Type a password with a maximum of 15 characters. Characters can be alpha or numeric.
Re-enter MUSE Password	Retype the same password.
User cannot change password	If this check box is enabled, the user cannot change their MUSE password.
Password never expires	If this check box is enabled, the user password does not expire and does not require to be changed.
User must change password at next login	If this check box is enabled, the user is forced to change their password during the next login.
Use Default Site (check box) Default Site (drop-down list)	If this check box is enabled, you can select a default site from the list. If a default site is selected, you log onto this site when re-entering the application.
Active Sites	Select all check boxes that apply to grant access to those sites.

- Click **OK** when finished.

Setting Up User Properties – Contact Information

- On the menu tree at the left side of the window, highlight **Contact Information**.

The screenshot shows the 'User Properties' dialog box with the 'Contact Information' tab selected in the left-hand menu tree. The menu tree includes 'General', 'Contact Information' (highlighted), 'Routing', 'Advanced', and 'Sites'. Under 'Sites', there is a folder icon labeled 'THE FIRST SITE' which contains 'Contact Information', 'Routing', and 'Advanced'. The main area of the dialog is titled 'System' and contains several input fields: 'Phone Number', 'FAX Number', 'Email Address', 'Medicare ID', 'HIS ID', 'Auxiliary ID 1', 'Auxiliary ID 2', 'Auxiliary ID 3', 'Auxiliary ID 4', and 'Auxiliary ID 5'. At the bottom right of the dialog are three buttons: 'OK', 'Close', and 'Apply'.

- Set up the user's contact information as described in the following table.

User Contact Information Fields	Description
<i>Phone Number</i>	The user's phone number. It is for reference information only and not used in any other part of the application.
<i>FAX Number</i>	If the auto-routing method is facsimile, type the fax number to send patient records. If you manually fax a report to this user through a temporary fax device, this number is displayed in a list of available fax numbers.
<i>Email Address</i>	If the auto-routing method is email, type the email address to send patient records.
<i>Medicare ID</i>	This field can be used by your HL7 interface to identify the user (usually a physician) to your EMR or billing system. Do not change this ID without consulting with your Hospital IT department.
<i>HIS ID</i>	The Hospital Information System unique identifier for that user. If the user plays a role, such as a primary care, attending, or admitting physician, and requires automatic report distribution, work with your Hospital IT department to set up the HIS ID. Make sure you also set up the primary care, attending, or admitting physician's routing and report distribution information. See "Setting Up User Properties – Routing" on page 157 , and "Setting Up Report Distribution" on page 202 .
<i>Auxiliary ID 1-5</i>	Use these fields for reference information only. NOTE: These fields are automatically updated if LDAP authentication is used and the LDAP fields are mapped to them. See "LDAP Fields" on page 190 .

3. Click **OK** when finished.

Setting Up User Properties – Routing

1. On the menu tree at the left side of the window, highlight **Routing**.

User Properties

General
Contact Information
Routing
Advanced
Sites
THE FIRST SITE
Contact Information
Routing
Advanced
Research Site 2
Contact Information
Routing
Advanced

System

☐ Route If Referring
☐ Route If Overreading
☐ Route If Ordering
☐ Route If Attending
☐ Route If Admitting
☐ Route If Primary Care

Route Method: User's FAX Number
Route Device:

OK Close Apply

2. Configure the user's routing information as described in the following table:

Routing Information	Description
<ul style="list-style-type: none"> • <i>Route if Referring</i> • <i>Route if Overreading</i> • <i>Route if Ordering</i> • <i>Route if Attending</i> • <i>Route if Admitting</i> • <i>Route if Primary Care</i> 	<p>If you enable any of these options, patient reports are automatically routed to this user. This field applies only if the user is listed as Referring, Overreading, or Ordering and so on, in the patient record.</p> <p>NOTE: In MUSe v9, the following three default fields were added: Route if Attending, Route if Admitting, Route if Primary Care.</p> <p>If you are setting up any one of these physician roles to receive automatic report distribution, make sure you also set up that user's HIS ID and report distribution information. See "Setting Up User Properties – Contact Information" on page 156, step 2, and "Setting Up Report Distribution" on page 202.</p>
Route Method	Select the method to route patient reports to the user. The choices are User's Fax Number , System Device , or User's Email Address .
Route Device	If the Route Method chosen is System device on the Route Device field, select the system device for routing.

3. Click **OK** when finished.

Setting Up User Properties – Advanced

1. Select **Advanced** in the menu tree at the left side of the window.

The screenshot shows the 'User Properties' dialog box with the 'Advanced' tab selected. The left-hand menu tree shows 'General', 'Contact Information', 'Routing', 'Advanced' (highlighted), and 'Sites'. Under 'THE FIRST SITE', there are sub-items for 'Contact Information', 'Routing', and 'Advanced'. The main area of the dialog is titled 'System' and contains the following fields and options:

- User ID:** A text input field.
- Role:** A dropdown menu currently showing 'Acquire Only'.
- Profile:** A dropdown menu currently showing 'None'.
- Job Titles:** A list of checkboxes for various roles:
 - ☐ Ordering Physician
 - ☐ Referring Physician
 - ☐ Overreading Physician
 - ☒ Acquiring Technician
 - ☐ Cardiac Fellow
 - ☐ Attending Physician
 - ☐ Referring Cardiologist
 - ☐ Surgeon
 - ☐ Assistant Surgeon
- ☐ Display Password Prompt when Saving
- ☒ Display User in Personnel Lists

At the bottom right, there are three buttons: 'OK', 'Cancel', and 'Apply'.

2. Configure advanced information as described in the following table:

Field	Description
User ID	<p>Type the MUSE User ID for this user.</p> <p>Every user who performs any function on the system or acquires tests at a peripheral device should be a system user and have a User ID.</p> <p>NOTE: The User ID is the same as the ID entered at the Cart as the Technician ID in the Technician field. This ID also displays as the In-Basket ID.</p>
Role	<p>Select the correct user role.</p> <p>The role defines the privileges for this user and determines what this user can or cannot do on the system.</p> <p>See Appendix C. "Roles and Privileges" on page 249.</p>
Profile	<p>Select the appropriate profile from the list.</p> <p>The profile contains setups configured specifically for this user. Only profiles already published are visible in the drop-down list.</p>
Job Titles	<p>Enable the role(s) for this user.</p> <p>For example, if you select Referring Physician, this user is included in every search list of Referring Physicians.</p> <p>In MUSE v9, the following three default fields were added: Attending Physician, Primary Care Physician, Admitting Physician.</p>

Field	Description
Display Password Prompt when Saving	If enabled, the user is required to provide his or her password when saving data.
Display User in Personnel List	Do not enable or disable this check box. It currently has no function in the MUSE system.

- Click **OK** when finished.

Setting Up User Properties – Site Overrides

User Properties can be overridden on a per site basis. You can override the user properties for a site to:

- Modify a user's contact information, such as Medicare ID, on a per site basis.
- Modify a user's routing options on a per site basis.
- Modify roles, profiles, or job titles on a per site basis.
- The user has a different user ID across multiple sites.

After each site is added to the system, it is visible in the **User Properties – Sites** folder.

- On the menu tree at the left side of the window, highlight **Sites** to view user privileges for a site (including routing privileges, contact information, and user privileges that were previously set up).
- Select the appropriate site from the list.
- Select **Contact Information**, **Routing**, or **Advanced** for the site.

The top half of the window shows the system user configuration for reference.

The bottom half of the window shows the overridden user configuration which can be modified.

- To change these settings, select the **Override for this Site** check box.

The data fields are active and ready to modify. The **User Properties** fields are the same as those described in [“Setting Up User Properties – General Information” on page 155](#).

- Make any necessary changes.

NOTE:

Any changes made to the overridden site user configuration overrides the system user configuration when the user accesses the overridden site.

- Click **OK** when finished.

For additional information on how and when to configure site overrides, contact GE Healthcare Clinical Application support.

Setting Up Roles

User privileges are included in predefined groupings known as roles. System Administrators can assign roles to allow users access or prevent users from accessing certain functions on the system. Each individual who uses the system is assigned a role. In order to avoid confusion, a user is assigned only one role per site. The system provides a default set of roles to use, however, you can create new roles.

System-defined roles are locked and the user cannot change them. Roles are defined at the system level so all sites can share the same list of roles.

The system default roles include:

- **Acquire Only**
- **View Only**
- **Editor**
- **Site Manager**
- **System Owner**
- **MUSE Service**
- **All Privileges**
- **Demographics Editor**
- **Overreader**
- **Cardiac Fellow**
- **Proxy**
- **E14 Blinded Overreader**

Creating User-Defined Roles

1. On the menu tree at the left side of the window, select **Roles**.
The **Roles** window opens.
2. Select **Action > New**.
The **Role Properties** window opens.

The screenshot shows the 'Role Properties' dialog box. The left pane contains a tree view with the following items: General (selected), Editor Privileges, Status Privileges, Database Search Privileges, Setup Privileges, Miscellaneous Privileges, and Details. The right pane has two text input fields: 'Name:' and 'Description:'. At the bottom of the dialog are three buttons: 'OK', 'Close', and 'Apply'.

3. In the **General** window, type the name and description of the new role.

4. Assign the appropriate privileges at the **Editor...**, **Status...**, **Database Search...**, **Setup...**, and **Miscellaneous...** windows.
5. Click **OK** when finished.

Once the new role is created, you can attach it to a user.

For a definition of roles and privileges, see [Appendix C](#).

For the MUSE v9 release, the new setup privileges that were added are:

- **Manage LDAP Settings**
- **Manage LDAP User Field Settings**
- **Manage LDAP Group Settings**
- **View Patient Information View Log**
- **Clear Patient Information View Log**
- **View Search Log**
- **Clear Search Log**
- **View Configuration Update Log**
- **Clear Configuration Update Log**
- **View Patient Access Log**
- **View User Access Log**

Modifying a User-Defined Role

1. In the menu tree at the left side of the window, highlight **Roles**.
The **Roles** window opens.
2. Double-click on a user-defined role that you want to modify.
Do not click on a system-defined role as those cannot be modified.
For a definition of roles and privileges, see [Appendix C](#).
3. Select **Editor Privileges**, **Status Privileges**, **Database Search Privileges**, **Setup Privileges**, and **Miscellaneous Privileges** to turn the appropriate privilege on or off.
For a definition of roles and privileges, see [Appendix C](#).
4. Click **OK** when finished.

Deleting User-Defined Roles

1. In the **Roles** window, highlight the user-defined roles you want to delete.
2. Select **Action > Delete**.
3. Confirm by clicking **Yes**.
The user-defined role is permanently deleted from the system.

Setting Up Devices

Devices are destinations where you can send spooled reports. Set up any device as a permanent system device to which a user prints, faxes, or emails on a regular basis.

All devices that interface with the MUSE system are included in the **Device List**. You need to set up advanced format settings for these devices or any other system devices.

Highlight **Devices** in the Navigation pane on the left side of the window. The **Devices** window opens.

Setting Up DICOM IOD

DICOM IOD (Information Object Definition) is configured when a patient test from the MUSE system has to be exported as a DICOM file to a storage device.

1. In the **Devices** window, select **Action > New > DICOM IOD**.

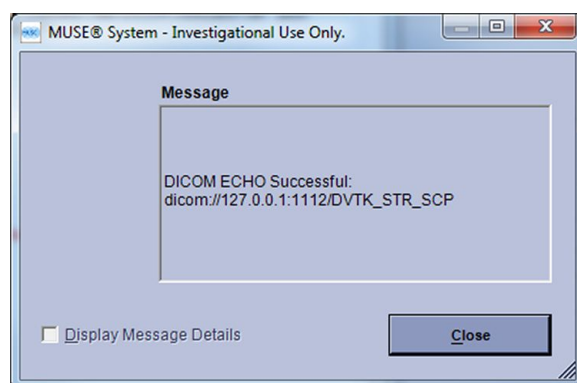
The **Device Properties - DICOM IOD** window opens.

2. At the **General** screen, populate the following fields.

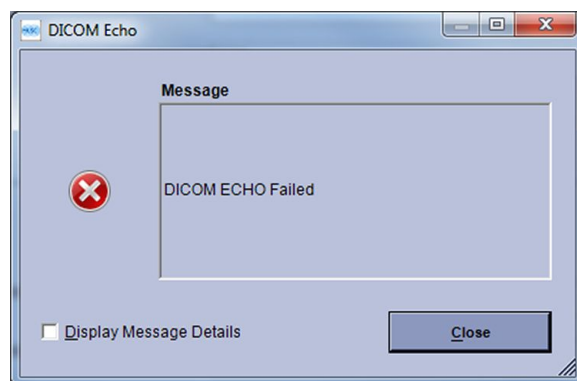
Field	Description
Device Name	Type the DICOM storage device name.
Device AE Title	Type the Application Entity (AE) title for the DICOM storage device.
IP Address	Type the IP address of the DICOM storage device.
Port	The default port is 108. Change the default port to the port on which the DICOM storage device is listening to receive the DICOM study.
Send Original IOD if available	If this option is enabled, the original data initially acquired is sent for export, even if it is modified in Editor. If this option is not enabled, the test modified in the Editor is sent for export.
Supports Storage Commitment	Enables if the DICOM storage device supports Storage Commitment.

Field	Description
Storage Commitment AE Title	Type the Storage Commitment AE title of the DICOM storage device.
Storage Commitment IP Address	Type the Storage Commitment IP address of the Storage Commitment device.
Storage Commitment Port	Enter the listening port on the device where you want to send the storage commitment request.

3. If you enable the **DICOM Echo** button, the MUSE system tests the connection to the DICOM storage device using the IP address and port configured in Step 2. If the connection is successful, the following message displays:



If the connection fails, the following message displays:



4. At the **Hours of Operations** screen, configure the hours that the device operates.

Device Properties - DICOM IOD

General
Hours Of Operation
Advanced

Sunday 00:00 to 24:00
Monday 00:00 to 24:00
Tuesday 00:00 to 24:00
Wednesday 00:00 to 24:00
Thursday 00:00 to 24:00
Friday 00:00 to 24:00
Saturday 00:00 to 24:00

☒ Hold reports when device is not available

OK Cancel Apply

5. At the **Advanced** screen, enable all the sites where the configured DICOM IOD device is to be used.

Device Properties - DICOM IOD

General
Hours Of Operation
Advanced

Creation Date/Time: 19-May-2014 14:49:44
Modification Date/Time: 19-May-2014 14:49:44

☒ Valid for all Sites

Valid Sites:

- ☒ 1 - THE FIRST SITE
- ☒ 2 - Research Site 2
- ☒ 4 - deepa's site
- ☒ 10 - Blind Editing Site
- ☒ 17 - Muelling Hospital

OK Cancel Apply

6. Click **OK** to save the DICOM IOD device configurations.

Setting Up DICOM PDF

DICOM PDF is configured when a patient test from the MUSE system must be exported as an encapsulated PDF report to a DICOM storage device.

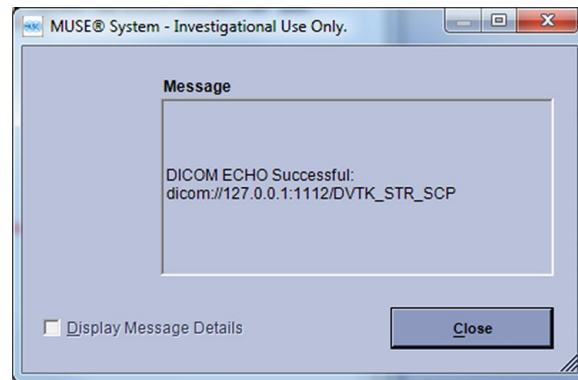
1. In the **Devices** window, select **Action > New > DICOM PDF**.

The **Device Properties - DICOM PDF** window opens.

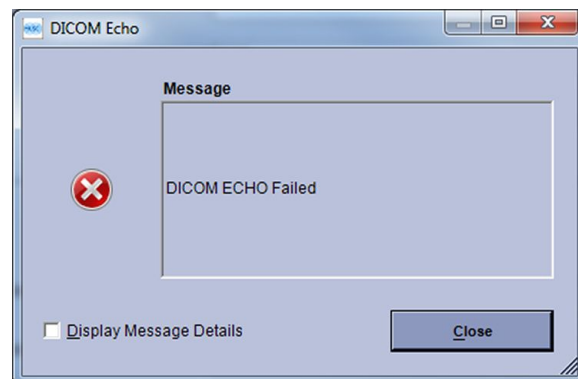
2. At the **General** screen, populate the following fields.

Field	Description
Device Name	Type the DICOM storage device name.
Device AE Title	Type the Application Entity (AE) title for the DICOM storage device.
IP Address	Type the IP address of the DICOM storage device.
Port	The default port is 104. Change the default port to the port on which the DICOM storage device is listening to receive the DICOM study.
Supports Storage Commitment	Enable if the DICOM storage device supports Storage Commitment.
Storage Commitment AE Title	Type the Storage Commitment AE title of the DICOM storage device.
Storage Commitment IP Address	Type the Storage Commitment IP address of the Storage Commitment device.
Storage Commitment Port	Enter the listening port where the storage commitment request is to be sent to the device.

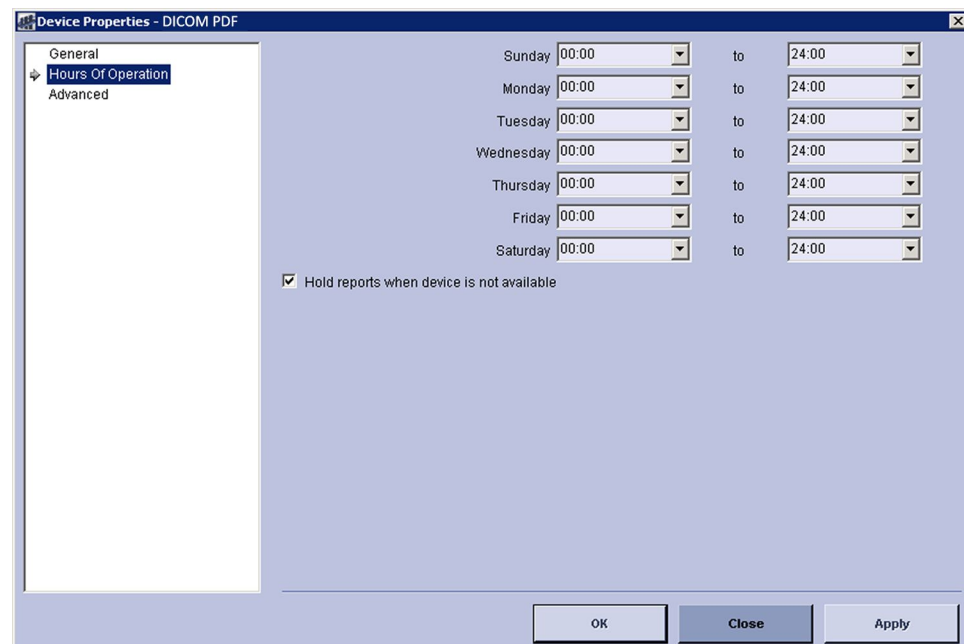
3. If you enable the **DICOM Echo** button, the MUSE system tests the connection to the DICOM storage device using the IP address and port configured in Step 2. If the connection is successful, the following message displays:



If the connection fails, the following message displays:



4. At the **Hours of Operations** screen, configure the hours that the device operates.



5. At the **Advanced** screen, select the PDF format that was defined for the test type.
6. Click **OK** when finished.

Setting Up a Postscript or PCL Printer

1. To set up a Postscript or PCL printer, do one of the following:
 - To set up a postscript printer, select **Action > New > Postscript Printer**.
 - To set up a PCL printer, select **Action > New > PCL Printer**.

The appropriate device properties window opens.

2. Type the device name in the **Device Name** field.
3. If the device type is PostScript, select the **Grid Source** from the drop-down list.

Grid Source	Description
None	The MUSE system observes the grid type configuration defined in format settings.
Upper Tray	The MUSE system prints tests to the upper tray of a dual tray PostScript compatible printer with no grid, regardless of the configuration defined in format settings. Use this option when you have grid paper.
Lower Tray	The MUSE system prints tests to the lower tray of a dual tray PostScript compatible printer with no grid, regardless of the configuration defined in format settings. Use this option when you have grid paper.

NOTE:

Grid Source is only an option for PostScript device types. The **Grid Source** option is not compatible with all PostScript laser printers.

4. Select the **Connection Type** from the drop-down list.
 You can set up a network or local printer.
 If you set up a network printer, type the address of the network printer in the **Address** field.
 If you setup a local printer, type the computer name and port in the **Computer Name** and **Port** fields.
5. At the **Hours of Operation** window, do the following:
 - a. Set up the hours of operation for either device.
 - b. Enable the **Hold reports when device is not available** check box to hold any reports if the device is offline or not available.
6. At the **Advanced** window, set up the format settings for each test type from the drop-down lists.
7. Click **OK** when finished.

Setting Up a Fax Machine

1. On the **Devices** window, select **Action > New > FAX Machine**.
The **Device Properties - FAX Machine** window opens.
2. Type the name of the fax machine in the **Device Name** field.
3. Type the fax machine's phone number in the **Phone Number** field.
4. Type a number (in minutes) in the **Transmit Delay in Minutes** field that represents the number of minutes that the transmission is to be delayed.

NOTE:

For immediate faxing, set to 0 minutes.

5. To print the fax header on each fax, select the **Print Fax Header** check box.
6. At the **Hours of Operation** window, set up the hours that the fax machine is in operation.
7. At the **Advanced** window, set up your format settings from the drop-down list for each test type.
8. Click **OK** when finished.

Setting Up Email Addresses

1. On the **Devices** windows, select **Action > New > Email Address**.
The **Device Properties - Email Address** window opens.
2. Type the **Device Name** and **Address** in the fields provided.
3. Select the **Output Type** from the drop-down list.
Your choices are PDF, HTML, or XML.
4. Click **OK**.
5. At the **Hours of Operation** window, set up the hours when the email service is available to the system and click **OK** when finished.
6. At the **Advanced** window, set up the format settings for each test type and click **OK** when finished.

Setting Up a Folder

This feature requires the **MUSE File Copy** service installed. See the *MUSE Cardiology Information System Service Manual* for information on adding services.

1. On the **Devices** window, select **Action > New > Folder**.

The **Device Properties - Folder** window opens.

NOTE:

The user account configured to start the **MUSE File Copy** service must have appropriate share and/or file system access to create files in the destination specified here.

2. Type the device name, folder destination, and file extension in the appropriate fields.

3. Select an **Output Type** from the drop-down list.
If you select **Hilltop** or **XML** as an Output Type, select the appropriate **Output Options**.
4. At the **Hours of Operation** window, set up the hours when the folder is available to the system and click **OK** when finished.
5. At the **Advanced** window, set up the format settings for each test type and click **OK** when finished.

Setting Up an FTP Folder

This feature requires the **MUSE FTP Copy** service installed. See the *MUSE Cardiology Information System Service Manual* for information on adding services.

1. On the **Devices** window, select **Action > New > FTP Folder**.
The **Device Properties - FTP Folder** window opens.
2. Type the **Device Name**, **Destination**, **Port**, **Transfer Type**, **User Name**, **Password**, and **File Extension** in the fields provided.
The **Destination** must be entered as **FTP_SERVER/DESTINATION**. For example, if the FTP server is **FTPSERV** and the destination folder is **MUSE**, the **Destination** would be **FTPSERV/MUSE**. An IP address may be used instead of a name, for example, **128.9.9.1/MUSE**. DO NOT type the **Destination** as **ftp://FTPSERV/MUSE**.
3. Select an **Output Type** from the drop-down list.
If you select **Hilltop** or **XML** as an **Output Type**, select the appropriate **Output Options**.
4. At the **Hours of Operation** window, set up the hours when the FTP service will be available to the system and click **OK** when finished.
5. At the **Advanced** window, set up the format settings for each test type and click **OK** when finished.

Setting Up CSI and CSI HiRes

1. To set up CSI or CSI HiRes cart, do one of the following on the **Devices** window:
 - To set up a CSI cart, select **Action > New > CSI**.
 - To set up a CSI-HiRes cart, select **Action > New > CSI-HiRes**.

The **Device Properties - CSI** or **Device Properties - CSI-HiRes** window opens.

NOTE:

Use the device type **CSI HiRes** when setting up **CSI** for all carts that support HiRes (for example, MAC 5000 and MAC 5500) and use the device type **CSI** when setting up **CSI** for all carts that do not support HiRes (for example, MAC 800, MAC 1200, MAC 1600 and MAC 3500).

2. Type the device name and phone number in the appropriate fields.
3. Enter the **Transmit Timeout in Seconds**.
4. At the **Hours of Operation** window, set up the hours when CSI is available to the system and click **OK** when finished.
5. At the **Advanced** window, set the format settings and click **OK** when finished.

Setting Up HL7

New HL7 devices should only be created by the assigned HL7 engineer.

1. On the **Devices** window, select **Action > New > HL7**.
The **Device Properties - HL7** window opens.
2. Type the device name, address, port number, and **Transmit Timeout in Seconds** in the appropriate fields.
3. If the device is used for batch billing, select **Batch Device**.
See [“Setting up HL7 Batch Scheduler” on page 207](#) to set up the hours of operation for the batch device.
4. At the **Hours of Operation** window, set up the hours of operation for the HL7 device (not applicable if batch device is selected).
5. At the **Advanced** window, set the format settings. Click **OK** when finished.
If **Batch Device** was selected, you must also enable **Format For Batch Process** for any test types that you want to format for the HL7 batch device. At least one test type must be enabled.
If multiple test types are enabled, the format settings for those test types must share all the same HL7 format.
If a test type is not enabled and a test of that type is sent to the batch device, it will be ignored.
6. Click **OK** when finished.

Setting Up DCP

The Diagnostic Cardiology Protocol (DCP) is used to communicate between GE Healthcare products, such as ECG carts and the system.

To set up DCP, perform the following procedure.

1. On the **Devices** window, select **Action > New > DCP**.
The **Device Properties - DCP** window opens.
2. Type the device name, address, and port number in the appropriate fields.
The address is the destination DCP device host name or IP address.
The port is the TCP/IP port number of the destination DCP device.
3. At the **Hours of Operation** window, set up the hours when the communication protocol is available and click **OK** when finished.
4. At the **Advanced** window, set up the valid sites and click **OK** when finished.

Setting Up Formats

You can modify or create custom formats for the various data types in the **Formats** field, and can attach these formats to a device set up on the system, or select them on demand when printing tests. Default formats are available on the system for you to use. You can select a format configuration as a system default.

Setting Up a New Format

Some of the different formats you can set up are as follows:

- **General Settings**
- **Resting ECG Settings**
- **HiResolution ECG Setting**
- **Stress Settings**
- **Holter Settings**
- **Resting ECG Color Settings**
- **Stress Color Settings**
- **Holter Color Settings**
- **HiRes Color Settings**

1. On the **Navigation** pane, select **Formats**.
2. Select **Action > New** and select the data type from the list to create a new format, or double-click on an existing format.

The **Format Properties** window opens.

3. On the **General** screen, complete the following fields:

Name	Description
Name	Type the name of the new format. Make sure it describes the intended use of the format. For example, if the format is for a Fax ECG, make sure that the word Fax is in the name. This makes it easy to identify this format from a list of formats. NOTE: If there is more than one site on the system, you can precede the format name with a site identifier as formats are system wide.
Display Barcode	Select this check box to display the barcode on the right side of the test report.

Name	Description
<i>Remove Patient Information</i>	<p>Select this check box to remove the patient information on a test report.</p> <p>When this setting is enabled, the following fields do not print in a report:</p> <ul style="list-style-type: none"> • Patient ID • Patient Name • Date of Birth (age does print) • Secondary ID • Order Number • Room Number • Extra questions because they have ID numbers • User-defined fields • Account and Visit Number • All personnel, including Referring Physician, Ordering Physician, Overreader, Technician, Attending Physician, Fellow, Primary Care Physician, and Editor. <p>In addition to the above, any attachments are removed from the test. This includes the MARS formatted report.</p> <p>NOTE: This field is unavailable for MUSE eDoc Connect test types.</p>
<i>Show Detailed Test Status on Report</i>	<p>Select this check box to display the detailed status on printed test reports (<i>newly acquired, updated, demographics completed, diagnosis completed</i>, and so on). If this check box is not selected, only the status of <i>unconfirmed</i> or <i>confirmed</i> displays on printed test reports.</p>
<i>Indent Diagnosis</i>	<p>Select this check box to indent the diagnosis in the test report.</p>
<i>Show Account Number</i>	<p>Select this check box to display the account number in the test report.</p>
<i>Show Visit Number</i>	<p>Select this check box to display the visit number in the test report.</p>
<i>Diagnosis Spacing</i>	<p>Defines how close or far apart the letters appear in the diagnosis. The default is set to 10.</p>
<i>Grid Type</i>	<p>Allows you to enable or disable printing grids. If you are using pink grid paper in your laser printer, select <i>No Grid</i>.</p>
<i>Pages Per Sheet</i>	<p>Select how many pages per sheet the test report is printed on: 1, 4, or 16.</p>

Name	Description
Paper Type	Select the paper type, US Letter or A4 , on which the test report is printed. NOTE: This field is unavailable for MUSE eDoc Connect test types.
Reviewed By Text	Allows you to customize the text that precedes the confirming physician's name.
Text Control	Select the text format for the diagnosis text area of the ECG from the drop-down menu. The default is Standard Header . For example, if you want a format that does not print the interpretation, select No Diagnosis . This could be important if you are printing out ECGs for teaching purposes and you want to hide the diagnosis.
Waveform Thickness	The default is set to 15. Adjust it as necessary.

4. On the **Colors** screen, adjust the colors of the ECG Waveform if you are printing to a color printer or setting a format for the Web.
5. On the **Fonts** screen, adjust the characteristics for the test report title, primary font, and diagnosis font by changing the style, size, and color for each.
6. On the **Forms** screen, adjust the forms pages (not the waveform presentation) as follows:

- a. At the **Options** screen, complete the following fields.

Name	Description
Allow Forms Sections to Cross Page Boundary	This option allows the sections in the report to span across pages.
Remove Empty Sections on Forms	If this option is selected, any empty sections in the form are removed and do not print.

- b. On the **Font** screen, change the characteristics for **Heading**, **Primary**, **Label**, **Column**, and **List** by adjusting the font style, size, and color for each.
- c. On the **Pages** screen, select the output form pages for printing.
If you are setting up a fax format, select **Fax Cover Sheet**. This cover sheet contains the information customized under the **Fax Cover Page** in **Site > Setup**.
7. On the **HL7** screen, set the result or billing formats and the image type.
Consult with your IT department for correct selections. You must set this up for each data type.

8. Perform the following steps for the specific format you are setting up:
 - a. If you are setting up an **ECG Format**, you see the **ECG Specific** and **Attachments** screens.
 - i. At the **ECG Specific** screen, enable the following check boxes:

Name	Description
Multi-Page Serial	If enabled, prints the current and first previous ECGs on multiple pages.
Print Median Tick Marks	If enabled, prints fiducial point (P-On, P-Off, QRS-On, QRS-Off, T-Off) tick marks on medians.
Show Medians With Double Gain	If enabled, doubles the gain on medians.
Format Style	Determines the layout of the report. You can enable multiple styles and print as separate pages.
Set Leads To Cabrera Order	Changes lead order to Cabrera order - (aVL, I, -aVR, II, aVF, III, V1-V6).
Frontal Gain	It is recommended that you leave these settings as Cart Settings . If changes are made on the cart for any of these settings, the printout uses those settings and prints at the same gain as set on the cart. Gain scaling is presented in millimeters per millivolt on the frontal and limb leads (I, II, III, aVR, aVL, and aVF). A gain of 10 mm/mV is typical.
Precordial Gain	It is recommended that you leave these settings as Cart Settings . If changes are done on the cart for any of these settings, the printout uses those settings and prints at the same gain as set on the cart. Gain scaling is presented in millimeters per millivolt on the frontal and limb leads (I, II, III, aVR, aVL, and aVF). A gain of 10 mm/mV is typical.
Wave Speed	It is recommended that you leave these settings as Cart Settings . If changes are made on the cart for any of these settings, the printout uses those settings and prints at the same speed as set on the cart. Speed scaling is presented in millimeters per second. A gain of 25 mm/seconds is typical.
Filter	Low pass filter in Hz. It is recommended that you leave these settings as Cart Settings . If changes are done on the cart for any of these settings, the printout uses those settings and prints at the same filter as set on the cart.

Name	Description
2nd Physician	Select from the drop-down list the physician whose name you want to display as second at the top of the printed report.
1st Physician	Select from the drop-down list the physician whose name you want to display as first at the top of the printed report.

- ii. Setting up this tab allows the user to include supplemental attachments to a non-Resting ECG or created Resting ECG test report. At the **Attachments** screen, enable the following check boxes as appropriate for your institution:

Name	Description
Primary Print Report Attachment	If enabled, you can include the primary attachment in the test report.
Print All Supplemental Attachments	If enabled, you can include all supplemental attachments in the test report.
Print Selected Supplemental Attachments	If enabled, only the supplemental attachments marked with "Include in Final Report" are included in the test report.
Include Demographics Overlay	If enabled, you can include an overlay of the current MUSE patient demographics on each page of the documents.

- b. If you are setting up a **Hi-Res Format**, you see the **HiRes Specific** and **Attachments** screens.

- i. At the **HiRes Specific** screen, enable the following check boxes:

Name	Description
Standard Report Page	If enabled, prints a standard HiRes Report.
MAC 15 Expanded Median	If enabled, prints a MAC 15 report page with expanded median.
MAC VU Expanded Median	If enabled, prints a MAC VU report page with expanded median.
Overlapped Median Page	If enabled, prints a report page with overlapped median.
Filter Setting	Filtering is used when printing the reports. Make a selection for Filters 1–3 from the drop-down menu.

- ii. Setting up this tab allows the user to include supplemental attachments to a non-Resting ECG or created Resting ECG test

report. At the **Attachments** screen, enable the following check boxes as appropriate for your institution:

Name	Description
Primary Print Report Attachment	If enabled, you can include the primary attachment in the test report.
Print All Supplemental Attachments	If enabled, you can include all supplemental attachments in the test report.
Print Selected Supplemental Attachments	If enabled, only the supplemental attachments marked with "Include in Final Report" are included in the test report.
Include Demographics Overlay	If enabled, you can include an overlay of the current MUSE patient demographics on each page of the documents.

- c. If you are setting up a **Holter Format**, you see the **Holter Specific** and **Attachments** screens.

Selecting the check boxes from this list only controls printing for Holter reports that do not contain formatting from the MARS™ Holter Analysis System. If you have the MARS Formatter installed on your system, the entire stored Holter report is printed as it is seen on the MARS system.

If you do not have the MARS Formatter installed, the only three components of a Holter report that print are the Holter cover page and strip pages with a directory when the correct components are selected. It also prints any components you selected from the form pages.

- i. On the **Holter Specific** window, enable the following check boxes if you are using data from a legacy Holter system prior to the MARS™ Holter Analysis System:

Name	Description
Cover Page	If enabled, prints the report cover page including the name, patient ID, and so on. Select this check box if you do not have the MARS Formatter installed to print the report cover page. Ignore this check box if you are using the MARS Formatter with your system.
Strip Pages	If enabled, prints the strip pages. Select this check box if you do not have the MARS Formatter installed to print the strip pages. Ignore this check box if using the MARS Formatter with your system.
MARS Format	If enabled, prints a Holter report including the narrative summary, hourly summary, trend pages, ST summary page, histograms, and ST level.

- ii. Setting up this tab allows the user to include supplemental attachments to a non-Resting ECG or created Resting ECG test report. At the **Attachments** screen, enable the following check boxes as appropriate for your institution:

Name	Description
Primary Print Report Attachment	If enabled, you can include the primary attachment in the test report.
Print All Supplemental Attachments	If enabled, you can include all supplemental attachments in the test report.
Print Selected Supplemental Attachments	If enabled, only the supplemental attachments marked with "Include in Final Report" are included in the test report.
Include Demographics Overlay	If enabled, you can include an overlay of the current MUSE patient demographics on each page of the documents.

- d. If you are setting up a **Stress Format**, you see the **Stress Specific** and **Attachments** screens.

- i. At the **Stress Specific** screen, enable the following check boxes:

Name	Description
Graded Exercise Summary	If enabled, prints a report page with medians at baseline and maximum ST or Peak.
CASE-16 Trends (All Leads)	If enabled, prints a report page with CASE-16 trends on all leads.
ST/HR Slope Report	If enabled, prints a report page with ST/HR Slope.
Hollenberg Report	If enabled, prints a Hollenberg report page.
MAX-1 Trends (All Leads)	If enabled, prints a report page with MAX-1 Trends (all leads).
ST/HR Loops	If enabled, prints a report page with ST/HR loops.
Trend & Medians Report	If enabled, prints a report page with trends and medians.
Selected Medians Report	If enabled, prints a report page with only selected medians.
Use Peak Median	Determines whether the report uses the Peak Median or the MAX ST Median. It is recommended that you use the Peak Median only, otherwise, leave this field unchecked.
ST Slope Info	If enabled, displays ST and Slope information on medians.
Tick Marks	If enabled, prints fiducial point (P-On, P-Off, QRS-On, QRS-Off, T-Off) tick marks on medians.

Name	Description
Gain Level	It is recommended that you leave these settings as Cart Settings . If changes are made at the cart for any of these settings, the printout uses those settings and prints at the same gain that is set on the cart. Gain scaling is presented in millimeters per millivolt on the frontal and limb leads (I, II, III, aVR, aVL, and aVF). A gain of 10 mm/mV is typical.
Wave Speed	It is recommended that you leave these settings as Cart Settings . If changes are made at the cart for any of these settings, the printout uses those settings and print at the same speed that is set on the cart. Speed scaling is presented in millimeters per second. A gain of 25 mm/sec is typical.
Sample Cardiac Cycles	Select the number of leads from the drop-down menu to include in a cardiac cycles report page (None, 6 Leads, All Leads).
Tabular Summary Report	Select Yes to print a tabular summary report page.
Trends (3 Leads)	Select Yes to print a 3-lead trend report page.
First Strip Page	Set the first strip in the range to print.
Last Strip Page	Set the last strip in the range to print.
Report Template	Select the name of the Report Template for a CASE custom report. See the <i>MUSE Cardiology Information System Devices and Interface</i> manual for information on loading custom CASE report templates.
Set Leads To Cabrera Order	Changes the lead order to Cabrera order - (aVL, I, -aVR, II, aVF, III, V1-V6).

- ii. Setting up this tab allows the user to include supplemental attachments to a non-Resting ECG or created Resting ECG test report. At the **Attachments** screen, enable the following check boxes as appropriate for your institution:

Name	Description
Primary Print Report Attachment	If enabled, you can include the primary attachment in the test report.
Print All Supplemental Attachments	If enabled, you can include all supplemental attachments in the test report.

Name	Description
Print Selected Supplemental Attachments	If enabled, only the supplemental attachments marked with "Include in Final Report" are included in the test report.
Include Demographics Overlay	If enabled, you can include an overlay of the current MUSE patient demographics on each page of the documents.

- e. If you are setting up an **Ambulatory BP Format**, you see the **HL7** and **Attachments** screens. Complete the following fields.
- At the **HL7** screen, select the **Format** and **Image Type** from the drop-down menus.
 - Setting up this tab allows the user to include supplemental attachments to a non-Resting ECG or created Resting ECG test report. At the **Attachments** screen, enable the following check boxes as appropriate for your institution:

Name	Description
Primary Print Report Attachment	If enabled, you can include the primary attachment in the test report.
Print All Supplemental Attachments	If enabled, you can include all supplemental attachments in the test report.
Print Selected Supplemental Attachments	If enabled, only the supplemental attachments marked with "Include in Final Report" are included in the test report.
Include Demographics Overlay	If enabled, you can include an overlay of the current MUSE patient demographics on each page of the documents.

- On the **Details** screen, view information about when this format was created or last modified.
- Click **OK** when finished.

Setting Up Modems

Modems are used to send and receive data. You can configure them to support a defined set of devices.

You can set up the following modems:

- **Fax Modem**
- **CSI Modem**
- **CSI Network**
- **CSI Direct**

- From the **Navigation** pane, select **Modems**.
- On the **Modem** window, select **Action > New**.

3. Select the correct modem.
The **Modem Properties...** window opens.
4. Type the appropriate information under the **General**, **Port Settings**, and **Advanced**.
5. Click **OK** when finished.
See the *MUSE™ v9 Cardiology Information System Service Manual* for additional information on setting up modems.

Setting Up Scheduled Tasks

The **Scheduled Tasks** are used to perform functions on the system at regular intervals. The following tasks can be scheduled to execute:

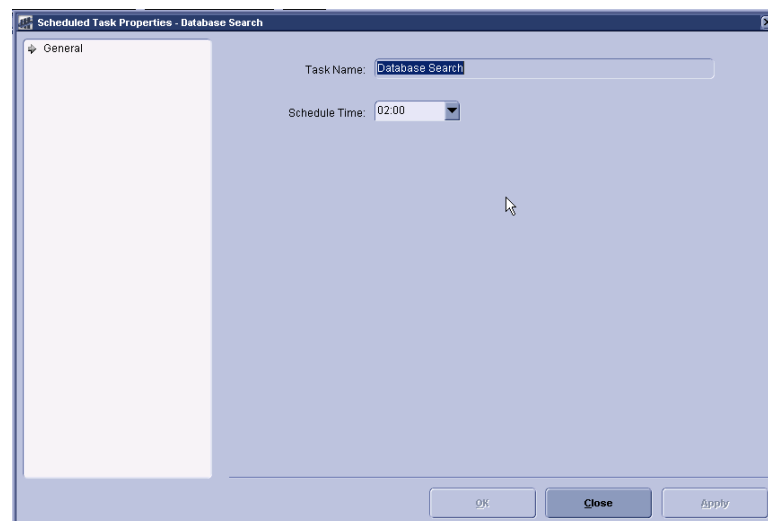
- **Database Search**
- **HIS Data Maintenance**
- **Log and Queue Maintenance**
- **Patient Access Report Export**
- **Temporary File Maintenance**

Database Search Scheduled Task

The **Database Search** scheduled task performs all configured database searches.

1. On the **Navigation** pane, select **Scheduled Tasks**.
2. Select **Database Search**, right-click and select **Properties**.

The **Scheduled Task Properties — Database Search** window opens.



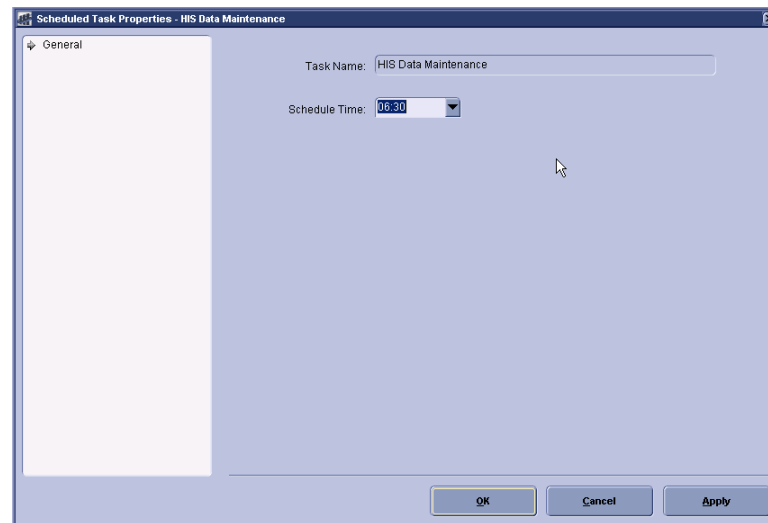
3. Set the **Schedule Time**.
It is recommended that you set the **Schedule Time** to an after-hours time so that the extra processing needed to perform the database search does not affect normal operation of the system.
The default time is 2:00 a.m.
4. Click **OK** when finished.

HIS Data Maintenance Scheduled Task

The **HIS Data Maintenance** task performs all cleanup activities on the HIS data, such as completed, expired, and cancelled orders.

1. On the **Navigation** pane, select **Scheduled Tasks**.
2. Select **HIS Data Maintenance**, right-click and select **Properties**.

The **Scheduled Task Properties — HIS Data Maintenance** window opens.



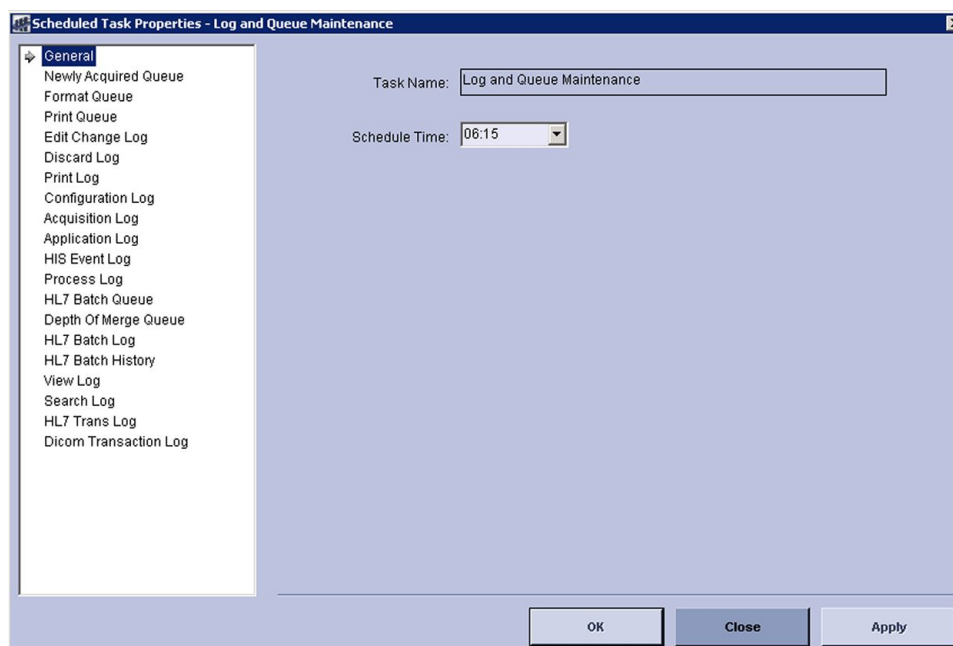
3. Set the **Schedule Time**.
It is recommended that you set the **HIS Data Maintenance** task to execute after the **Log and Queue Maintenance** task.
The default time is 6:30 a.m.
4. Click **OK** when finished.

Log and Queue Maintenance

The **Log and Queue Maintenance** task performs all cleanup activities on the logs and queues.

1. On the **Navigation** pane, select **Scheduled Tasks**.
2. Select **Log and Queue Maintenance**, right-click and select **Properties**.

The **Scheduled Task Properties — Logs and Queues** window opens.



3. On the **General** screen, set the **Schedule Time** of when you want to run the log and queue maintenance task.

It is recommended that you set the **Log and Queue Maintenance** task to execute before the **HIS Data Maintenance** task.

4. Highlight each queue or log in the navigation tree and do the following:
 - a. Set the **Days to Hold**.
This action sets the duration of how many days of logs do you want to keep. If you set this for 15 days, for example, anything older than 15 days is deleted.
 - b. For each log, select the **Send data as XML to device before deleting** check box and select the XML device if applicable.
If this check box is enabled, data is sent in XML format to a device before it is deleted.
5. Click **OK** when finished.

NOTE:

See ["Status" on page 213](#) for instructions on printing, displaying the properties page, and refreshing the queue or log.

Patient Access Report Export

The **Patient Access Report Export** task is designed to provide periodic reports of user access or attempts by users to access patient information. The reported access includes patient information views, searches, printing, discarding, and test or local patient demographic changes.

You can generate a patient access log report and export it to import data into reports or third-party software tools used to manage data security. A periodic export and

archive of the **Patient Access Log** is encouraged so that the logs can be cleared from the MUSE database for better performance of your MUSE system.

1. On the **Navigation** pane, select **Scheduled Tasks**.
2. Select **Patient Access Report Export**, right-click and select **Properties**.

The **Scheduled Task Properties – Patient Access Report Export** window opens.

3. Perform the following tasks:

Field	Task
Enable Report	Enable this check box to allow report generation. Report generation is disabled by default.
Field Selection	These are the fields that can be included in the exported report. These fields are enabled by default. You can disable them if appropriate.
Event Selection	These are a list of Events that are included in the exported reports. These fields are enabled by default. You can disable them if appropriate.
Export Path	This is the path where the report is exported. The default export path is C:\Program Files (x86)\MUSE\logs . To select another path, click Browse .
Export Frequency (days)	Click the arrow to select the frequency (in days) when the report is generated.

Field	Task
Delimiter	Select Pipe or Comma to designate how the fields in the generated reports are separated.
Enable Folder Clean Up	Enable this check box to delete all files created in the Export Path folder. Configure how long you want to retain the files in the File Hold Period .
File Hold Period	Click the arrow to select the number of days the file is retained in the export path.

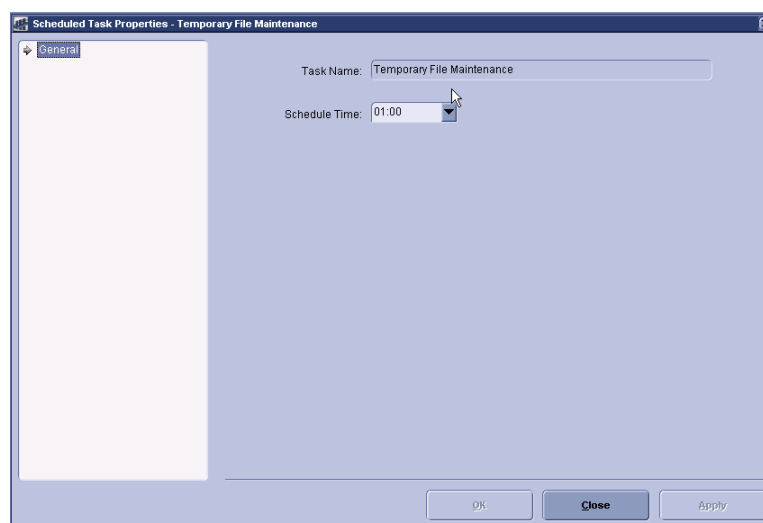
- Click **OK** when finished.

Temporary File Maintenance Scheduled Task

The **Temporary File Maintenance** task performs cleanup activities on temporary files created by the system.

- On the **Navigation** pane, select **Scheduled Tasks**.
- Select **Temporary File Maintenance**, right-click and select **Properties**.

The **Scheduled Task Properties – Temporary File Maintenance** window opens.



- Set the **Scheduled Time**.
It is recommended that you set the **Scheduled Time** to execute when no other activities are being performed on the system.
The default time is 1:00 a.m.
- Click **OK** when finished.

Setting Up a Share Folder

If a third-party device can export the final test electronic document to a shared folder, a new shared folder is created and associated with the **Acquisition Profile**.

The **Share Folder** setup configures the MUSE file monitoring service. Directory paths specified as shared folders are monitored and when test files are placed in that folder, the file monitoring service starts the test acquisition process.

NOTE:

Creating a new share folder entry only configures the MUSE file monitoring service to monitor the specified directory; it does not create the directory folder itself or apply any authorization attributes. You must create the directory folder separately and the MUSE background service account must have access to both read and delete files from this location.

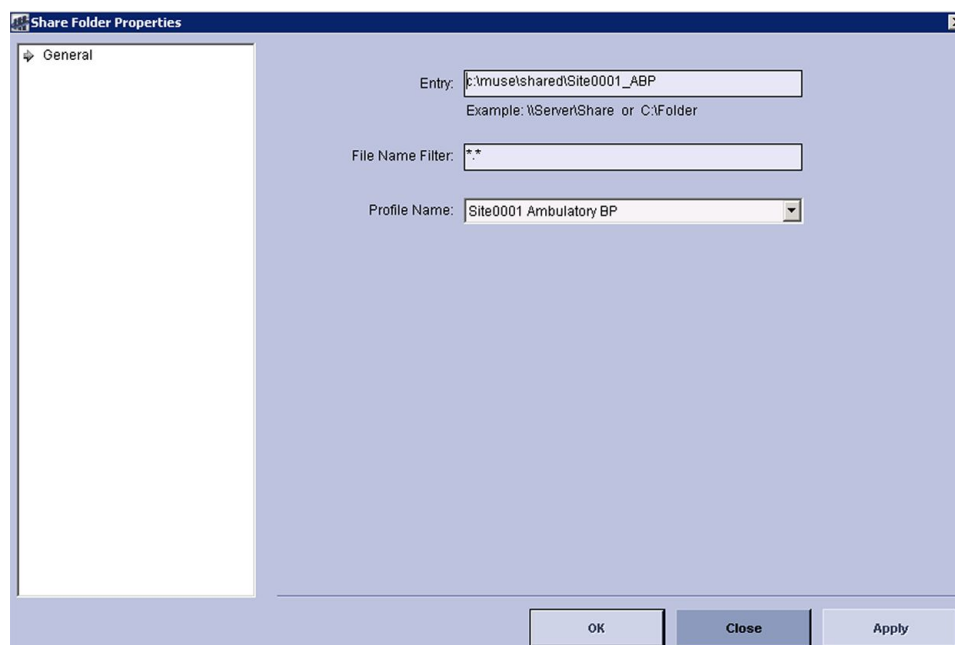
To create a new share folder, do the following:

1. Click **System > Setup** to go to MUSE setup.
2. On the **Navigation** pane, select **Share Folder**.
3. Click **Action > New** to create a new share folder.

NOTE:

To modify an existing share folder, double-click on the folder name.

The **Share Folder Properties** window opens.



4. Populate the following fields:

Field	Description
Entry	Type the folder path that you want to monitored for the test files.
File Name Filter	Type the file name filter to include or exclude files from being acquired. Include*. before the name of the filter. For example, if you want to only include .PDF files, type *.pdf . This ensures that only specified files are shared. If the entry *.* remains in the field, then any file type is saved to the share folder.
Profile Name	Select the acquisition profile from the drop-down list to use during test file import. The acquisition profiles you previously created are displayed in this list.

- Click **OK** when finished.

Creating and Configuring New Test Types

In addition to the default test types currently found on the MUSE system (Resting ECG, Holter, Stress, Hi Resolution ECG), you have the ability to create and configure up to 32 user-defined test types.

To create and configure new test types, perform the following procedure:

- From the **Navigation** pane, select **Test Types**.
- Right-click in the **Test Types** window and select **New**, or double-click on an existing test type name.

The **Test Type Properties** window opens.

3. Perform the following steps:
 - a. If you are setting up a new test type, type the name of the new test type in the **Test Type Name** field.
The test type name is displayed where ever it is used on the system.
 - b. If you are setting up a new test type, type the abbreviation of the new test type in the **Test Type Abbreviation** field.
The test type abbreviation name is displayed in that format where ever it is used on the system.
 - c. For new and existing test types, enable the test type per site at the **Enabled for Sites** field.
When a test type is added or enabled, it will be available for configuration in all related setups, such as report distribution.
This enables the site level and all site and system level configurations to be performed on this test type.
NOTE:
Once test type is created, you cannot deleted it. You can disable the test type for a site in the **Enabled for Sites** field, even after the test type has been in use.
Disabling a test type hides all references to that test type from the MUSE system. You can still acquire new tests of that type even if a test type is disabled, however, they are hidden.
4. Click **OK** when finished.

Creating a New Acquisition Profile

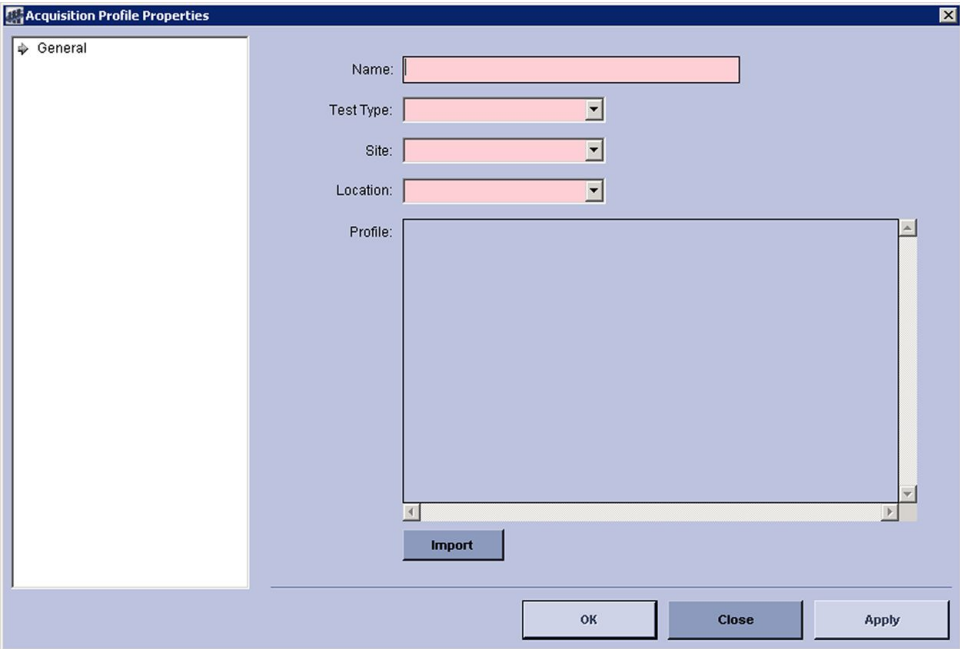
On the **Acquisition Profile Properties** window, you can create specification or “profiles” containing information on how specific types of electronic documents should be acquired into the MUSE system.

Acquisition profiles are associated with MUSE shared folders and bulk import of electronic documents through MUSE Acquisition.

The MUSE Acquisition profile setup allows the import of the output from the Acquisition Profile Tool.

- 1. From the **Navigation** pane, select **Acquisition Profile**.
- 2. Click **Action > New** to create a new acquisition profile.

The **Acquisition Profile Properties** window opens.



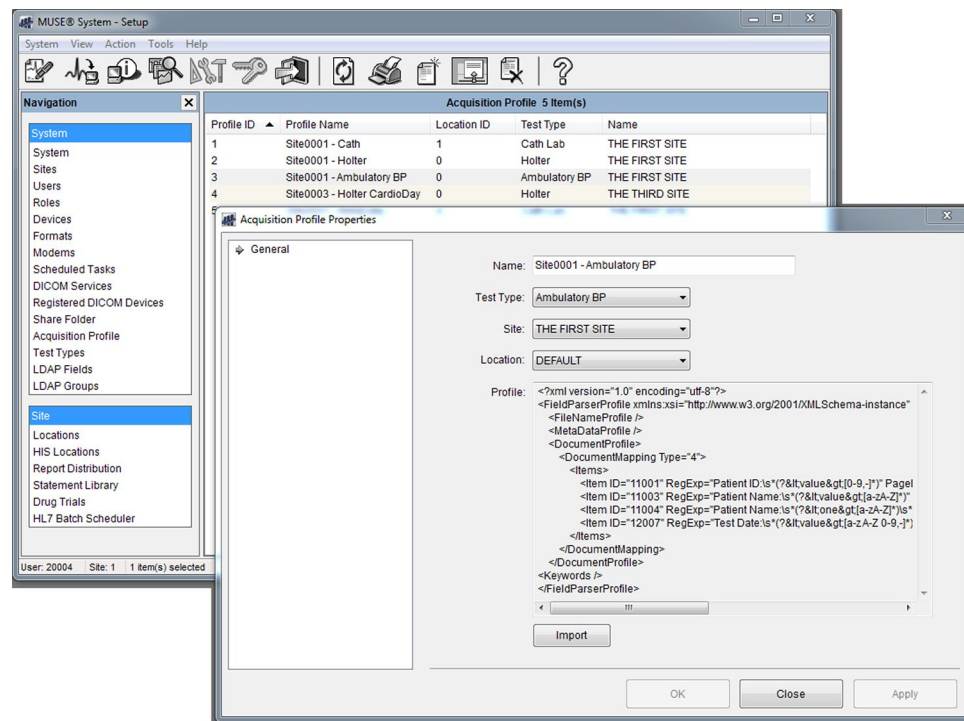
- 3. Populate the following fields and click **OK**:

Field Descriptions for Acquisition Profiles Properties Window

Field	Description
Name	Type a name to be used when the acquisition profile is displayed on the system (MUSE Acquisition application drop-down list and in the share folder acquisition profile drop-down list). The name should be as descriptive as possible with test type and the site location it specifies.
Test Type	Select the test type from the drop-down list. Any test types you create are displayed in this list. The test type selected is associated with this profile.
Site	Select the MUSE site from the drop-down list where the electronic based test is stored.

Field Descriptions for Acquisition Profiles Properties Window (cont'd.)

Field	Description
Location	Select the MUSE location from the drop-down list associated with this test.
Profile	<p>This field contains the parsing profile used to extract demographics and other fields from the document during acquisition, and should be populated by a GE Healthcare service representative.</p> <p>NOTE: The parsing profile is created, tested and installed by GE Healthcare Service. The profile is based on a request and a collection of electronic document based tests that you want to import into the MUSE system.</p>



LDAP Fields

For information on mapping LDAP fields and how to set them up, refer to [Appendix E "Configuring MUSE System for LDAP Authentication"](#) on page 267.

LDAP Groups

For information on setting up LDAP Groups, refer to [Appendix E "Configuring MUSE System for LDAP Authentication"](#) on page 267.

DICOM Services

DICOM Services provides the configuration to connect to DICOM Cardiology acquisition devices and receive DICOM tests as input for archival and clinical workflows. The MUSE system sends DICOM tests as a DICOM file or an encapsulated PDF report to an

external archival system. You can also configure querying a DICOM Modality worklist server for worklist orders and store tests coming from the cart to the MUSE system.

The following DICOM services are supported:

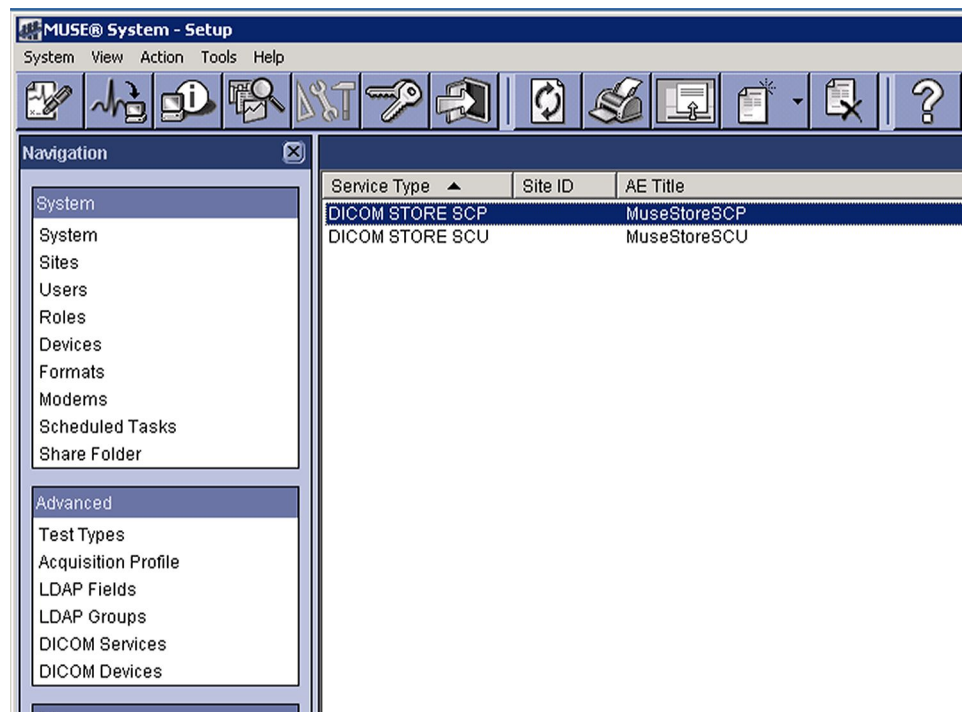
- DICOM Storage Class Provider
- DICOM Storage Class User
- DICOM Modality Worklist User

Setting Up DICOM Store SCP

To configure the MUSE system to receive DICOM files from a DICOM device, perform the following procedure:

1. Click **System > Setup** to go to MUSE setup.
2. On the **Navigation** pane, select **DICOM Services**.

The **DICOM Services** window opens.



3. Click **DICOM Store SCP**.

The **DICOM SCP Configuration** window opens.

DICOM SCP Configuration

General
DICOM Association Settings

Dicom Store SCP

IP Address: localhost

AE Title: MuseStoreSCP

Port: 104

Dicom Storage Commitment SCP (Runs on the same address as Dicom Store SCP)

☐ Enable Storage Commitment

Retry Interval for sending N-Report (in seconds): 60

Maximum wait time before failure: 180

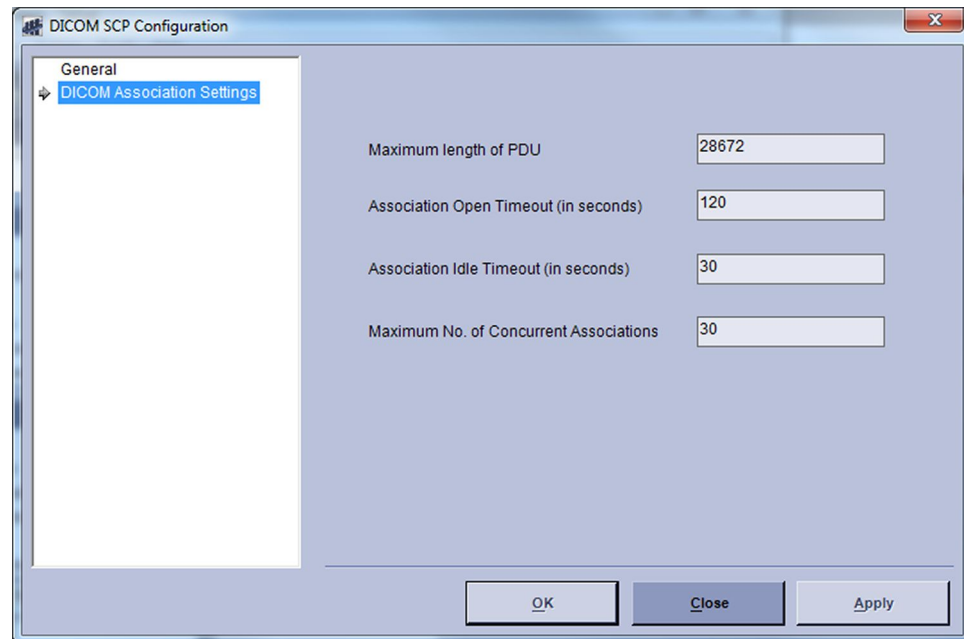
OK Close Apply

4. Complete the following fields:

Field	Description
IP Address	Type the MUSE server IP address which is running the DICOM services.
AE Title	Type the application entity name of the MUSE Store SCP service.
Port	Type the port where the MUSE Store SCP service is running. The default port is 104.
Enable Storage Commitment	If enabled, MUSE provides storage commitment. NOTE: Storage Commitment is a DICOM functionality that requires a confirmation from the storage server that the test is successfully archived.
Retry Interval for sending N-Report (in seconds)	Type the time between two attempts to send a Storage Commitment status to the DICOM client.
Maximum wait time before failure	Type the maximum time MUSE Store SCP service should try to send the status to the client. After this time, the service logs a failure.

5. Click **Apply**.

6. Click **DICOM Association Settings**.



7. Default values are displayed for all fields. You can modify them if required.
8. Click **OK** to save the settings.

Setting Up DICOM Store SCU

To configure the MUSE system to export DICOM files from a DICOM device, perform the following procedure.

1. Click **System > Setup** to go to MUSE setup.
2. On the **Navigation** pane, select **DICOM Services**.

The **DICOM Services** window opens.



3. Click **DICOM Store SCU**.
The **DICOM SCU Configuration** window opens.

The screenshot shows the 'DICOM SCU Configuration' window. The left sidebar has a tree view with 'General' selected and 'DICOM Association Settings' below it. The main panel is titled 'Dicom Store SCU' and contains the following fields:

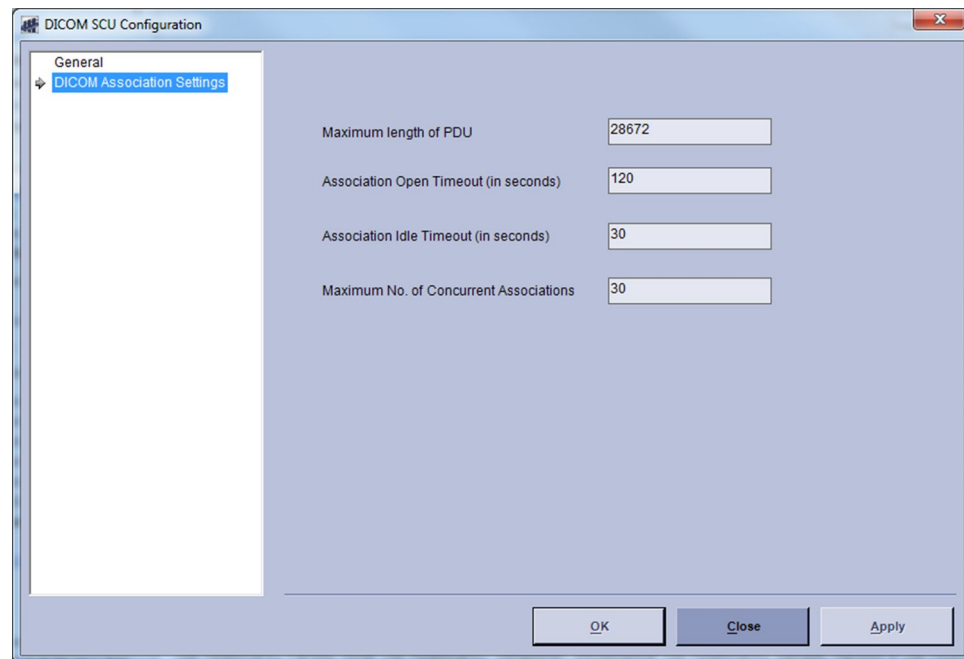
- AE Title: MuseStoreSCU
- Dicom Storage Commitment SCU: (empty)
- Storage commitment port(for receiving responses): 105
- Maximum Wait Time: 60
- Maximum retries: 3

At the bottom of the window are three buttons: OK, Close, and Apply.

4. The fields are populated with default settings. You can change them as following:

Field	Description
AE Title	Type the application entity name of the MUSE Store SCU service.
Storage commitment port (for receiving responses)	Type the port where the storage commitment client listens for storage commitment results.
Maximum Wait Time Maximum retries	Type the maximum wait time and retries that determine the amount of time the MUSE system has to wait for responses and retries.

5. Click **Apply**.
6. Click **DICOM Association Settings**.



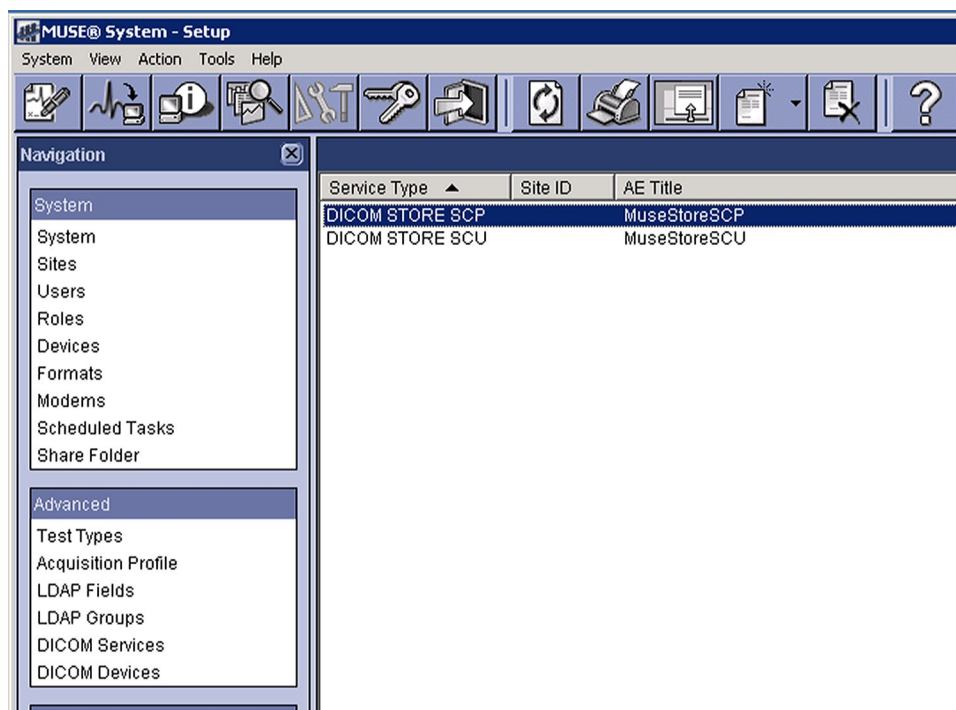
7. Default values are displayed for all fields. You can modify them if required.
8. Click **OK** to save the settings.

Setting Up a DICOM Modality Worklist Server

To configure the Modality Worklist Provider server and enable the MUSE system to download orders from the Modality Worklist server to the MUSE system, perform the following procedure:

1. Click **System > Setup** to go to MUSE setup.
2. On the **Navigation** pane, select **DICOM Services**.

The **DICOM Services** window opens.



3. Right-click in the right-side of the window and click **New > MWL Server**.
The **DICOM MWL SCU Configuration** window opens.

4. Complete the following fields:

Field	Description
Modality Worklist User Service	
AE Title	Type the AE title of the MUSE Worklist user client. For example, MUSEMWLAE_Site1 .
Site	Type the site number. You can create an MWL server for each site.

Field	Description
Modality Worklist Provider Configuration	
AE Title	Type the AE Title for the Modality Worklist server where the MUSE system connects for an order list.
IP Address	Type the IP Address for the Modality Worklist server where the MUSE system connects for an order list.
DICOM Echo Button	If enabled, the MUSE system tests the connection to the configured Modality Worklist provider. A success or failure message displays indicating the status of the connection.
DICOM Echo Button	If enabled, the MUSE system tests the connection to the configured Modality Worklist provider. A success or failure message displays indicating the status of the connection.
Default Query	
Default Location	The default is *, which indicates all locations. Type the specific location to filter the order list during MWL query.
Query Interval (in minutes)	Type a number in minutes to specify the frequency the query is sent out to the MWL provider.
Default Scheduled AE Station	The default is *. Type the AE title is required.

- Click **DICOM Association Settings**.
- Default values are displayed for all fields. You can modify them if required.
- Click **OK** to save your changes.
- Restart the DICOM Modality Worklist service from the Windows service panel.

DICOM Devices

DICOM devices should be configured after you enable the MUSE system to receive DICOM files, and after you register the DICOM device to the list of known devices, so that the MUSE system can accept a DICOM file. If you do not register the DICOM device, the MUSE system does not accept a DICOM file.

- Click **System > Setup** to go to MUSE setup.
- On the Navigation pane, select DICOM Devices.
The **DICOM Devices** window opens.

3. Right-click and select **New**.
The **DICOM Device Properties** window opens.

The screenshot shows the 'DICOM Device Properties' window. On the left is a tree view with 'General' selected. The main area contains the following fields:

- AE Title**: A text input field.
- IP Address**: A text input field.
- Description**: A large text area.
- Storage Commitment**: A checkbox.
- Below the checkbox, there are three more text input fields: **AETitle**, **IP Address**, and **Port**.

At the bottom right are three buttons: **OK**, **Close**, and **Apply**.

4. Complete the following fields:

Field	Description
AE Title	Type the application entity name of the DICOM device.
IP Address	Type the IP Address of the DICOM device.
Description	Type the description of the device.
Storage Commitment	Enable this option if the device supports storage commitment.
AE Title	Type the application entity name of the storage commitment service on the DICOM device.
IP Address	Type IP Address of the device that is listening for a storage commitment response.
Port	Type the port number of the device that is listening for a storage commitment response.

5. Click **OK** to save the changes.

Setting Up Locations

Locations specify routing destinations. You can auto-route tests coming from locations to various devices, or to people involved with the test. Locations also define whether serial comparison runs on the incoming tests. Once the test is confirmed, the location determines where to automatically route the confirmed test.

To add a new location, from the **Navigation** pane, select **Locations** and then select **Action>New**. The **Locations Properties** window opens.

Type the appropriate information in the fields provided as described in the following sections.

Enabling Serial Comparison

- To enable Serial Comparison, select the **Enable Serial Comparison** check box. When serial comparison is enabled, a comparison to the patient's first-previous ECG is printed with the diagnosis statement. There are several types of serial comparison statements. They include:
 - Use Edited Rhythm Statements
 - No Unconfirmed ECGs
 - No PID/Name Mismatch
 - State Unconfirmed
 - Only State Existence
 - Summary Diagnosis Only
- In the **Patient ID Mask** field, type the patient ID that should not have serial comparison performed. The default is **No PID**
- Select the check box next to the appropriate serial comparison statement.

Each serial comparison statement is described in the following table:

Statement Name	Description
<i>Use Edited Rhythm Statements</i>	If the previous ECG has a rhythm statement edited to another rhythm statement using a Marquette™ library acronym, the edited rhythm statement is used in the comparison. This also applies to ST/T change statements.
<i>No Unconfirmed ECGs</i>	The serial comparison statement states the date and time of the first previous ECG, but advises manual comparison is required because the ECG is unconfirmed. For example: WHEN COMPARED WITH ECG OF 02-OCT-1995, 07:34 MANUAL COMPARISON REQUIRED, DATA IS UNCONFIRMED
<i>No PID/Name Mismatch</i>	A serial comparison is not made if there is no PID/name mismatch with the first previous ECG.
<i>State Unconfirmed</i>	A serial comparison is made. If the first previous ECG is unconfirmed, the word UNCONFIRMED is added to the comparison statement. For example: WHEN COMPARED WITH ECG OF 02-OCT-1995 07:34 (UNCONFIRMED) ATRIAL FLUTTER HAS REPLACED SINUS RHYTHM VENT. RATE HAS INCREASED BY 155 BPM QUESTIONABLE CHANGE IN QRS DURATION
<i>Only State Existence</i>	The serial comparison only states that a previous ECG is present in the system and gives its date /time. For example: WHEN COMPARED WITH ECG OF 02-OCT-1995, 07:34 PREVIOUS ECG IS PRESENT 02-OCT-1995 07:34
<i>Summary Diagnosis Only</i>	The serial comparison statement is a diagnosis summary. For example: WHEN COMPARED WITH ECG OF 02-OCT-1995 07:34, SIGNIFICANT CHANGES HAVE OCCURRED

Setting Up Incoming Report Dispatching

1. Select ***Incoming Report Dispatching*** from the navigation tree on the left side of the screen.
2. Select the locations from the drop-down lists (***In-Basket***, ***Database***, or ***Edit List***).

Test Type	Destination	In-Basket
Resting ECG	Edit List	
HiResolution ECG	Edit List	
Exercise Testing	Edit List	
Holter	Edit List	
Ambulatory BP	Edit List	

3. If **In-Basket** is selected as the **Destination**, select the In-Basket number from the drop-down list at the **In-Basket** field.
4. Click **OK** when finished.

Setting Up Locations - Advanced

Set up the cart location at the **Locations > Advanced** window.

1. Select **Advanced** in the navigation tree on the left side of the screen.

2. Select the **Only print current test on mismatch (no previous)** check box, if appropriate.

If a first previous is set up for this location, it does not print if there is a mismatch with the current ECG. Only the current ECG prints during routing for this location with a mismatch.

3. Select the **Reanalyze incoming ECG data** check box, to analyze incoming ECG records using the version of 12SL that is on the system. This selection applies to both clinical and research sites. This option only appears if the **Enable Reanalysis** check box is selected at **Site Properties>Advanced**.

NOTE:

If you set up a research site as the designated site for carts to send ECGs to, reanalysis is performed automatically if it is turned on. If it is copied into a research site, you need to reanalyze manually.

4. Click **OK**.

Setting Up HIS Locations

You can map HIS locations to MUSE locations so that orders downloaded to the ECG device can be filtered by MUSE locations. More than one HIS location can point to the same MUSE location, but a single HIS location cannot map to more than one MUSE location.

Creating New HIS Locations

1. On the **HIS Location** window, select **Action>New**.
The **HIS Locations Properties** window opens.
2. Type the **HIS Location Name** exactly as it is sent from the HIS (including spaces, special characters, and so on). Contact your IT department for the correct location list.

NOTE:

The maximum HIS location length is 19. If the site has HIS locations greater than 19 characters in length, work with your IT department and GE Healthcare MUSE HL7 engineer to accommodate the longer length within the interface.

3. Select the corresponding **MUSE Location Name** from the drop-down list.
4. Click **OK** when finished.

Setting Up Report Distribution

Report distribution allows you to set up where to distribute reports, how many reports to print, and what the reports look like. This is done using a default location or a per location basis.

There are five cases of report distribution:

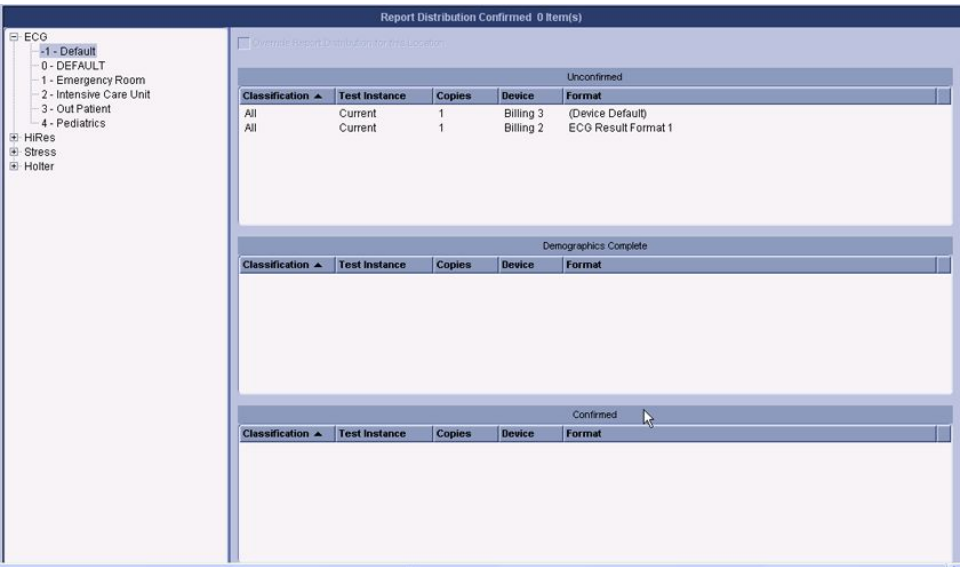
1. Normal Unconfirmed
2. Abnormal Unconfirmed
3. Demographics Complete
4. Normal Confirmed
5. Abnormal Confirmed

Unconfirmed routes in report distribution print when ECGs are transmitted into the system.

Demographics Complete routes in report distribution print when a test status is changed to Demographics complete, and are used when you want to send a preliminary result to the HIS, or when you want to send a charge message out when the demographics are confirmed, but prior to the test being read. For example, you can set up the system so that after a report is updated as **Demographics Complete**, it is routed to the physician's in-basket, and sent to accounting for billing.

Confirmed cases of report distribution print when the editor confirms and prints.

To open the **Report Distribution...** window, select **Report Distribution** from the **Navigation** pane.



Setting Up Default Actions

Set up a default action for each ECG type (ECG, HiRes, Stress, and Holter), and each location.

- 1. Select **1-Default >Action>New**.

The **Report Distribution Properties** window opens.

The default route is the action that is taken for all test locations, unless the location has specified that the route be **Overridden**.

The screenshot shows the 'Report Distribution Properties' dialog box with the 'General' tab active. The 'Classification' dropdown is set to 'All'. The 'Copies' text box contains the number '1'. The 'Test Instance' dropdown is set to 'Current'. The 'Device' dropdown is highlighted in red. The 'Format' dropdown is set to '(Device Default)'. At the bottom right, there are three buttons: 'OK', 'Close', and 'Apply'.

2. Select the fields as described in the following table:

Field	Description
Classification	Select whether you want this action to be for Normal , Abnormal , or All reports.
Copies	Enter the number of copies you want printed.
Test Instance	Determine which report you want distributed: Current , 1st Previous , 2nd Previous , or Oldest .
Device	<p>Select the output device of the report. For example, Billing Folder, Referring MD, and so on.</p> <p>The Referring MD, Ordering MD, and Overreader MD are linked to the user information set up on the User window. For example, if you select Referring MD as your output device, the report is distributed to the Referring MD specified in that report, if that physician is set up as a Referring MD in the User window.</p> <p>For instructions on setting up routing information in the User window, see "Adding Users" on page 155.</p> <p>NOTE: In MUSE v9, the following three default fields have been added: Admitting MD, Attending MD, and Primary Care MD.</p> <p>If you are setting up any one of these physician roles to receive automatic report distribution, make sure you also set up that user's HIS ID and routing information. See "Setting Up User Properties – Contact Information" on page 156, step 2, and "Setting Up User Properties – Routing" on page 157.</p>

Field	Description
Format	Select the format to be used for the device. Many devices (particularly HL7 devices) will already have a default Format at the device level. In this case, do not select a format, but leave it as (Device Default) .
Always route on confirm to database	Select the check box to route the report to the next action each time the user confirms the report to the database on the Edit List . NOTE: This field is displayed only for Demographics Complete and Confirmed .
Always route on demographics complete	Select the check box to route the report to the next action each time the user routes the report as Demographics Complete on the Edit List . NOTE: This field is displayed only for Demographics Complete .

3. Repeat the previous steps for each data type.

Adding a New Action

Set up a location that does not follow the system default **Report Distribution**:

1. Select the appropriate location.
2. Select the **Override Report Distribution for this location** check box.

If the **Override Report Distribution for this location** check box is not selected, the **Report Distribution** reverts to the system default.

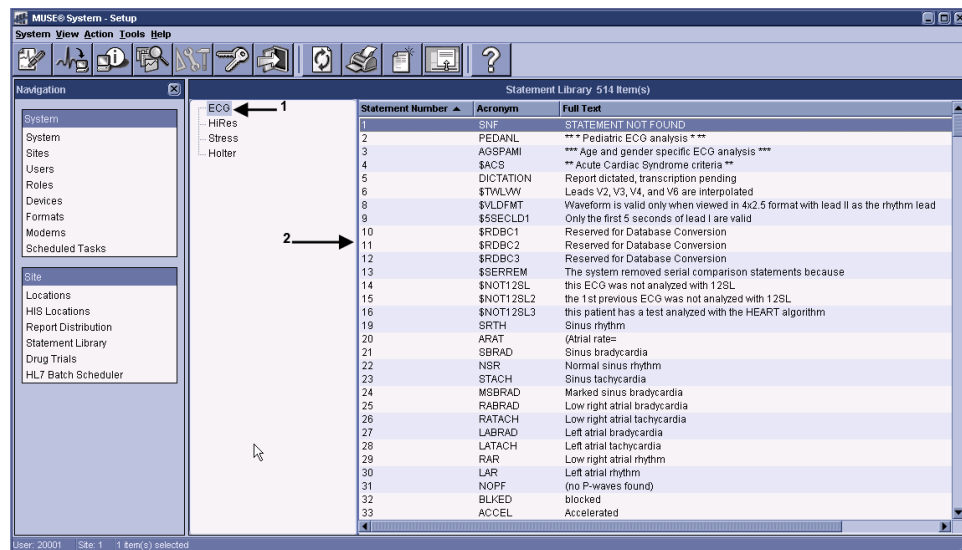
3. Repeat the steps in “[Setting Up Default Actions](#)” on page 203.

Setting Up Statement Library

Adding New Statements

With the appropriate privilege level, you can add new ECG, HiRes, Stress, and Holter statements to the **Statement Library**.

1. On the left pane of the **Statement Library** window, select the correct data type (ECG, HiRes, Stress, or Holter). The statement library list for that data type opens on the right side of the window.



(1) Select the correct statement type. (2) That statement type's library list opens.

2. Select **Action > New**.

The **Statement Properties** window opens.

3. Type information in the appropriate fields and click **OK**.

The new statement is visible in the **Statement Library** list.

NOTE:

Numbers 1-1,699 are reserved for Marquette acronyms. Any added acronyms must begin at 1,700. You cannot duplicate an acronym.

Printing Statement Library List

1. On the left window pane of the **Statement Library** window, select the correct statement type (ECG, HiRes, Stress, or Holter).

That statement type's library list opens on the right side of the window.

2. Select **Action>Print List**.

The **Select Device and Formatting Options** window opens.

3. Set up the appropriate printer and options and click **OK**.

Change Existing Statement

WARNING:

Never change the meaning of a Marquette™ or user-added statement. Changing the meaning of a library statement can affect diagnosis statements for the entire site.

1. On the **Statement Library** list, highlight the statement you want to change.

NOTE:

The user requires appropriate privileges to make changes to existing statements.

2. Select **Action > Properties**.

The **Statement Properties** window opens.

3. Make the necessary changes to the statement and click **OK**.
4. Select **Prevent users from adding to diagnosis** to keep a statement from being added in the statement lists at the diagnosis editor.

NOTE:

This retires the diagnosis statement from use. NEVER delete statements from the library.

Setting Up Compound Statements

NOTE:

You should not add acronyms to a compound statement that are themselves compound statements. For example, if {NPO} is defined as a compound statement, you should not add {NPO} as part of any other compound statement.

You can combine up to 127 characters of acronyms and free text to create a compound statement.

For example, to create the following statement:

Normal Sinus Rhythm| with Occasional | Premature Ventricular Complexes.
No significant change from previous ECG.

Enter in this format:

{NSR}{OCC}{PVC}{ } No significant change from previous ECG.

You can name the new acronym NOP.

NOTE:

Brackets facing each other indicate a line break.

Setting Up Drug Trials (Interval Editor Settings)

See the *MUSE Cardiology Information Systems Interval Editor Operator Manual* for instructions on setting up drug trials.

Setting up HL7 Batch Scheduler

NOTE:

Consult with your IT department for setting up batch scheduling.

No batches are scheduled unless at least one device is defined as a batch device. See [“Configuring HL7 Batch” on page 152](#).

1. On the left side of the navigation window, select **HL7 Batch Scheduler**.
2. Highlight the schedule you want to modify and click **Action > Schedule**.

3. Schedule the batch using the fields provided.
You can schedule a batch to run daily, weekly, or monthly by selecting the appropriate times.

HL7 Batch Scheduler Properties

Schedule Modified DateTime: 19-Aug-2009 14:00:09

Scheduling

☐ Daily #1 Cutoff Time to Include Records in Batch: 14:01
Time Scheduled to run the Batch: 14:01

☐ Daily #2 Cutoff Time to Include Records in Batch: 14:01
Time Scheduled to run the Batch: 14:01

☒ Weekly Sunday
Time Scheduled to run the Batch: 14:01

☐ Monthly 1 Run on this day of each month, for the previous:
Calendar Month Month Ending on Day 28
Time Scheduled to run the Batch: 14:01

☒ Schedule Active

OK Cancel Apply

4. To make the schedule active, select the **Schedule Active** check box.
If **Schedule Active** is not selected, the scheduled batch becomes inactive and does not run.
5. Click **OK** when finished.

Setting up Master Patient Index (MPI)

The Master Patient Index allows you to obtain and merge patient demographics information from the Master Patient Index (MPI) to the system via the Centricity Clinical Gateway (CCG).

See the *MUSE MPI CCG Configuration Instructions Sheet* for information on setting up the MPI option.

Setting System to High Contrast Mode

To set your system to high contrast mode, in accordance with Rehabilitation Act 36 CFR Part 1194-1, refer to the *MUSE Cardiology Information System Service Manual*.

Profiles

Profiles specify and manage pre-defined sets of user options across all MUSE applications.

Profiles are different from **Edit List Presets**. Presets are only part of the profile, and only control how the edit list is displayed, for example, which columns, what sort order, and what selection criteria are used. Profiles include viewing preferences, toolbar icon display, and test destination options.

Working with Profile(s)

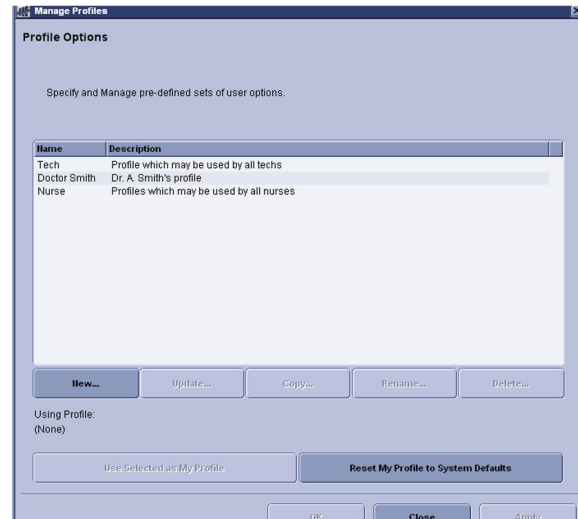
Managing published profiles requires the privileges **Publish user preferences as a Profile** and **Manage Profiles**.

Creating a Profile

NOTE:

This profile assumes the properties of the profile being used.

1. Click **Tools > Manage Profiles**.
The **Manage Profiles** window opens.



2. Click **New**.
The **New Profile** window opens.



3. At the **New profile** window, enter the profile name and description and click **OK**.
The profile list displays the new profile.

Using a Profile

1. Click **Tools > Manage Profiles**.
The **Manage Profiles** window opens.
2. Highlight the profile you want to use.

3. Click **Use Selected as My Profile**.
Notice that the profile name you picked in the prior step displays as the profile.
4. Click **OK**.

Updating a Profile

1. Click **Tools > Manage Profiles**.
The **Manage Profiles** window opens.
2. Highlight the profile you want to update with the current settings.
3. Click **Update...**.
A **Before Proceeding...** message opens.
4. Click **OK**.
The published profile you were using is updated.

Renaming a Profile

1. Click **Tools > Manage Profiles**.
The **Manage Profiles** window opens.
2. Highlight the profile you want to rename.
3. Click **Rename**.
The **Rename Profile** window opens.
4. Type the name and description in the appropriate fields.
5. Click **OK**.
The profile displays the new name.

Deleting a Profile

1. Click **Tools > Manage Profiles**.
The **Manage Profiles** window opens.
2. Highlight the profile you would like to delete.
3. Click **Delete**.
The **Before Proceeding...** message opens.
4. Click **OK**.
The profile is deleted.

Copying a Profile

1. Click **Tools > Manage Profiles**.
The **Manage Profiles** window opens.
2. Highlight the profile you want to copy.
3. Click **Copy**.
The **Copy Profile** window opens.

4. Enter the name and description for the new profile that is a copy of the profile selected in step 1.
5. Click **OK**.
A copy is now made of the published profile.

Resetting to System Default

1. Click **Tools > Manage Profiles**.
The **Managing Profiles** window opens.
2. Click **Reset My Profile to System Defaults**.
The **Before Proceeding...** message opens.
3. Notice the profile name appears as **Using Profile (None)**.
4. Click **OK**.
Your profile is now set to the system default.

Security Features

The system has several security features which, when properly used and configured, can support a hospital in the United States in complying with the Health Insurance Portability and Accountability Act (HIPAA) Security and Electronic Signature Standards. These security standards are designed to protect a patient's health information from improper access or alteration when it is maintained or transmitted electronically, and to protect against loss of records.

You cannot attain compliance with the HIPAA Security and Electronic Signature Standards solely by using the system's security features. Sites that use the system to maintain and transmit patient health information must use the security features in conjunction with a security plan that provides for the user training and secure physical access to patient health information.

For more information about these features, including setup and configuration, refer to the *MUSE™ Cardiology Information System Advanced Security Guide*.

6

Status

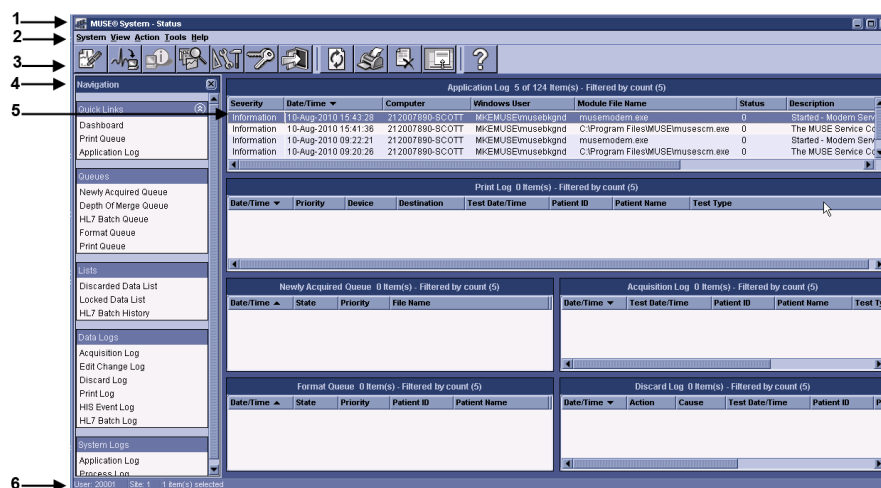
Status Window

The **Status** window allows you to view system activity and performance through a series of different views.

To view system information, select **System > Status**. The **Status** window opens.

NOTE:

You must have proper privileges to view the **Status** window.



Status Window Description

Item	Name	Description
1	Title Bar	Displays the name of the current application.
2	Menu Bar	Contains drop-down lists for various functions.
3	Toolbar	Displays icons for easy access to Menu Bar features. The icons change with each screen you view.

Status Window Description (cont'd.)

Item	Name	Description
4	Navigation Area	Provides easy access to Quick Links , Queues , Lists , Data Logs , and System Logs . Selecting a queue, list, or log in the Navigation area opens that view on the main screen.
5	Main Screen	Displays selected queue, list, or log.
6	Status Bar	Provides user, site, and system information.

Status Logs, Queue, and Lists Descriptions

The following sections provide a description of the Queues, Lists, and Logs in MUSE Status.

See “Common Tasks Performed Within a Queue or Log” on page 230 and “Common Tasks Performed Within a Queue” on page 230 for instructions on retrying and deleting a bad request, printing, displaying the properties page, and refreshing the queue.

NOTE:

To change the column selection and order of each queue or log, click **Tools > Options** and the name of the queue or log you want to configure. See “Configuring the Queues, Lists, and Logs” on page 226.

Dashboard View

Application Log 5 of 54 Item(s) - Filtered by count (5)								
Severity	Date/Time ▾	Computer	Windows User	Module File Name	Status			
Warning	26-Jul-2005 10:41:35	MUSEV7SERVER605	MUSEV7SERVER605musebkgnd	muse.middletier.server.logon.dll	100			
Warning	26-Jul-2005 10:41:31	MUSEV7SERVER605	MUSEV7SERVER605musebkgnd	muse.middletier.server.logon.dll	100			
Warning	26-Jul-2005 10:41:22	MUSEV7SERVER605	MUSEV7SERVER605musebkgnd	muse.middletier.server.logon.dll	100			
Warning	26-Jul-2005 10:41:17	MUSEV7SERVER605	MUSEV7SERVER605musebkgnd	muse.middletier.server.logon.dll	100			
Warning	26-Jul-2005 10:41:11	MUSEV7SERVER605	MUSEV7SERVER605musebkgnd	muse.middletier.server.logon.dll	103			
Print Log 0 Item(s) - Filtered by count (5)								
Date/Time ▾	Priority	Device	Destination	Acquisition Date/Time	Patient ID	Patient Name	Test Type	
Newly Acquired Queue 1 Item(s) - Filtered by count (5)				Acquisition Log 5 of 424 Item(s) - Filtered by count (5)				
Date/Time ▲	State	Priority	File Name	Date/Time ▾	Acquisition Date/Time	Patient ID		
25-Jul-2005 13:58:16	Bad	Normal	c:\muse\acq\99.ECG	25-Jul-2005 14:06:31	04-Jan-2000 07:09:18	241097652183		
				25-Jul-2005 14:06:29	09-May-2000 15:51:42	787783496165		
				25-Jul-2005 14:06:28	10-Jun-2000 22:18:00	841463538679		
				25-Jul-2005 14:06:26	14-Oct-2000 07:15:11	704558567893		
				25-Jul-2005 14:06:24	13-Oct-2000 07:11:37	704558567893		
Format Queue 0 Item(s) - Filtered by count (5)				Discard Log 0 Item(s) - Filtered by count (5)				
Date/Time ▲	State	Priority	Patient ID	Patient Name	Date/Time ▾	Action	Cause	Acquisition Date/Time

The **Dashboard** view summarizes system activity and performance on one screen. While this view provides a large amount of data on a single screen to facilitate overall

system performance, using a specific view provides more flexibility and options in diagnosing a particular issue.

To open a specific view, double-click on the title. For example, to open the **Application Log**, double-click on the title **Application Log**.

Patient Access Log

The **Patient Access Log** displays a MUSE user's actions on a patient record. For example, each time a user changes a patient record, views it, prints or discards it, or performs a search, those actions are recorded in the Patient Access Log.

Searching and Viewing the Patient Access Log

To search and view the **Patient Access Log**, perform the following steps:

1. Click **System > Status > Patient Access Log**.

The **Patient Access Log** window opens.

NOTE:

Change the column selection and order by clicking **Tools > Options > Patient Access Log**. Each time you open the **Patient Access Log**, it is filtered for all patient access records for that day by date (from 12:00 a.m. to the time when the log is accessed).

2. Perform a search using the following filters:

NOTE:

This search is not a wildcard search.

Field	Description
Patient Last Name	Type the patient's last name in its entirety.
Patient First Name	Type the patient's first name in its entirety.
Patient ID	Type the patient ID in its entirety.
User Last Name	Type the MUSE user's last name in its entirety.
User First Name	Type the MUSE user's first name in its entirety.

Field	Description
User ID	Type the MUSE User's ID in its entirety.
Access Type	When Access Type is blank, the result is filtered by all the access types. If you would like to filter by a specific Access Type , select it from the drop-down list.
Site	When Site blank, the result is filtered by all the sites. If you would like to filter by a specific site, select it from the list. Multiple sites can be selected at the same time.
From Date	Select the date from which you want to begin your search.
To Date	Select the date when you want to end your search.

- After the search parameters are entered, click **Search**.
A list populates the lower half of the window.
- Double-click on any row to open the **Properties** window and view additional details.

NOTE:

The **Patient Access Log** is a dashboard for all patient access-related logs and cannot be cleared in this window. You can clear the logs from the **Patient Record View Log**, **Patient Record Search Log**, **Print Log**, and **Discard Log**.

User Access Log

The **User Access Log** displays all MUSE user activities. Use the log for the following tasks:

- Viewing the **User Login Session Log**, which is a list of all user sessions for the default or selected date time range.

NOTE:

The **User Login Session Log** can be filtered by the date range entered in **To Date** and **From Date**, user information entered in **User ID** or MUSE user name, user's last name and first name.

- Viewing the **User Activity Log**

NOTE:

The **User Activity Log** for the selected user login session can be filtered by the patient's last name and first name, Patient ID, user access type, and site (multiple sites can be selected).

- Filtering

When you first open the **User Access Log**, the default filter displays all user log ins for that day, filtered by time from 12:00 a.m. to the time when the log is opened.

The first record in the log is highlighted by default.

The activities of the selected **Login Session** in the **User Login Session Log** is displayed in the **User Activity Log**. Since the first record in the **User Login Session Log** is selected by default, the activities associated with that login session is displayed by default in the **User Activity Log**.

The screenshot shows the MUSE@ System - Status - Investigational Use Only. interface. The left sidebar contains navigation links: Dashboard, Print Queue, Application Log, Patient Access Log, User Access Log, Queues (Newly Acquired Queue, Depth of Merge Queue, HL7 Batch Queue, Format Queue, Print Queue), Lists (Discarded Data List, Locked Data List, HL7 Batch History), and Data Logs (Acquisition Log, Edit Change Log, Discard Log, Print Log, DICOM Log, HIS Event Log, HL7 Batch Log, Patient Record View Log). The main area displays the User Access Log with search filters for User Last Name, Patient Last Name, Access Type, User First Name, Patient First Name, Site, User ID, and Patient ID. The search results show a table with columns: Process ID, Start Date/Time, End Date/Time, User ID, User First Name, User Last Name, Person Name, Windows User, and Comput. The table contains several rows of data. Below the User Access Log is the User Activity Log, which shows a table with columns: UniqueID, Date/Time, Patient ID, Patient Name, Patient First Name, Patient Last Name, Type Of Access, Site, and Site ID. The table contains one row of data.

Process ID	Start Date/Time	End Date/Time	User ID	User First Name	User Last Name	Person Name	Windows User	Comput
69	03-Oct-2014 13:17:27		20001	MuseAdmin	MuseAdmin	MuseAdmin, MuseAdmin	museadmin	PANTHE
68	03-Oct-2014 13:17:12		20002	MuseBkgnd	MuseBkgnd	MuseBkgnd, MuseBkgnd	ENOMuseBkgnd	PANTHE
67	03-Oct-2014 13:08:01	03-Oct-2014 13:16:54	20001	MuseAdmin	MuseAdmin	MuseAdmin, MuseAdmin	museadmin	PANTHE
66	03-Oct-2014 11:55:55		20001	MuseAdmin	MuseAdmin	MuseAdmin, MuseAdmin	MuseAdmin	MUSECL
63	03-Oct-2014 11:55:35		20002	MuseBkgnd	MuseBkgnd	MuseBkgnd, MuseBkgnd	ENOMuseBkgnd	MUSECL
65	03-Oct-2014 11:55:34		20002	MuseBkgnd	MuseBkgnd	MuseBkgnd, MuseBkgnd	ENOMuseBkgnd	MUSECL
64	03-Oct-2014 11:55:34		20002	MuseBkgnd	MuseBkgnd	MuseBkgnd, MuseBkgnd	ENOMuseBkgnd	MUSECL

UniqueID	Date/Time	Patient ID	Patient Name	Patient First Name	Patient Last Name	Type Of Access	Site	Site ID
18	03-Oct-2014 13:17:35	S56456456	Milwaukee, Brewers	Brewers	Milwaukee	View	THE FIRST SITE	1

Newly Acquired Queue

The **Newly Acquired Queue** is a list of requests for the normalization task to process. Tests to normalize are brought into the system by different acquisition devices. If the normalization of the test is successful, the request is deleted. A request is marked bad if a problem is encountered. You can retry bad requests and manually delete new or bad requests.

If deleting data in the **Newly Acquired Queue**, the patient test is deleted from the MUSE system.

Depth of Merge Queue

The **Depth of Merge Queue** lists all of the HIS events that are waiting to merge into patient tests. When a message from the HIS specifies an update to a patient test and the depth of merge settings are enabled, the message event creates a row in the **Depth of Merge Queue**. The **Depth of Merge Queue** is processed independently from the MUSE service that processes messages that update ADT and order data.

You can retry bad requests. You can delete new or bad requests manually.

HL7 Batch Queue

The **HL7 Batch Queue** is a split-window view of two lists. The top list view (device list) displays information about each of the different HL7 batch devices, such as the name, HL7 batch format, destination, port, state, and number of reports. The bottom list view (message list) displays information about each message for the selected HL7 batch device.

The messages in the message list can be in one of the following states:

- **Complete** — indicates the message was sent. The message will also display in **Batch History**.
- **Current** — indicates the message is in the queue and has not been sent.
- **Failed** — indicates the message failed. Failed messages also display in the **Batch History**.

The user can resend or delete an individual message, or send one or all of them immediately. Once a message is in the **Complete** state, it can no longer be deleted.

When a message is in the **Complete** state, it is not be displayed in the queue. To display it, click **Tools > Options** and make sure the **Display 'Complete' records** check box is enabled.

1. To send a message, perform the following steps:
 - a. Highlight the message.
 - b. Right-click on the message and select **Send**.
2. To resend a message, perform the following steps:
 - a. Highlight the message.
 - b. Right-click on the message and select **Resend**.

Format Queue

The **Format Queue** is a list of requests for the Formatter task to process. The Normalization task and user interface print requests add items to the format queue. If the formatting is successful, the status is changed to **Done** and the request is no longer displayed. A request is marked bad if a problem is encountered. You can retry bad requests with the proper security privileges. You also can delete requests manually.

Print Queue

The **Print Queue** is a list of all system and temporary devices the spooler tasks process. The formatter task adds items to spool. If the spooling is successful, the status is changed to **Done** and the request is no longer displayed. A device is marked broken if a problem is encountered. You can reset broken devices with the proper security privileges. You also can delete requests manually.

The **Print Queue** has a split-window view of two lists. The top list view (device list) displays information about each of the different devices, such as the name, type, documents in its queue, and status. The bottom list view (job list) displays information about each print request for the selected printer.

Resetting a Broken Device

If a print job fails, you can reset the print device from the **Print Queue** to retry the failed print job.

1. On the **Navigation** pane, click on **Print Queue**.
The **Print Queue** view opens.
2. Right-click the broken print device in the top list view.
A menu opens.
3. Click **Reset**.

Retrying a Print Job

You can retry sending a print job from the **Print Queue**.

NOTE:

This option is only available for those print jobs that have a failed state. You must have proper privileges to retry requests.

1. On the **Navigation** pane, click **Print Queue**.
The **Print Queue** view opens.
2. Select the print device in the top list view.
The list of print jobs display in the bottom list view.
3. At the bottom list view (**Job List**), right-click on the entry,
A menu opens.
4. Click **Retry** to retry sending your print job.

Deleting a Print Job

You can delete a print job from the **Print Queue**.

1. On the **Navigation** pane, click on **Print Queue**.
The **Print Queue** view opens.
2. Select the print device in the top list view.
The list of print jobs is displayed in the bottom list view.
3. At the bottom list view, right-click on the entry.
A menu opens.
4. Click **Delete** to delete the print job.

Refreshing the Top List View or Bottom List View

The **Print Queue** must be refreshed manually to see changes that have occurred after a period of time.

1. Right-click In the top list view or bottom list view window.
A menu opens.
2. Click **Refresh**.

Printing the Top List View or Bottom List View

You can print the list of print devices (top list view) and the list of print jobs for a device (bottom list view).

1. Right-click In the top list view or bottom list view window.
A menu opens.
2. Click **Print List**.
The **Select Printer and Formatting Options** window opens.
3. Make the appropriate selections and click **OK**.

See “[Common Tasks Performed Within a Queue or Log](#)” on page 230 for instructions on displaying the **Properties Page** and refreshing the queue.

Discarded Data List

The **Discarded Data List** is a list of tests that the user or the system has discarded. The system can discard a test because of an invalid site. A user can discard a test for any of the following reasons:

- Poor quality
- Patient was excluded from a study
- Wrong patient
- Duplicate ECG
- Test was sent to a different site
- Incorrect lead placement

Once a test is on the Discarded Data list, a user can delete, restore, correct the site, and correct the acquisition profile.

Restoring a test places it back to the same state it was in at the time it was discarded. For example, if a record was discarded from the **Edit List**, the record is restored to the

Edit List and it follows the routing and serial comparison setup for that particular site. Actions performed to tests on the **Discarded Data List** are logged in the **Discard Log**.

NOTE:

Deleting a test permanently removes it from the MUSE system.

1. To delete a test, perform the following steps:
 - a. Highlight the test, right-click, and select **Delete**.
The **Confirm Delete** window opens.
 - b. Click **Yes**.
The test is deleted permanently from the system and an entry with a **Deleted** action is logged in the **Discard Log**.
2. To recover a test, perform the following steps:
 - a. Highlight the test, right-click, and select **Recover**.
The **Confirm Recover** window opens.
 - b. Click **Yes**.
If **Enable 21 CFR Part 11** is enabled under **Site Properties > Advanced**, a **Reason for Recovery** prompt is displayed.
 - c. Select the reason for recovery for that test and click **OK**.
The test is recovered and an entry with a **Recovered** action is logged in the **Discard Log**.
3. To correct a site and recover the test, perform the following steps:

NOTE:

The MUSE system cannot recover a test from a Research Site to a Clinical Site.

- a. Highlight the test, right-click, and select **Correct Site and Recover**.
The **Confirm Site Correction** window opens.
- b. Click **Yes**.
- c. Perform one of the following actions:
 - If the **Select Site** window opens, proceed to Step 3d.
 - If **Enable 21 CFR Part 11** is enabled under **Site Properties > Advanced**, the **Reason for Recovery** window opens.
Select the reason for recovery of the test from the list and click **OK**.
The **Select Site** window opens, proceed to Step 3d.
- d. From the list, select the site you want to move the test to and click **OK**.
The test is recovered and moved to the corrected site. When the **Correct Site and Recover** function is used, it generates both a **Recovered** action

entry and a **Deleted** action entry in the **Discard Log**. This occurs because the test is recovered to the corrected site and deleted from the original site.

4. To correct the acquisition profile for a test, perform the following steps.

NOTE:

When the **Correct Acquisition Profile** function is used, the test is reprocessed into the MUSE system as a **Newly Acquired** test. Any changes made in the MUSE system prior to the test having its acquisition profile corrected is lost.

- a. Highlight the test, right-click, and select **Correct Acquisition Profile**.
The **Confirm Acquisition Profile Change** window opens.
- b. Click **Yes**.
If **Enable 21 CFR Part 11** is enabled under **Site Properties > Advanced**, a **Reason for Recovery** prompt is displayed.
- c. Perform one of the following actions:
 - If the **Select Acquisition Profile** window opens, proceed to Step 3e.
 - If **Enable 21 CFR Part 11** is enabled under **Site Properties > Advanced**, the **Reason for Recovery** window opens. Select the reason for recovery of the test from the list and click **OK**. The **Select Acquisition Profile** window opens, proceed to Step 3d.
- d. From the **Site** drop-down list, select the site that the acquisition profile is in, which is also the site the test will be recovered to. The site operates as a filter for **Acquisition Profile** selection.
- e. From the **Acquisition Profile** drop-down list, select the acquisition profile you want to use to process the test.

The test is reacquired to the selected site and an entry with a **Deleted** action is logged in the **Discard Log**.

Locked Data List

Each time a test is opened in the **Editor**, the system locks it. This prevents multiple users from opening the test and working on it at the same time. The **Locked Data List** is a list of tests from the **Editor** that the system locked. When the **Editor** finishes using the test, the system unlocks it. If the **Editor** cannot close the test due to an unexpected condition, the **Locked Data List** allows a user with the proper privilege to unlock the test.

To unlock a test, perform the following steps:

1. Highlight a test.
2. Right-click and select **Unlock**.
A message opens.
3. Click **Yes** to continue or **No** to exit without unlocking the text.

HL7 Batch History

HL7 Batch History shows the status of entire batches.

The **Batch Status** messages are described as follows:

- **Complete** — indicates the batch was sent. Complete batches also display in the **HL7 Batch Log**.
- **Failed** — indicates the batch failed. Failed batches also are displayed in the **HL7 Batch Log**.

The **Batch History** is cleared as part of the **Log and Queue Maintenance** scheduled task with a default age of 90 days. See [Chapter 5 “Setting Up Your System” on page 129](#) for instructions on configuring how long information is kept in the **HL7 Batch History**.

You can view or resend an entire batch from this screen. To resend a batch, use the following steps:

1. Right-click on the batch and select **Resend**.
2. View whether the resend was successful at the **HL7 Batch Log**.

You cannot delete anything from **HL7 Batch History**.

NOTE:

Re-sending batches from **HL7 Batch History** can result in duplicate billing, or create other errors on the HIS when it receives messages that may have already successfully posted. Be aware of this possibility if re-sending HL7 batches.

Acquisition Log

The **Acquisition Log** is a list of tests that were acquired into the system. The log facilitates determining if a test is acquired successfully.

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

Edit Change Log

The **Edit Change Log** is a list of changes made to a test's patient ID, name (first and last), location, date, and time. The log facilitates finding a test that had incorrect data entered on the device and was corrected in the system.

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

Discard Log

The **Discard Log** is a list of tests that were discarded, deleted, or restored. The system or a user can discard tests.

A user can delete or restore a test in the **Discarded Data List**, not the **Discard Log**.

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

Print Log

The **Print Log** is a list of successful print requests. For example, a user sends an ECG to a fax machine. It is transmitted successfully to the fax machine, and a log entry

is generated. Currently, unsuccessful print requests are not captured in the system, except for a potential entry in the application log.

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

NOTE:

Use the **HL7 Batch Log** for tracking output of HL7 devices configured as batch devices.

DICOM Log

The **DICOM Log** is a list of all processed DICOM transactions such as C-Store, C-Echo, storage commitment, and association requests.

The following details are logged:

Field	Description
Date/Time	Indicates the date and time of the transaction.
Event Type Value	Indicates the logging of different DICOM event types such as C-Store and Storage Commitment requests.
Source AE Title	Indicates the sending of system Application Entity title.
Destination AE Title	Indicates receiving systems Application Entity title.
Description	Indicates the description log.
Source IP	Indicates the IP address of the sending system.
Source Port	Indicates the Port of the sending system
Destination IP	Indicates the IP address of the receiving system.
Destination Port	Indicates the Port of the receiving system.
SOPInstanceID	Indicates the instance UID of the DICOM test being sent/received.
TransactionID	Indicates the UID of the transaction that is currently in process.
AssociationID	Indicates UID of the Association established for a given DICOM event.

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

HIS Event Log

The **HIS Event Log** is a list of all HIS events the system processed. For example, if the system processed a patient admission, it is logged here with a status that informs the user of the transaction’s success or failure. Double-click on an entry to view more information about an event.

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

HL7 Batch Log

The **Batch Log** is a list of events that occurred in the system during batch processing. These events can be both status and error messages. Double-click on an entry to view the reason an event failed.

The status messages and descriptions are as follows:

- **Batch Succeeded** — indicates the batch successfully arrived at the CCG system (the CCG system then sends the batch to the HIS).
- **Batch Sent** — indicates the batch was sent to the CCG system, but it has not yet arrived.
- **Batch Failed** — indicates the batch was not sent successfully to the CCG system. To view a description of the failure, view the log properties.

NOTE:

To resend a batch, See [“HL7 Batch History” on page 222](#).

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

Patient Record View Log

When a MUSE user views tests, orders or patient demographics that is stored in the MUSE system, these events are logged in the MUSE system. The log entries are displayed in the **Patient Record View Log**.

The **Patient Record View Log** is enabled in **Setup**. See Chapter . [“Site Properties – General Setup” on page 138](#).

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

Patient Record Search Log

When a MUSE user performs a database search, or searches in the **Editor** using a patient ID, patient last name, first name, date of birth, or order number, an entry is logged in the **Patient Record Search Log** for that site.

The **Patient Record Search Log** is enabled in **Setup**. See Chapter . [“Site Properties – General Setup” on page 138](#).

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

Application Log

The **Application Log** is a list of events that occurred in the system. These events can be both status and error messages. For example, a status message can inform you that database search is being run, while an error message is logged because there was an unidentified communication problem while faxing a report.

See step 3 in [“Configuring the Queues, Lists, and Logs” on page 226](#) for instructions on filtering the logs.

Process Log

The **Process Log** is a list of all of the processes the system executed. This log includes processes currently executing and those that terminated successfully. You can identify current processes because they do not have an end time. Processes with an old start time and no end time have most likely failed and you can investigate them for issues.

See step 3 in “[Configuring the Queues, Lists, and Logs](#)” on page 226 for instructions on filtering the logs.

Configuration Change Log

The **Configuration Change Log** displays configuration changes that were made by a MUSE user in MUSE **Setup**.

New in this log are the following columns the column

Column	Definition
ConfigArea	Indicates the configuration item in MUSE setup that was changed.
ConfigArea ID	Indicates the internal ID configuration item in MUSE setup that was changed.
ConfigChangeEventID	Indicates a unique ID for each configuration change that was logged.

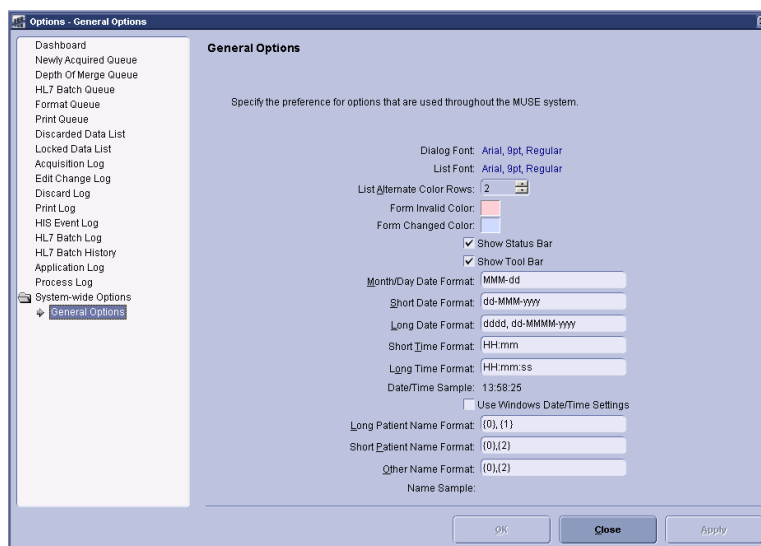
Click on a log entry to view the **Properties** window and a list of changes for a particular change event in the **Details** tab.

The **Configuration Change Log** is enabled in **Setup**. See Chapter . “[Setting Up System Properties — General](#)” on page 130.

See step 3 in “[Configuring the Queues, Lists, and Logs](#)” on page 226 for instructions on filtering the logs.

Configuring the Queues, Lists, and Logs

1. On the **Status** window, select **Tools > Options**.
The **Options** window opens.



2. Highlight **General Options** to configure options visible throughout the system as described in the following table:

Field	Description
Changing Fonts	To change the dialog or list font: <ol style="list-style-type: none"> 1. Place your cursor on the blue font name until a hand appears and the font name is underlined. 2. Click the mouse button. The Font window opens. 3. Select the font, font style, and size. 4. Click OK.
List Alternate Color Rows	Change the number to customize the number of rows you want shaded in the logs.
Form Invalid Color Form Change Color	To change the color: <ol style="list-style-type: none"> 1. Double-click the color square. The Color window opens. 2. Select the appropriate color for each item. 3. Click OK.
Show Status Bar	Select the check box to make the Status Bar visible at the bottom of the Edit List window. The Status Bar displays user, site, overreader, patient, and test information,
Show Tool Bar	Select the check box to make the Toolbar visible at the top of each system window.
Date Format Time Format	Place your cursor in the appropriate field and make the necessary changes. Refer to the default formats as a reference for configuring these formats. As you make your changes, refer to the Date/Time Sample field for a representation of the change you are making.

Field	Description
Use Windows Date/Time Settings	Select the check box to use the default Windows date and time formats.
Long Patient Name Format Short Patient name Format Other Name Format	To customize name formats, place your cursor in the appropriate field and make the necessary changes. Long and Short patient name formats are configured for patient names. Other name format is configured for the In-Basket , Referring Physician , and Acquiring Technician . See the following table of <i>Sample Formats for Names</i> .

Sample Formats for Names

	Long and Short Patient Names Formats	Other Name Formats
{0}, {1}	LastName, FirstName	LastName, FirstName
{0}, {2}	LastName, F.	LastName, F.
{0}, {3}	LastName, (Kanji)	LastName, (ID)

3. To configure which columns each queue, list, and log displays, click the appropriate name from the list in the left window pane.
 - a. Select the check box of the column headings you want to move or display.
 - b. Highlight the column heading and click the **Move Up** or **Move Down** buttons to display the column heading in that order in the queue, list, or log windows.
 - c. For the queues, to display the **File Data Property** page, select the **Display "File Data" property page** check box.
Additional information about the entry you are viewing is displayed in a tab labeled **Data** when this option is enabled.
 - d. For the queues, to display a listing of past entries, select the **Display "Done" records** check box.
 - e. The MUSE administrator or GE Healthcare service personnel can filter the following logs to create a view relevant your task.
 - **Acquisition Log**
 - **Edit Change Log**
 - **Discard Log**
 - **Print Log**
 - **HL7 Batch Log**
 - **HL7 Batch History**
 - **Process Log**
 - **DICOM Log**

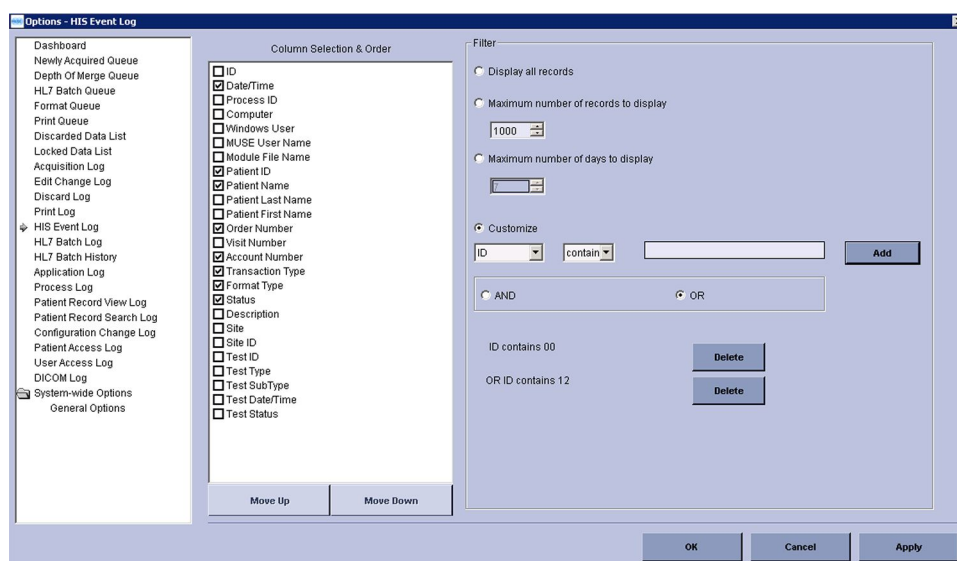
Select the log name and click the correct option button to set up the desired filters.

You can customize options to build a query to filter a log by selecting a field from the list, the appropriate filter criteria, and entering the appropriate value.

The following logs have the filter option **Customize**:

- **HIS Event Log**
- **Application Log**
- **Patient Record View Log**
- **Patient Record Search Log**
- **Configuration Change Log**

In the following illustration shows an example of the **HIS Event Log** filter with the **Customize** option.



Click the **Customize** radio button to enable the query fields, enter filter criteria, and click **Add**. Click **Delete** to delete the custom query. You can make a query using multiple fields.

Common Tasks Performed Within a Queue or Log

Task	Action
Refreshing	<ol style="list-style-type: none"> 1. Right-click the mouse button. A menu opens 2. Click Refresh.
Printing	<ol style="list-style-type: none"> 1. Right-click the mouse button. A menu opens. 2. Click Print List. The Select Printer and Formatting Options window opens. 3. Make the appropriate selections and click OK.
Displaying the Properties Page	<ol style="list-style-type: none"> 1. Right-click the mouse button. A menu opens 2. Click Properties. The Properties window opens. <p>NOTE: Not all queues have a properties page available, such as the Print Queue.</p>

Common Tasks Performed Within a Queue

Task	Action
Retrying a Request	<ol style="list-style-type: none"> 1. Select a record. 2. Right-click on the record. A menu opens. 3. Click Retry. <p>NOTE: You must have the proper privileges to retry requests.</p> <p>NOTE: Done entries are automatically purged from the system after the designated number of days specified in Scheduled Tasks. See Chapter "Setting Up Scheduled Tasks" on page 181 .</p>
Deleting a Request	<ol style="list-style-type: none"> 1. Select a record. 2. Right-click on the record. A menu opens. 3. Click Delete. <p>NOTE: You must have the proper privileges to delete requests.</p> <p>NOTE: Done entries are automatically purged from the system after the designated number of days specified in Scheduled Tasks. See Chapter "Setting Up Scheduled Tasks" on page 181 .</p>

Common Tasks Performed Within a Log

NOTE:

All logs have a refresh, print list, and properties page. See [“Common Tasks Performed Within a Queue or Log”](#) on page 230.

Task	Action
<i>Clearing a Log</i>	<ol style="list-style-type: none">1. Right-click the mouse button. A menu opens.2. Click <i>Clear Log</i>. <p>You cannot clear a log from the <i>Patient Access Log</i> and the <i>User Access Log</i>.</p> <p>NOTE: You must have the proper privileges to clear a log.</p>

Troubleshooting

This chapter provides information to use when trying to resolve problems with the system.

Assistance

Contact an authorized GE Healthcare service person if the following recommendations are unsuccessful.

Troubleshooting Recommendations

NOTE:

Work with your IT administrator to troubleshoot your issues. You may not have the proper privileges to make system changes.

Symptom	Probable Cause	Recommendations
I cannot gain access to the system. I get an error message when the application starts up.	You are not logged into Windows as a user with access to the system. Your network connection to the file server is not working.	Log out of Windows and log back in with your user credentials. Have the System Owner check your user setup. Verify that other clients are working. Check with your network administrator.
Physician cannot see ECGs in their in-basket.	Incorrect profile assigned to user, preset not set up properly.	Determine if the correct profile was assigned to the user. Go to System > Setup > Users . Highlight the user in the list, right-click and select Properties . Click Advanced . Determine which profile is assigned. Change if necessary, then click OK . Determine if the preset looks at individual or group in-basket. At the Edit List , select Tools > Manage Profiles . Highlight the appropriate physician profile. Click Use Selected as my Profile and OK . At the Edit List , select the appropriate in-basket. At the Selection Criteria navigation panel, scroll to In-Basket . Determine which in-basket is being viewed from the options. Tests must be assigned to the in-basket reflected here for the physician to be able to view records.
I cannot acquire tests from a disk or other media.	You selected the wrong drive letter. The disk or media can be damaged.	Make sure you are selecting the drive where the disk or other media is inserted. Try acquiring the tests at another workstation. Make sure you can access the tests at the cart. If you can read them at the cart, transmit them into the system using another method if possible.
Tests that were acquired are not appearing in the Edit List .	The site number does not exist on the system. One of the background services is not running. Tests are stuck in the Newly Acquired queue.	Correct the site number under Status > Discarded Data List . Change the setup on the cart to the correct site number. Have the System Owner verify/restart the background Services Right-click on the test and click Retry . If the record still does not process, contact GE Healthcare Technical Support to log on to the system and attempt to get the test on the Edit List .

Symptom	Probable Cause	Recommendations
When I scan the bar code on a test that is in the Edit List , the system does not display the test.	The bar code active icon (with green check mark) is not displayed in the upper left portion of the Editor screen. The PID was corrected and the test was updated in the Edit List .	Click on the Edit List portion of the screen to display the bar code active icon . Find the test on the Edit List or through retrieval, and double-click the test to manually open it.
I cannot log into a site or change to that site from within the application.	Your user setup does not have that site selected as a valid site.	Have the System Owner configure your user setup for access to that site.
I requested a printout of a test, but it never printed.	The printer or fax machine is out of paper. The output device is malfunctioning. The MUSE Print Background Service is not running.	Add paper to the device. Verify the device is working. Have the device repaired, if required. Have the System Owner verify/restart the MUSE Print Background Service .
A scheduled Database Search did not run.	The schedule for running the search changed. The background Service that handles running the Database Search job is not running.	Verify the schedule under Database Search > Scheduled Searches . Have your System Owner or IT person responsible for system verify/restart the MUSE Scheduler. If error message appear, contact GE Healthcare Technical Support.
Document was imported with an incorrect acquisition profile.	An electronic document is copied to an incorrect folder, or is acquired through a bulk import using the wrong acquisition profile. The file was acquired with incorrect attributes (test type, site, location, and so on).	Discard the test. Once the test is on the Discard Data List , you can reacquire the electronic document using the correct Acquisition profile.



Enhanced Patient Race List

Legacy Races

The following table provides the legacy race list that is displayed when **Enhanced patient race list** is **not** enabled in **Setup**.

<i>American Indian</i>
<i>Asian</i>
<i>Black</i>
<i>Caucasian</i>
<i>Eskimo</i>
<i>Hawaiian</i>
<i>Hispanic</i>
<i>Mongolian</i>
<i>Oriental</i>
<i>Other</i>
<i>Pacific Islander</i>
<i>Unknown</i>

Enhanced Race List

The following table provides the race list that is displayed when **Enhanced patient race list** is enabled in **Setup**.

<i><blank></i>
<i>American Indian</i>
<i>Asian</i>
<i>Asian Indian</i>
<i>Bangladeshi</i>
<i>Black</i>
<i>Burmese</i>

<i>Cambodian</i>
<i>Chinese</i>
<i>Eskimo</i>
<i>Filipino</i>
<i>Hispanic or Latino</i>
<i>Indonesian</i>
<i>Japanese</i>
<i>Korean</i>
<i>Malaysian</i>
<i>Mixed Race</i>
<i>Native Hawaiian or Other Pacific Islander</i>
<i>Other Pacific Islander</i>
<i>Other Race</i>
<i>Pakistani</i>
<i>Polynesian</i>
<i>Singaporean</i>
<i>Sri Lankan</i>
<i>Thai</i>
<i>Vietnamese</i>
<i>White</i>

Auto-mapped Races

Legacy races have been retired in the MUSE v9 system. The following table provides a cross-reference list showing how the legacy races are mapped to the enhanced race list when you enable **Auto map legacy races** in **Setup**.










Retired Legacy Race	Mapped Race in Enhanced Race List when Auto map legacy races enabled
<i>Caucasian</i>	<i>White</i>
<i>Hawaiian</i>	<i>Native Hawaiian or Other Pacific Islander</i>
<i>Hispanic</i>	<i>Hispanic or Latino</i>
<i>Mongolian</i>	<i>Asian</i>
<i>Oriental</i>	<i>Asian</i>
<i>Other</i>	<i>Other Race</i>
<i>Pacific Islander</i>	<i>Other Pacific Islander</i>
<i>Unknown</i>	<blank>
















Toolbar Icons & Keyboard Shortcuts

















Toolbar Icon Descriptions


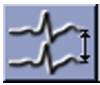



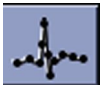









NOTE:















For Interval Editor toolbar icon descriptions see the *MUSE™ Cardiology Information System Interval Editor User Manual*.



Icon	Icon Name	Icon Description
EDIT LIST ICONS		
	Acquisition	Allows you to open the system Acquisition feature.
	Print Test	Allows you to print a patient test.
	Status	Allows you to open the system Status feature.
	Update	Updates the patient test to an in-basket or the Edit List .
	Database Search	Allows you to open the system Database Search feature.
	Setup	Allows you to open the system Setup feature.
	Logout	Allows you to log out of the system.
	Save Test as Demographics Complete	Allows you to save edits to the demographic data back to the Edit List and marks the status of the test as Demographics Complete .
	Open Selected Items	Allows you to open only the items you have selected.

Icon	Icon Name	Icon Description
	Exit Application	Allows you to exit the application.
	Refresh	Allows you to refresh the current window you are in at the system.
	Show Retrieval Panel	Allows you to view the retrieval panel at the Edit List window.
	Show Edit List Options Panel	Allows you to view the Edit List Options Panel at the Edit List window.
	Open Next Selected Item	Allows you to open the next selected item.
	Go to Retrieval	Allows you to open the system Retrieval panel.
	Go to Edit List	Allows you to return to the Edit List .
	Go to Select Patient	Allows you to go to and select a patient test.
	New	Allows you to create a new test report.
	Bar Code Wand May be used for retrieval	When active, scanning the bar code on the printed patient test will result in that test being retrieved.
	Online Help	Allows you to open the Operator Manual as a pdf.
	Save Test as Diagnosis Complete	Saves edits to the diagnosis and measurements back to the Edit List and marks the status of the test as Diagnosis Complete .
	Save Test as Demographics Complete and Route	Saves edits to the demographic data back to the Edit List , routes the test through the defined print route, and marks the status of the record as Demographic Complete .
	Confirm Test and Route	Confirms the test back to the Edit List or database and follows the defined print route.
	Confirm Test without Routing	Confirms the test back to the Edit List or database but doesn't result in the test being routed.

Icon	Icon Name	Icon Description
	Send Test to In-basket	Sends test(s) to a selected user's in-basket.
	Store Test to Database Unconfirmed	Sends a test to the database in an unconfirmed state.
	Send Open or Selected Tests to Discarded Data List	Sends the selected test(s) to the Discard Data List .
	Go to Test Directory	Allows you to open the system Test Directory feature.
	Go to Home	Allows you to return to the screen you set up as the home screen in Tools > Options > Miscellaneous Options .
	Select All	Allows you to select all items in a list.
	Select All and Open	Allows you to select all items in a list and open them.
	Select Test Editor Layout	Allows you to select the system Test Editor Layout.
	Send test to Serial Comparison	Allows you to send the test to the system Serial Comparison feature.
WAVEFORM TOOL ICONS		
	Zoom In	Zooms in on the waveform up to multiple levels.
	Zoom Out	Zooms out on the waveform.
	Zoom Normal	Resets the zoom to the default magnification.
	Reset All	Resets all the measurement tools to the default settings.
	Smoothly Drawn Waveforms	An anti-aliasing filter which takes the roughness of the waveform presentation.
	Limb Lead Gain	Increases or decreases the lead gain for the limb leads.
	Precordial Lead Gain	Increases or decreases the chest lead gain.

Icon	Icon Name	Icon Description
	Overall Lead Gain	Increases or decreases the overall gain across with all leads.
	Automatic Waveform Spacing	When waveforms overlap due to larger amplitude deflection, click this icon to present with no overlap.
	Waveform Speed	Allows you to increase or decrease the waveform speed.
	Low Pass Filter	Allows you to set a filter that will remove noise from the waveform presentation. When this is not selected, the waveform is in its rawest form.
	Select Waveform Display Format	Allows you to select different waveform formats or cycle between overall, median, and rhythm preferences.
	Display Individual Waveform Samples	Click to display each individual sampling point on the waveform. Sample rates can be 250 or 500 samples per second.
	Show Calipers	Allows you to turn calipers on and off.
	Measure PR Interval	When selected, the measurement set using the calipers will replace the PR measurement.
	Measure QRS Duration	When selected, the measurement set using the calipers will replace the QRS measurement.
	Measure QT Interval	When selected, the measurement set using the calipers will replace the QT measurement.
	March Out Calipers	Results in the calipers marching out across the waveform at whatever spacing the main calipers are set at.
	Measure R-R Interval for QTc	When selected, the R-R interval measured is used to correct the QT Interval calculation for two QTc values: QTc Bazett (QTcB), and QTc Fridericia (QTcF).
	Show Caliper Baseline	Displays the isoelectric line.
	Show Grid	Turns 1 mm grid on and off.
DIAGNOSIS EDITOR TOOLBAR		
	Statement Tree Most Recently Used	Displays a list of the most recently used statements.

Icon	Icon Name	Icon Description
	Statement Tree Fine Tune	Opens a list of adjunct statements that can be used to fine tune a selected statement.
	Statement Tree Similar/Related	Displays a list of similar or related statements for the statement you have selected in the diagnosis.
	Statement Tree Insert/Replace	Allows you to add or replace a selected statement.
	Delete	Allows you to delete a selected statement.
	Select All	Allows you to select the entire diagnosis.
	Convert Selection to Free Text	Allows you to convert the selected statement to free text.
	Toggle Typing Mode	Allows you to toggle between free text and acronym/matching mode.
	Last Saved Diagnosis	Reverts the current diagnosis back to the last saved diagnosis.
	Original 12SL Diagnosis	Reverts the current diagnosis back to the original 12SL diagnosis.
	Large Window	Allows you to expand the diagnosis window.
	Free Text Lock	Allows you to lock typing inputs in free text mode.
DATABASE SEARCH TOOLBAR		
	Refresh	Refreshes the current window.
	Print List	Allows you to print the generated database search list.
	Properties	Allows you to open the properties window for a database search.

Icon	Icon Name	Icon Description
	Delete	Allows you to delete a search.
	New Search	Allows you to create a new search.

Waveform Keyboard Shortcuts

NOTE:

The following shortcut keys apply when the control has the input focus.

Caliper Shortcuts

Shortcut Keys	Description
Shift + 	Show/Hide March Out (Enhanced Editor Only)
Shift + [Select left caliper
Shift +]	Select right caliper
Shift + -	Show/Hide caliper baseline (Enhanced Editor Only)
0	Reset baseline and joiner to the zero position (Enhanced Editor Only)
Shift + H	Show/Hide caliper
Ctrl + Left Arrow Key, Ctrl + Right Arrow Key	Move selected caliper to the left or right
Ctrl + Up, Ctrl + Down	Move baseline up or down
=	Enable/Disable Automatic Waveform Spacing (Enhanced Editor Only)

Zoom/Pan Shortcuts

Shortcut Keys	Description
-, Shift + Right-click	Zoom out
Shift + +, Shift + Left-click, Shift + Left-click and drag	Zoom in
Shift + *	Reset Zoom and other settings
Left Arrow	Scroll left
Right Arrow	Scroll right
Up Arrow	Scroll up
Down Arrow	Scroll down
Home	Scroll to beginning of waveform
End	Scroll to end of waveform
Page Up	Scroll to beginning of page

Shortcut Keys	Description
Page Down	Scroll to bottom of page
Ctrl + Page Up	Go to previous tab
Ctrl + Page Down	Go to next tab
Ctrl + Home	Scroll to first page
Ctrl + End	Scroll to last page

Miscellaneous Shortcuts

Shortcut Key	Description
Shift + #	Show/Hide Grid
Period Key (.)	Show/Hide Individual samples (Enhanced Editor Only)
s Key	Enable/Disable waveform smoothing (anti-aliasing)
Ctrl + Space	Displays the Waveform context menu (same as right click)

Diagnosis Keyboard Shortcuts

Shortcut Key	Description
Ctrl+A	Selects whole diagnosis.
Home	Moves the insertion point to the beginning of the current line.
End	Moves the insertion point to the end of the current line.
Ctrl +Home	Moves the insertion point to the beginning of the diagnosis.
Ctrl +End	Move the insertion point to the end of the diagnosis.
Esc	Press the Esc key after typing, and to change to free text.
Delete	At end, removes end of line. Removes one character in free text mode. Removes one coded statement.
Ctrl+[Left Arrow]	Moves the insertion point to the beginning of the current word in free text, or to the beginning of the current coded statement. If the insertion point is already at the beginning of a word or coded statement, Ctrl+[Left Arrow] moves it to the beginning of the previous word or coded statement.
Ctrl+[Right Arrow]	Moves the insertion point to the beginning of the next word in free text, or the beginning of the next coded statement.

Shortcut Key	Description
Ctrl+[Up Arrow]	Moves the insertion point to the beginning of the current paragraph. If the insertion point is already at the beginning of a paragraph, Ctrl+ [Up Arrow] moves it to the beginning of the previous paragraph.
Ctrl+ [Down Arrow]	Moves the insertion point to the beginning of the next paragraph.
Shift	Pressing and holding Shift while pressing the up, down, left, or right arrow keys highlights the selected text or clears the highlight of the selected text.
Shift+keyboard navigation	Selects a range of characters.
Left/Right Arrows	Moves insertion point left/right one character at a time.
Tab	While in the Diagnosis Statement selection drop-down menu, if multiple items match and no item is selected, pressing Tab selects the first item in the matching list and inserts it with no end of line.
Enter	<p>If multiple items match and no item is selected, pressing Enter selects the first item in the matching list and inserts it, appending an end of line.</p> <p>If an item was selected using the keyboard, pressing Enter inserts it, appending an end of line.</p> <p>In matching mode, when no statement is selected, and either no statement exists before the insertion point, or one exists that already has the end of line mark, pressing Enter inserts a blank free text statement with the end of line mark appended.</p> <p>In matching mode, when no statement is selected, and a statement exists before the insertion point that does not have the end of line mark, pressing Enter appends an end of line mark to the statement before the insertion point.</p> <p>In free text mode, pressing Enter breaks the current statement at the insertion point, appends an end of line to the end of the statement ending at the character before the insertion point.</p>
Down arrow	Moves insertion point down one line.
Up arrow	Moves the insertion point up one line.
Page Up	Moves the insertion point up one page.
Page Down	Moves the insertion point down one page.

Shortcut Key	Description
Navigation Away (Enhanced Editor Only)	In matching mode, either before or after the matching list is displayed, when the matching text is navigated away from using the mouse or keyboard, the matching text is inserted as free text with no end of line unless the insertion point is at the end of the paragraph.
Backspace	At the beginning of paragraph, removes previous end of line, or removes one character in free text mode or one coded statement.



Roles and Privileges

Definitions Table

Following is a list of privileges and the roles associated with them.

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
EDITOR PRIVILEGES												
View and Print Patient Test Data		X	X	X	X	X	X	X	X	X	X	X
Create Tests			X	X	X	X	X	X			X	
Update Patient Test Diagnosis and Clinical Information			X	X	X	X	X		X	X	X	X
Update Patient Test Record			X	X	X	X	X	X	X	X	X	X
Complete Demographics			X	X	X		X	X	X	X	X	X
Complete Diagnosis			X	X	X		X		X	X	X	X
Update to Edit List			X	X	X	X	X	X	X	X	X	X
Confirm as Overreader							X		X			X
Confirm as Fellow							X			X		
Confirm as Proxy for Overreader or Fellow			X	X	X		X				X	
Confirm Without Viewing Entire Diagnosis			X	X	X		X					
Complete Demographics or Confirm All Without Order Number			X	X	X		X		X	X		X

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
Confirm All Without Billing			X	X	X		X					
Discard Unconfirmed Test			X	X	X	X	X		X	X	X	
Discard Confirmed Test				X	X	X	X					
Unconfirm Confirmed Test				X	X		X					
Reconfirm Confirmed Test				X	X		X		X			X
Send Tests to Another In-Basket			X	X	X	X	X	X	X	X	X	
Move to Database			X	X	X	X	X		X		X	X
Reset Order Status			X	X	X	X	X	X				
Cancel Order				X	X	X	X					
Rebill on Reconfirm				X	X		X					
Remove Order from Test -Changing Order Status to Open			X	X	X	X	X	X				
Create HIS Record (ADT, Order, Visit)						X	X					
View Original 12SL Statements			X	X	X	X	X	X	X		X	X

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over-reader	Cardiac Fellow	Proxy	E14
Resend to Serial Comparison			X	X	X	X	X	X	X		X	
Lower Test Status				X	X	X	X					
Access Other User's In-Basket		X	X	X	X	X	X	X	X	X	X	
View E14 Blinded Fields		X	X	X	X	X	X	X	X	X	X	
Update Multiple Overread Test Assigned to Others				X		X	X					
Confirm Multiple Overread Test Assigned to Others				X		X	X					
Set Test as Baseline				X		X	X					
STATUS PRIVILEGES												
View System Status		X	X	X	X	X	X	X	X	X	X	
View the Newly Acquired Queue		X	X	X	X	X	X	X	X	X	X	
View the Format Queue		X	X	X	X	X	X	X	X	X	X	
View the Print Queue		X	X	X	X	X	X	X	X	X	X	
View Merge Queue Entries				X	X	X	X					
View the Discarded Data List				X	X	X	X					

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over-reader	Cardiac Fellow	Proxy	E14
View List of Locked Tests			X	X	X	X	X	X				
View the Acquisition Log		X	X	X	X	X	X	X	X	X	X	
View the Edit Change Log		X	X	X	X	X	X	X	X	X	X	
View the Discard Log		X	X	X	X	X	X	X	X	X	X	
View the Print Log		X	X	X	X	X	X	X	X	X	X	
View the Application Log		X	X	X	X	X	X	X	X	X	X	
View the HIS Event Log		X	X	X	X	X	X	X	X	X	X	
View the Process Log				X	X	X	X					
View Patient Record View Log		X	X	X	X	X	X	X	X	X	X	
View Configuration Change Log		X	X	X	X	X	X	X	X	X	X	
View Patient Access Log		X	X	X	X	X	X	X	X	X	X	
View User Access Log		X	X	X	X	X	X	X	X	X	X	
View DICOM Log		X	X	X	X	X	X	X	X	X	X	
Clear the Acquisition Log						X	X					
Clear the Edit Change Log							X					

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
Clear the Discard Log						X	X					
Clear the Print Log					X	X	X					
Clear the Application Log					X	X	X					
Clear the HIS Event Log					X	X	X					
Clear the Process Log					X	X	X					
Clear Patient Record View Log					X	X	X					
Clear Patient Record Search Log					X	X	X					
Clear Configuration Change Log					X	X	X					
Clear DICOM Log					X	X	X					
Reset a Device			X	X	X	X	X	X	X	X	X	
Delete Newly Acquired Queue Entry(s)						X	X					
Retry Newly Acquired Queue Entry(s)				X	X	X	X					
Delete Format Queue Entry(s)				X	X	X	X					
Retry Format Queue Entry(s)				X		X	X					

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
Delete Print Queue Entry(s)			X	X	X	X	X					
Retry Print Queue Entry(s)				X	X	X	X					
Delete Merge Queue Entry(s)				X	X	X	X					
Retry Merge Queue Entry(s)				X	X	X	X					
Delete Discarded Data List Entry(s)				X	X	X	X					
Recover Discarded Data List Entry(s)			X	X	X	X	X					
Unlock Tests Locked by Users			X	X	X	X	X	X				
Include option to View "Done" Records in Newly Acquired Queue						X	X					
Include Option to View "Done" Records in Format Queue						X	X					
Include Option to View "Done" Records in Print Queue						X	X					
View Merge Queue Done Entries				X	X	X	X					

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
Include Option to View Binary File Data in Newly Acquired Queue				X		X	X					
Include Option to View Binary File Data in Format Queue				X		X	X					
Include Option to View Binary File Data in Print Queue						X	X					
Include Option to View Binary File Data in Discarded Data List						X	X					
View Merge Queue Entry File Data				X	X	X	X					
DATABASE SEARCH PRIVILEGES												
Manage and Schedule Database Searches				X	X	X	X					
Run Database Searches				X	X	X	X					
View Database Search Results				X	X	X	X					
Delete Database Searches				X	X	X	X					
SETUP PRIVILEGES												

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
View System Setup				X	X	X	X					
Manage System					X	X	X					
Manage Sites					X	X	X					
Activate/ Deactivate Sites					X	X	X					
Manage Users				X	X	X	X					
Manage Roles				X	X	X	X					
Manage Devices				X	X	X	X					
Manage Formats				X	X	X	X					
Manage Modems					X	X	X					
Manage LDAP Settings				X	X	X	X					
Manage LDAP User Field Settings				X	X	X	X					
Manage LDAP Group Settings				X	X	X	X					
Manage Test Types				X	X	X	X					
Manage Shared Folders				X	X	X	X					
Manage Acquisitions Profiles				X	X	X	X					
Manage Locations				X	X	X	X					
Manage HIS Locations				X	X	X	X					

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
Manage Report Distribution				X	X	X	X					
Manage Statement Library				X	X	X	X					
Modify DICOM Services				X	X	X	X					
Modify Text and Class of Existing Statements				X	X	X	X					
Manage Scheduled Tasks				X	X	X	X					
Manage Multiple Overreader Studies				X		X	X					
Shutdown				X	X	X	X					
MISCELLANEOUS PRIVILEGES												
Acquire Data	X	X	X	X	X	X	X	X	X	X	X	
Change to Another Site without Being a User on That Site					X	X	X					
Send Reports to Temporary Devices			X	X	X	X	X	X	X	X	X	
Save User's Application Preferences				X	X	X	X	X			X	X

Role	Acq. Only	View Only	Editor	Site Manager	System Owner	MUSE Service	All Privileges	Demo Editor	Over- reader	Cardiac Fellow	Proxy	E14
Publish User Preferences as a Profile and Manage Profiles				X	X	X	X	X			X	
Impersonate Other Users ¹												
Download Orders	X	X	X	X	X	X	X	X			X	
Manage HL7 batches				X	X	X	X					
Schedule HL7 batches				X	X	X	X					
View/Print HL7 batches				X	X	X	X					
¹ The role "Impersonate Other Users" is only available when a customer sets up a custom role.												

Role Description

Role Name	Role Description
Acquire Only	Acquire patient tests.
View Only	Acquire and view patient tests.
Editor	Acquire, view, edit, and confirm patient tests.
Site Manager	Manages the MUSE site level configuration.
System Owner	Manages the system level configuration.
MUSE Service	Manages the MUSE service level configuration.
All Privileges	All privileges.
Demographic Editor	Acquire, view, edit, and complete demographics. May not confirm tests.
Overreader	Acquire, view, edit, and confirm tests as overreader.
Cardiac Fellow	Acquire, view, edit, and confirm tests as cardiac fellow.
Proxy	Acquire, view, edit, and confirm tests as proxy for overreader or cardiac fellow.
E14 Blinded Overreader	View and overread tests while being blinded to patient identification.

Privilege Descriptions

Privilege Name	Privilege Description Allows the user to...
EDITOR PRIVILEGES	
View and Print Patient Test Data	Retrieve, view and print patient tests.
Create Tests	Create new tests.
Update Patient Test Diagnosis and Clinical Information	Modify the test diagnosis.
Update Patient Test Record	Modify all areas of the test.
Complete Demographics	Mark that the test demographics are complete.
Complete Diagnosis	Mark that the test diagnosis is complete.
Update to Edit List	Update test data on the edit list.
Confirm as Overreader	Confirm tests as an overreader.
Confirm as Fellow	Confirm tests as fellow.
Confirm as Proxy for Overreader or Fellow	Confirm tests for an overreader or fellow.
Confirm without Viewing Entire Diagnosis	Confirm tests without viewing the entire diagnosis within the editor.
Complete Demographics or Confirm All without Order Number	Complete the demographics or confirm without an Order Number.

Privilege Name	Privilege Description Allows the user to...
Confirm All without Billing	Confirm all without billing.
Discard Unconfirmed Test	Discard unconfirmed test(s).
Discard Confirmed Test	Discard confirmed test(s).
Unconfirm Confirmed Test	Unconfirm previously confirmed test(s).
Reconfirm Confirmed Test	Reconfirm a confirmed test.
Send Tests to Another In-Basket	Change the In-Basket location of a test.
Move to Database	Move the test off the edit list and into the database.
Reset Order Status	Reset the order status.
Cancel Order	Cancel an Order.
Reset Visit	Reset a visit.
Close Visit	Close a visit.
Rebill on Reconfirm	Rebill on reconfirm.
Remove Order from Test - Changing Order Status to Open	Remove an order from a test, and change order status to open.
Create HIS Record (ADT, Order, Visit) (Obsolete)	Create a HIS record.
View Original 12SL Statements	View the original 12SL Statements.
Save Test to Floppy Disk (Obsolete)	Saves the patient test to a floppy disk.
Resend to Serial Comparison	Send test for another serial comparison .
Lower Test Status	Change the test status to a lower state.
Access Other User's In-Basket	Access test(s) in another user's In-Basket.
View E14 Blinded Fields	View E14 blinded fields.
Update Multiple Overread test assigned to others	Update multiple overread tests assigned to others.
Confirm Multiple Overread tests assigned to others (Obsolete)	Confirm multiple overread tests assigned to others.
Set Test as Baseline	Set a test as the baseline test.
STATUS PRIVILEGES	
View System Status	View system status.
View the Newly Acquired Queue	View the Newly Acquired Queue .
View the Format Queue	View the Format Queue .
View the Print Queue	View the Print Queue .
View Merge Queue entries	View Merge Queue entries.
View the Discarded Data List	View the Discarded Data List .
View list of Locked Tests	View the list of currently locked tests.
View the Acquisition Log	View the Acquisition Log .
View the Edit Change Log	View the Edit Change Log .

Privilege Name	Privilege Description Allows the user to...
View the <i>Discard Log</i>	View the <i>Discard Log</i> .
View the <i>Print Log</i>	View the <i>Print Log</i> .
View the <i>Application Log</i>	View the <i>Application Log</i> .
View the <i>HIS Event Log</i>	View the <i>HIS Event Log</i> .
View the <i>Process Log</i>	View the <i>Process Log</i> .
View <i>Patient Record View Log</i>	View the <i>Patient Record View Log</i> .
View <i>Configuration Change Log</i>	View the <i>Configuration Change Log</i> .
View <i>Patient Access Log</i>	View the <i>Patient Access Log</i> .
View <i>User Access Log</i>	View the <i>User Access Log</i> .
View <i>DICOM Log</i>	View the <i>DICOM Log</i> .
Clear the <i>Acquisition Log</i>	Delete the entry(s) in the <i>Acquisition Log</i> .
Clear the <i>Edit Change Log</i>	Delete the entry(s) in the <i>Edit Change Log</i> .
Clear the <i>Discard Log</i>	Delete the entry(s) in the <i>Discard Log</i> .
Clear the <i>Print Log</i>	Delete the entry(s) in the <i>Print Log</i> .
Clear the <i>Application Log</i>	Delete the entry(s) in the <i>Application Log</i> .
Clear the <i>HIS Event Log</i>	Delete the entry(s) in the <i>HIS Event Log</i> .
Clear the <i>Process Log</i>	Delete the entry(s) in the <i>Process Log</i> .
Clear <i>Patient Record View Log</i>	Delete the entry(s) in the <i>Patient Record View Log</i> .
Clear <i>Patient Record Search Log</i>	Delete the entry(s) in the <i>Patient Record Search Log</i> .
Clear <i>Configuration Change Log</i>	Delete the entry(s) in the <i>Configuration Change Log</i> .
Clear <i>DICOM Log</i>	Delete the entry(s) in the <i>DICOM Log</i> .
Reset a Device	Reset a device.
Delete <i>Newly Acquired Queue</i> entry(s)	Delete the entry(s) in the <i>Newly Acquired Queue</i> .
Retry <i>Newly Acquired Queue</i> entry(s)	Retry the entries in the <i>Newly Acquired Queue</i> .
Delete <i>Format Queue</i> entry(s)	Delete the entries in the <i>Format Queue</i> .
Retry <i>Format Queue</i> entry(s)	Retry the entries in the <i>Format Queue</i> .
Delete <i>Print Queue</i> entry(s)	Delete the entries in the <i>Print Queue</i> .
Retry <i>Print Queue</i> entry(s)	Retry the entries in the <i>Print Queue</i> .
Delete <i>Merge Queue</i> entries	Delete the entries in the <i>Merge Queue</i> .
Retry <i>Merge Queue</i> entries	Retry the entries in the <i>Merge Queue</i> .
Delete <i>Discarded Data List</i> entry(s)	Delete the entries in the <i>Discarded Data List</i> .
Recover <i>Discarded Data List</i> entry(s)	Recover the entries in the <i>Discarded Data List</i> .
Unlock Tests Locked by Users	Unlock tests that are currently locked by other users.

Privilege Name	Privilege Description Allows the user to...
Include Option to View "Done" Records in Newly Acquired Queue	Display "Done" records under Status > Options for the Newly Acquired Queue .
Include Option to View "Done" Records in Format Queue	Display "Done" records under Status > Options for the Format Queue .
Include Option to View "Done" Records in Print Queue	Display "Done" records under Status > Options for the Print Queue .
View Merge Queue "Done" Entries	View "Done" records under Status > Options for the Merge Queue .
Include Option to View Binary File Data in Newly Acquired Queue	Display the file data property page under Status > Options for the Newly Acquired Queue .
Include Option to View Binary File Data in Format Queue	Allows the user to display the file data property page under Status > Options for the Format Queue .
Include Option to View Binary File Data in Print Queue	Display the file data property page under Status > Options for the Print Queue .
Include Option to View Binary File Data in the Discarded Data List	Display the file data property page under Status > Options for the Discarded Data List .
View Merge Queue Entry File Data	View Merge Queue entry file data.
DATABASE SEARCH PRIVILEGES	
Manage and Schedule Database Searches	Manage and schedule database searches.
Run Database Searches	Run database searches.
View Database Searches	View database searches.
Delete Database Searches	Delete database searches.
SETUP PRIVILEGES	
View System Setup	View the System Setup .
Manage System	Manage the MUSE system.
Manage Sites	Manage MUSE sites.
Activate/Deactivate Sites	Activate or deactivate MUSE sites.
Manage Users	Manage other users.
Manage Roles	Manage roles.
Manage Devices	Manage devices.
Manage Format	Manage formats.
Manage Modems	Manage modems.
Manage LDAP Settings	Manage LDAP Settings .
Manage LDAP User Field Settings	Manage LDAP User Field settings.
Manage LDAP User Group Settings	Manage LDAP User Group settings.
Manage Test Types	Manage the test types.
Manage Shared Folders	Manage shared folders.

Privilege Name	Privilege Description Allows the user to...
Manage Acquisitions Folders	Manage acquisition folders.
Manage Locations	Manage locations.
Manage HIS Locations	Manage HIS locations.
Manage Report Distribution	Manage report distribution.
Manage Statement Library	Manage the Statement Library .
Modify DICOM Services	Modify the DICOM services.
Modify Text and Class of Existing Statements	Modify the text and classification of existing statements in the Statement Library .
Manage Scheduled Tasks	Manage Scheduled Tasks.
Manage Multiple Overreader Studies	Manage multiple overreader studies.
Shutdown (Obsolete)	May perform a system shutdown.
MISCELLANEOUS PRIVILEGES	
Acquire Data	Acquire patient tests.
Change to Another Site without Being a User on that Site	Change to another site on the system without being configured as a user in the other site.
Send Reports to Temporary Devices	Send reports to a temporary device.
Save User's Application Preferences	Save the user preferences for an application.
Publish User Preferences as a Profile and Manage Profiles	Publish the user preferences as a profile and manage profiles.
Impersonate Other Users	This role allows MUSE API to track the user that logged into MUSE Web or CV Web. It has to be enabled to the account that is running the MUSE API service.
Download Orders	Download orders.
Manage HL7 Batches	Manage the HL7 batches.
Schedule HL7 Batches	Schedule the HL7 batches.
View HL7 Batches	View the HL7 batches.



Test and Order Status

Differences Between Test and Order Status

The following table describes the differences between the status of a test and the status of an order.

Status	Status as it Relates to a Test	Status as it Relates to an Order
<i>Open</i>	N/A	An order is received from the HIS that has not been downloaded to a Cart or attached to a test.
<i>Pending</i>	N/A	An order has been downloaded to a Cart but is not in the MUSE system with a test.
<i>Newly Acquired</i>	A test has been acquired to the MUSE system but has no edits made to it.	An order may be attached to this test. If the order is attached, the order status is Unconfirmed .
<i>Unconfirmed</i> (MUSE v7.1.1 and above)	N/A	An order is attached to a study and the study status is anything but Confirmed .
<i>Updated</i>	A test is on the Edit List , and the information has been edited but not confirmed.	The test may or may not have an associated order. If it does, the order status is Unconfirmed .
<i>Demographics Complete</i>	An Editor has completed and/or verified the test's demographic information.	The test may or may not have an associated order. If it does, the order status is Unconfirmed .
<i>Diagnosis Complete</i>	A clinician Editor has completed and/or verified the test's diagnostic results.	The test may or may not have an associated order. If it does, the order status is Unconfirmed .

Status	Status as it Relates to a Test	Status as it Relates to an Order
<i>Diagnosis and Demographics Complete</i>	One or more Editors have completed and/or verified the test's demographics information and diagnostic results, except for a final signature.	The test may or may not have an associated order. If it does, the order status is <i>Unconfirmed</i> .
<i>Fellow Confirmed</i>	One or more Editors have completed and/or verified the test's demographics information and diagnostic results, and a cardiac fellow's signature is on the test.	The test may or may not have an associated order. If it does, the order status is <i>Unconfirmed</i> .
<i>Confirmed</i>	One or more Editors have completed and/or verified the test's demographics information and diagnostic results, and an overreader's signature is on the test.	The test may or may not have an associated order. If it does, the order status is <i>Complete</i> .
<i>Complete</i> (MUSE v7.1.1 and above)	N/A	An order is attached to the test and the test was <i>Confirmed</i> since the last time the HIS Order Management task was run (usually daily at 6:15 a.m.).
<i>Old Complete</i> (MUSE v8 and above)	N/A	An order is attached to the test and the test was <i>Confirmed</i> before the HIS Order Management task ran that day.
<i>Discarded</i>	Pertains only to tests on the <i>Discarded Data List</i> , not on the <i>Edit List</i> .	An order was cancelled by the HIS or manually by a MUSE user.



Configuring MUSE System for LDAP Authentication

The following is an overview of the process to configure the MUSE system for LDAP Authentication:

1. Customer works with GE Healthcare to understand the requirements, features, and limitations of LDAP Authentication and to ensure that this authentication method meets their needs.
2. Install the LDAP Authentication feature option in MUSE.
3. Configure LDAP in the MUSE system.

The following table details some of the requirements, features, and limitations of using LDAP with the MUSE system. Both GE Healthcare personnel and customer personnel can use the following table to determine if LDAP Authentication meets the customer's expectations.

Requirements	<ul style="list-style-type: none"> Microsoft Active Directory Server givenname and sn fields must be populated in the LDAP server's user schema for every user that uses LDAP authentication in MUSE. If the givenname or sn field is blank for a given LDAP user, the blank field(s) can prevent the user logging on to MUSE using LDAP authentication. For Microsoft Active Directory, givenname is the same as First Name and sn is the same as Last Name (surname).
Features	<ul style="list-style-type: none"> Allows users to log on to MUSE with a domain / active directory user and password. LDAP authentication can be combined with Windows authentication. Provides more centralized administration of MUSE users, roles, and profiles. Provides mapping of LDAP groups to MUSE Roles and Profiles. Provides mapping of LDAP fields to MUSE fields. Automatically creates MUSE users from LDAP users. Can automatically enable MUSE users who have been created from LDAP users. Allows site overrides in the MUSE user setup to override LDAP group to MUSE role mappings. These overrides can be used to ensure that any specified user is never affected by the LDAP group configuration.
Limitations	<ul style="list-style-type: none"> Requires manual configuration of job titles within the MUSE User setup. Requires manual configuration of MUSE user access as any MUSE user created by LDAP has access to all sites in the MUSE system. Automatically assigns a system user ID to any user created by LDAP. Requires the MUSE LDAP setup to be refreshed when any changes or additions are made to the LDAP server groups if the groups are to be selectable within the MUSE LDAP group mapping function.

Installing the LDAP Authentication Option in the MUSE System

The LDAP Authentication option must be enabled by a qualified MUSE service person prior to the configuration of LDAP in MUSE. If the option is not already enabled, contact your GE service representative to enable the option.

Use the following procedure to verify whether the LDAP option is already enabled.

1. Log on to the MUSE application server as a user that has at least **View System Setup** and **Manage LDAP Settings** privileges in the MUSE system.
2. Go to **System > Setup**.
3. From **System**, select **System**.
4. Right-click on **MUSE Cardiology Information System**.
5. Verify that **LDAP Configuration** is listed in the navigation menu.
If it is listed, **LDAP Configuration** is enabled.

Configuring LDAP in the MUSE System

The following section is an overview of the process to configure LDAP in MUSE. When configuring LDAP for the first time, these steps must be performed in this order. Maintenance of the LDAP Fields and Groups can be performed as needed by the MUSE or LDAP administrator.

1. Configure LDAP in the MUSE system properties.
2. Configure LDAP fields in MUSE setup.
3. Configure LDAP groups in MUSE setup.

1. Configuring LDAP in the MUSE System Properties

NOTE:

Make sure you do not lock yourself out of the system. You can get locked out as follows:

- If users are currently using Windows Authentication and you enable LDAP before it is fully configured.
- If users are currently using MUSE Authentication and you turn off MUSE Authentication and enable LDAP before it is fully configured.

Make sure you configure LDAP according to the following procedure:

1. Log on to the MUSE system as a user that has the **Manage LDAP Settings** privilege in the MUSE application.
2. Go to **System > Setup**.
3. Select **System**.
4. Right-click on the MUSE entry and select **Properties**.
5. Select **LDAP Configuration**.
6. Use the information in the following table to complete the fields:

Field	Instructions to Complete the Field	Notes
LDAP Server Name	Type the full qualified Windows server name or the IP address of the LDAP server.	If this field is not populated, you cannot enable Allow users to login using LDAP authentication .
Port Number	Type the port number of the Internet Protocol address of the LDAP server. Click Test Connection to confirm that the MUSE system can connect to the specified LDAP server name and port.	The common port number for LDAP servers is 389. The default port number for LDAP over Secure Sockets Layer (SSL) is 636. If this field is not populated, you cannot enable Allow users to log on using LDAP authentication .

Field	Instructions to Complete the Field	Notes
Distinguished Name Path to Groups	Type the distinguished name path to the LDAP groups that contain the users that need access to the MUSE system. Click the Download Active Directory Groups button to confirm the MUSE can connect to the LDAP path and download groups.	LDAP objects are referenced by their distinguished name (DN). A DN is a sequence of relative distinguished names (RDN) connected by commas. An RDN is an attribute with an associated value in the form of attribute=value. The MUSE system looks for users at the distinguished name path and additionally looks for users recursively that are below the path structure.
Distinguished Name Path to Users	Type the distinguished name path to the LDAP users that need access to the MUSE system. After typing the distinguished name path to the users, click Download User Fields to confirm that the MUSE system can connect to the LDAP path and download user fields.	The following is an example of a distinguished names path to groups: OU=MUSE Users, DC=corp,DC=hospital,DC=com The following example is a distinguished names path to users: CN=Users,DC=corp,DC=hospital,DC=com NOTE: ADSI Edit can be used to help determine/verify the distinguished name paths. See “ADSI Edit” on page 274 .
Allow users to login using LDAP authentication	Select the check box.	After the LDAP feature is properly setup, select this check box to enable MUSE client workstations to authenticate using LDAP. If setting up LDAP for the first time, do not select this box until all LDAP Groups have been setup.
LDAP new users added are enabled	Select the check box.	After the LDAP feature is properly setup, select this check box to automatically enable new MUSE users created by LDAP authentication. If setting up LDAP for the first time, do not select this box until all LDAP Groups have been setup.

7. Click **OK** to save your changes.

2. Configuring LDAP Fields in MUSE Setup

LDAP Fields are attributes defined within the LDAP database scheme for a person. The LDAP standard defines a person object which contains the following attributes:

LDAP User Attribute	Description
sn	Surname or last name
givenName	Given name or first name
mail	Email address

LDAP User Attribute	Description
<i>facsimileTelephoneNumber</i>	FAX number
<i>telephoneNumber</i>	Telephone number

NOTE:

There are dozens of LDAP attributes in Active Directory for user schema. See [http://msdn.microsoft.com/en-us/library/ms683980\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/ms683980(v=vs.85).aspx).

There are more person attributes in LDAP but these attributes are automatically mapped into MUSE user attributes without any configuration needed. Additional mappings can be created to map attributes such as Medicare Identifier to an attribute in the LDAP person object.

When a user launches or logs into the MUSE workstation, if the user authenticates against the LDAP server, the user is added to the MUSE user database using these field mappings. If the user already exists in the MUSE user database, the fields in the MUSE database are updated using the LDAP attributes.

The following table lists the MUSE User fields, whether they are mapped by default, and what their default LDAP Field Name mapping is, if any. Default mappings cannot be changed.

MUSE Field Name	Default Mapping	LDAP Field Name
<i>LastName</i>	Yes	<i>sn</i>
<i>FirstName</i>	Yes	<i>givenName</i>
<i>EmailAddress</i>	Yes	<i>Mail</i>
<i>FaxNumber</i>	Yes	<i>facsimileTelephoneNumber</i>
<i>Phone</i>	Yes	<i>telephoneNumber</i>
<i>Medicare ID</i>	No	
<i>AuxID1</i>	No	
<i>AuxID2</i>	No	
<i>AuxID3</i>	No	
<i>AuxID4</i>	No	
<i>AuxID5</i>	No	

NOTE:

If the default field mappings are blank, it indicates that your LDAP configuration is not valid. Return to the **Configuring LDAP in MUSE System Properties** section to ensure LDAP is properly configured there before proceeding

Use the following steps to add a new LDAP field mapping or modify an existing one:

1. Log on to the MUSE system as a user that has the **Manage LDAP User Field Settings** privilege.
2. Go to **System > Setup**.
3. Select **LDAP Fields**.
4. Perform one of the following actions:
 - To create a new mapping, go to **Action > New**.
 - To modify an existing mapping, right-click the entry and select **Properties**.

5. Under **LDAP Attributes/Properties**, select the **LDAP Field** to map from the drop-down list.
6. Under **MUSE Fields**, select the **MUSE Field** to map from the drop-down list.
7. Click **OK** to save your changes.

3. Configuring LDAP Groups in MUSE Setup

When properly configured, the LDAP system settings and user field mappings allow for centralized user administration and application authentication. In order to get application authorization, LDAP Groups need to be mapped to MUSE Roles. Mapping LDAP Groups to MUSE Roles allows the LDAP Administrator to add or remove LDAP users to or from an LDAP group and grant that user the privileges associated to the mapped MUSE role.

Use the following steps to add a new LDAP group mapping or to modify an existing one:

1. Log on to the MUSE system as a user that has the **Manage LDAP User Field Settings** privilege.
2. Go to **System > Setup**.
3. Select **LDAP Groups**.
4. Perform one of the following actions:
 - To create a new mapping, go to **Action > New**.
 - To modify an existing mapping, right-click the entry and select **Properties**.
5. Complete the fields using the information in the following table:

Field	Action	Description
LDAP Group	Select the LDAP group from the drop-down list. These are the groups pointed to in the group's description name portion of the LDAP system settings.	Groups are a quick way of giving users common access to certain features or functionality within an LDAP directory.
Rank	Add the ranking of the group by clicking the up and down arrows or by typing a number into the field.	The rank number is used in the case that an LDAP user exists in more than one LDAP group. This would result in a MUSE user existing in multiple MUSE roles. Since a MUSE user can only exist in a single MUSE role, this rank number (highest number wins) determines which MUSE role the MUSE user is in. The rank range is 1 to 5000. A best practice would be to use multiples of 100 when setting up ranks for the first time so that additional LDAP groups can be more easily added and ranked at a later time.

Field	Action	Description
MUSE Role	Select the MUSE Role from the drop-down list.	MUSE Roles are created using Roles function of MUSE. Each MUSE Role is made up of MUSE privileges.
MUSE Profile	Select the MUSE Profile from the drop-down list. This is optional.	MUSE Profiles are created using the Profile Manager in MUSE. Profiles specify and manage pre-defined sets of user options across all MUSE applications.

- Click **OK** to save your changes.

Changes to LDAP Groups

After the initial MUSE LDAP configuration, the expectation is that no changes will be made to the LDAP groups on the LDAP server other than adding or removing users from the LDAP groups that have been mapped in MUSE. If any changes are made to the LDAP groups on the LDAP server, such as renaming groups or moving groups, MUSE LDAP Authentication may stop working.

Furthermore, if the **Download Active Directory Groups** button located in the MUSE LDAP Configuration is clicked, all of the LDAP Groups to MUSE Roles and Profiles mappings will be deleted. This is because if any changes are made to the LDAP group configuration on the LDAP server that would require the Active Directory Groups to be re-downloaded, the MUSE LDAP Groups to MUSE Roles must be re-configured from the beginning. If the **Download Active Directory Groups** button is clicked and confirmed in MUSE, all users using LDAP authentication will no longer be able to access the MUSE system until the LDAP group to MUSE role mappings are re-configured. MUSE and Windows Authentication will continue to work if the appropriate shortcuts for these methods exist on each of the MUSE client workstations.

If changes need to be made to the LDAP configuration that would require re-downloading the LDAP groups from the LDAP server, you need to take the following steps:

- Schedule an appropriate down time for the MUSE system in order to re-configure LDAP in MUSE.
- Record the current MUSE LDAP Configuration. One way to record this information is via a **Print Screen** of the LDAP Configuration in MUSE. Any configuration changes made here are also logged to the MUSE **Configuration Change Log**.
- Record the values of the existing MUSE LDAP Groups configuration. One way to record this information is **Print Screen** or **Print List** of the LDAP Groups in MUSE. The deleted values are also logged to the MUSE **Application Log**.
- Re-configure LDAP using the steps in [“Configuring LDAP in the MUSE System” on page 269](#).

ADSI Edit

A Windows feature application called ADSI Edit can be installed on the MUSE application server that can aid in troubleshooting/verifying ADSI/LDAP Users and Groups.

Installing ADSI Edit

ADSI Edit can be installed by enabling the **AD LDS Snap-Ins and Command-Line Tools** using **Windows Server Manager**.

You can also perform the following procedure to automatically install the required components:

1. Insert or mount the MUSE v9 Support media into the optical drive.
2. Browse to the **Pre Install Scripts** folder on the MUSE v9 Support media.
3. Right-click on **Install_AD LDS_Tools.bat** and choose **Run as administrator**.
The batch file executes and installs any required components
4. Using **Windows Server Manager**, verify that the **AD LDS Snap-Ins and Command-Line Tools** feature has been installed as appropriate for the Windows operating system being used

Using ADSI Edit

1. Log on to the MUSE application server as a domain user; ideally, this is a domain MUSE Administrator user.
2. Go to **Administrative Tools** and execute **ADSI Edit**.
3. Go to **Action > Connect to**
4. Click **OK** to connect to the **Default naming context**.
You can now browse the default naming context and verify AD/LDAP users, groups, and distinguished as needed
5. To determine the distinguished name for an object, right-click on the object and choose **Properties**.
The **distinguishedName** is listed as an **Attribute**.
6. Double-click the entry to view the full value for the **distinguishedName** attribute.

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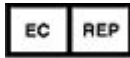
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