Carestream

CARESTREAM Vue Motion User Guide

Part # 6K9272 2015-10-20

Table of Contents

| Introduction | _ |
|--|----|
| Indications for Use | 5 |
| Search Screen | 6 |
| Searching for a Patient | 7 |
| Search Results | 7 |
| New Activity Indication | 7 |
| Exam Display Mode | 7 |
| Break Glass | 7 |
| Viewing an Exam | 8 |
| Filtering Search Results | 9 |
| Patient Exam Screen | 10 |
| Image Manipulation Toolbar | |
| 3D View Tools | |
| Basic 3D Views | |
| Advanced 3D Views | |
| Setting the Series Display | |
| Sharing Exams with Other Viewers | |
| Sharing Exams | |
| Managing Existing Sharing | |
| Patient History Pane | |
| Filtering the List of History Studies | |
| Comparative Viewing | |
| Linked Exams | |
| Displaying Multiple Series Side-by-Side | |
| Synchronizing Displayed Series | |
| Reference Lines | |
| Patient Reports Pane | |
| Bookmarks | |
| Notes Pane | |
| Customizing the Panes | |
| Viewing ECG Lead Waveforms | |
| Selecting a Screen Layout | |
| Manipulating ECG Lead Waveforms | |
| Interpretation Pane | |
| Additional Functions | |
| Vue Motion for Mobile Devices | |
| | |
| Introduction | |
| Logging In | |
| Searching for a Patient or Exam | |
| | |
| Loading Images | |
| Scrolling | |
| Zooming | |
| Panning | |
| Using the Actions Menu | |
| Series Navigation | |
| Windowing | |
| Complete to Lossless | |
| Viewing Prior Exams | |
| Viewing Reports | |
| Viewing Notes | |
| Appendix A: Portable and Mobile Devices Validated | |
| , appendix , at a capic una riodic perices valluated intermination | 20 |

| SAMSUNG GALAXY NOTE 10.1 | 26 |
|-------------------------------------|----|
| Device and Display Settings | 27 |
| Device Specifications and Latency | 27 |
| SAMSUNG GALAXY | 28 |
| SAMSUNG GALAXY S III | 28 |
| SAMSUNG GALAXY S 4 | 28 |
| SAMSUNG GALAXY S 5 | 29 |
| Device and Display Settings | 29 |
| Device Specifications and Latency | 30 |
| APPLE IPAD | 31 |
| APPLE IPAD 2 | 31 |
| APPLE IPAD 3 | 31 |
| APPLE IPAD 4 | 32 |
| APPLE IPAD AIR | 32 |
| Device and Display Settings | 33 |
| Device Specifications and Latency | 34 |
| APPLE IPHONE | 35 |
| APPLE IPHONE 4 S | 35 |
| APPLE IPHONE 5 | 35 |
| APPLE IPHONE 6 | 35 |
| Device and Display Settings | 36 |
| Device Specifications and Latency | 37 |
| Appendix B: Display Recommendations | 38 |
| Ambient Light Test | 38 |

Preface

CARESTREAM Vue Motion

Trademark and Copyright Information

CARESTREAM is a trademark of Carestream Health.

This document is copyrighted with all rights reserved.

APPLE, IPAD and IPHONE are registered trademarks of Apple Inc.

SAMSUNG, GALAXY S and GALAXY NOTE are registered trademarks of Samsung Electronics Co.

Under the copyright laws, this document may not be copied, in whole or in part, without the written consent of Carestream Health, Inc. Under the law, copying includes translating into another language or format.

All names or identities used in this document are fictitious.

Caution: Federal law restricts this device to sale to, by, or on order of a physician.

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Carestream Health, Inc. prior to publication. No patent license is granted by this information.

Carestream Health, Inc. reserves the right to change this information without notice and makes no warranty, express or implied, with respect to this information.

Carestream Health, Inc. shall not be liable for any loss or damage, including consequential or special damages, resulting from the use of this information, even if loss or damage is caused by Carestream Health, Inc.'s negligence or other fault.

Authorized Representative (European Union)



Carestream Health France 1, rue Galilée 93192 NOISY-LE-GRAND CEDEX FRANCE



Importer for European Union

Carestream Health Netherlands B.V.

Bramenberg 12

3755 BZ Eemnes

The Netherlands

Introduction

CARESTREAM Vue Motion is a web-based application intended for referring physicians. It provides quick views of exam images and reports and includes tools to view and manipulate images. It also presents image-related clinical information such as reports, bookmarks, orders, sticky notes, and non-DICOM data.

NOTE: CARESTREAM Vue Motion has the ability to display lossless or lossy JPEG compressed images.

NOTE: Some options may require system configuration, normally done by the administrator.

Vue Motion is self-deployable on virtually any device capable of running a web browser including portable and mobile devices such as APPLE IPAD, APPLE IPHONE, SAMSUNG GALAXY S, SAMSUNG GALAXY NOTE. A list of devices validated at the time of release can be found in Appendix A. Additional devices may be released from time to time. Contact Carestream personnel for further details.

NOTE: Due to the nature of digital capture from film-screen systems, caution should be taken on portable and mobile devices while viewing CR and DR images to ensure optimal contrast and detail sharpness. Therefore, Carestream recommends that during image review, frequent and concurrent use of viewing tools provided by Vue Motion, such as zoom, pan, and window level adjustments, be made. This maximizes image contrast and detail sharpness of each image displayed via Vue Motion on the portable and mobile device.

Indications for Use

The CARESTREAM Vue PACS is an image management system whose intended use is to provide completely scalable local and wide area PACS solutions for hospital and related institutions/sites, which will archive, distribute, retrieve, and display images and data from all hospital modalities and information systems.

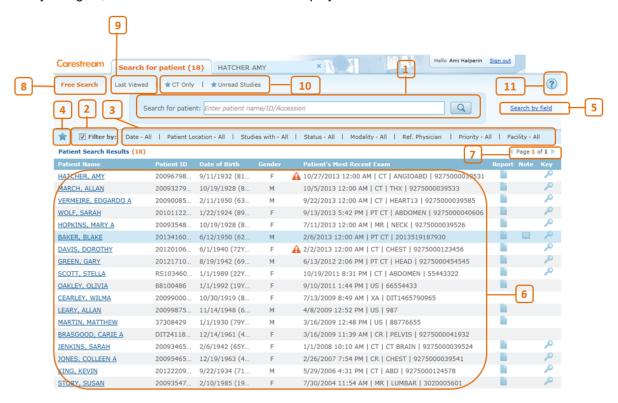
The system contains interactive tools in order to ease the process of analyzing and comparing three dimensional (3D) images. It is a single system that integrates review, dictation and reporting tools to create a productive work environment for the radiologists and physicians.

The Vue Motion software program is used for patient management by clinicians in order to access and display patient data, medical reports, and medical images for diagnosis from different modalities including CR, DR, CT, MR, NM, and US.

Vue Motion provides wireless and portable access to medical images for remote reading or referral purposes from web browsers including usage with validated mobile devices. This device is not intended to replace full workstations and should be used only when there is no access to a workstation. For primary interpretation and review of mammography images, only use display hardware that is specifically designed for and cleared by the FDA for mammography.

Search Screen

After you log on, the Search for Patient screen displays.



| # | Name | Description | |
|----|----------------------|---|--|
| 1 | Search box | Text input for searching a patient by name, ID, or accession number. | |
| 2 | Filter by | Checkbox that determines whether results are filtered by Filter Options. | |
| 3 | Filter Options | Fields for filtering the search results. Additional fields to those provided by default may be configured. | |
| 4 | Save Filter | Saves your filter selection to let you use it later as a predefined filter selection. This can also be used as a worklist. Click × to delete a filter. | |
| 5 | Search by field | Lets you search a specific field: Last name, first name, ID or accession number. | |
| 6 | Patient Results list | List of the patients matched to the search criteria that you entered in the Search field. If you defined filters, the list is filtered on those fields. | |
| 7 | Page browse | Moves forward or back in the search results pages. | |
| 8 | Free Search | Use to perform a new search and clear the search and filters. | |
| 9 | Last Viewed | Select this option to view the last patients you loaded. | |
| 10 | Saved filters | List of saved filters. You can click to apply your predefined filters to the search. | |
| 11 | Help ® | Click to open the online Help for Vue Motion. | |

Searching for a Patient

- 1. In the Search box, enter either the first name, last name, first and last name, ID number, or accession number of the patient.
- 2. Click or press Enter.

The search results display in the Search Results pane.

3. If necessary, you can search according to specific criteria. Click Search by field and then search specifically by last name, first name, patient ID, or accession number.

An additional "force mode" exists where users are required to provide the Patient ID and Last Name before they are allowed to perform a search. This item is configurable.

Search Results

The following display as columns in the Search Results pane.

| Field | Description/Additional Information | |
|-------------------------------|---|--|
| Patient name | Click the name to load the most recent exam of that patient. | |
| Patient ID | The issuer of the patient ID is located on the ID tooltip. | |
| Date of Birth (Age) | Displays the date of birth of the patient with their age in years and months shown in parentheses. | |
| Gender | Displays the gender of the patient. | |
| Patient's Most Recent Exam | Displays the information of the most recent exam of the patient. By default, the exam date, modality, body part, and accession number are displayed. The number of images, referring physician name, and patient location are displayed in the tooltip. | |
| Report | Indicates whether the most recent exam has a report. If available, click the icon to open the report of the most recent exam. | |
| Note | Indicates whether the most recent exam has a sticky note. | |
| Key | Indicates whether the most recent exam has key images. | |

For tablets, in portrait mode, the search result page is narrowed.

New Activity Indication

If the most recent exam of the patient has a new report or a new sticky note created within the last 24 hours (configurable), an orange asterisk is shown on the report /note indication icons: **or **:

Exam Display Mode

By default, the search results page displays a list of patients with details of the patient's last exam. An option exists where a list of exams for a patient is displayed rather than the list of patients with the details of the last exam. This is a configurable parameter.

Break Glass

Users with Break Glass permissions can use the Break Glass function to override their configured access rights and gain temporary access to the exams of all patients stored in the system. After the Break Glass function is activated, the search page displays search results that are based on a search of all patients, not just patients for whom the user normally has access rights.

If you have Break Glass permissions, the search page displays a lock at the top-right corner.

To activate the Break Glass function:

- 1. Click the Break Glass lock icon.
 - A Break Glass mode dialog box appears.
- 2. Click the **I acknowledge** check box to indicate your consent to the confidentiality agreement and select a reason for using the Break Glass function from the drop-down list box.
 - NOTE: The reason drop-down and its list of values are configurable.
- 3. Click Break.

All sessions that were open before are closed. While you are in Break Glass mode, the search window, as well as the image display window, are surrounded by a red rectangle. A counter appears, indicating the time elapsed since you entered the Break Glass mode.

When you are in Break Glass mode, all searches are done in Search by field mode (and all fields are mandatory).

To stop the Break Glass mode, click the x at the right end of the counter.

Viewing an Exam

In the **Search Results** pane, click the name of the patient that you want to view. A new tab opens to display the most recent exam of that patient.

- To keep the existing exam open and view another patient exam in a new tab, right-click the patient name and select **Load patient in new tab**.
- To view key images first, right-click the patient name and select Load key images (enabled only when key images are available).

Filtering Search Results

You can filter the patients in the list by the following fields:

| Field | Function |
|------------------|---|
| Date | Display only patients who have studies from the date range you specify. |
| Patient Location | Display only patients who have studies with the Patient Location tag you specify. |
| Studies with | Display only patients who have exams with reports, sticky notes, key images, or any combination of the three. |
| Status | Display only patients who have studies with the study status you specify. |
| Modality | Display only patients who have studies with the modalities you specify. |
| Ref. Physician | Display only patients who have been referred by the physician you specify. |

To filter the patient list

- 1. Click on a filter field.
 - A drop-down box appears listing the available values.
- 2. Select the filter criterion from the drop-down box or type text in the text box where relevant.

The results are filtered according to your choice and, by default, are ordered by patient last name. To clear the filters, clear the **Filter by** check box.

Filtering fields may be configured. Any available DICOM-based field can serve as a filtering criterion.

Saving Search Filters

You can save the search filters that you have used so you can use them again the next time you log on to the system.

- 1. Click the Save Search Filters icon T.
 - OII 💻 .
- 2. Type the name of the filter to be saved.
- 3. Click to save the filter.

The new filter is located above the **Search** box and is marked with a star.

Deleting a Search Filter

- 1. Hover with the mouse cursor over the search filter you want to delete.
- 2. Click the x that appears next to the search filter.

Patient Exam Screen



The Patient Exam screen is divided into the following sections:

| # | Description | # | Description |
|----|----------------------|----|---|
| 1 | Image area | 2 | Image Manipulation toolbar |
| 3 | Cine toolbar | 4 | Series chooser |
| 5 | 3D tools | 6 | Reports pane |
| 7 | Bookmarks pane | 8 | Notes pane |
| 9 | Patient History pane | 10 | Patient demographics |
| 11 | Additional functions | 12 | Search for Patient tab—Lets you return to the Search Results pane to load additional patients |

Image Manipulation Toolbar

Use the **Image Manipulation** toolbar at the bottom of the ppatient exam display to zoom, pan, rotate, and flip images, perform windowing and measurement functions, synchronize displayed series, and reset all actions.



- Inverse windowing and windowing presets (for CT and MR) are available from the **Windowing** icon •. Hover with the mouse over the icon to display the presets in the dropdown list box. Use the **Auto Windowing** tool to draw a square area in which windowing is calculated automatically.
- Hover over the **Measurements** icon (by default, the **Line Measurement** tool ((b)) to display a menu that allows you to hide annotations and graphics or delete marked graphics. You can also draw lines, angles and Cobb angles, as well as oval ROIs. The measurement values

appear automatically on the image. For ROIs, measurements include area, average pixel values (Hounsfield for CTs and X-ray, SUV for PET), standard deviation, and range. For non-DICOM images, use the **Show Tags** tool to display image level tags that were originally added using the Vue Archive Acquisition Tool (for details see the system administrator). Depending on your user permissions, you may edit the tags.

- Use the mouse wheel or the scroll bar to scroll through the images.
- Use the **Sync** icon to perform synchronization in multiple-layout displays. A highlighted icon is an indication that all displayed series are synchronized.

On tablets and mobile devices, use standard gestures (see Vue Motion for Mobile Devices):

- Pinch for zooming, using two fingers in a pinch motion.
- Two fingers moving in the same direction for panning the data.
- One finger for scrolling, simulating the scroll bar.
- Buttons with drop-down menus—continuous finger pressing opens the drop-down.

3D View Tools

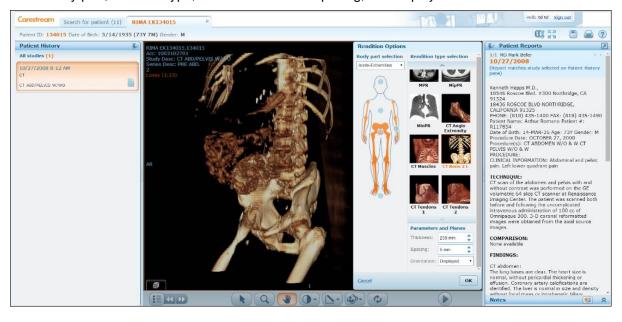
Basic 3D Views

The **3D Tools** menu allows you to display series of volumetric data sets in different 3D rendition type views. Hover with the mouse over the **3D Tools** menu icon at the bottom left corner of the image area and click the desired tool to display the series in coronary, sagittal, or axial orientations. Click the **Revert** icon to revert to the original display.

Once a series is displayed in an MPR view, the **Flip/Rotate** tool in the toolbar changes to **Swivel**. Hover with the mouse over the **Swivel** icon and use the **Swivel** or **Roll** tools to improve viewing.

Advanced 3D Views

Click the **Rendition Options** tool in the **3D Tools** menu to display the **Rendition Options** dialog. Use the options in this dialog to enhance visualization of the image using different rendition types (MPR, MipPR and MinPR) or pre-defined volume rendering (VoIR) protocols. The dialog allows you to select body part, rendition type, slice thickness and spacing, and display orientation.



In the **Rendition Options** dialog box:

- 1. In the body illustration, select a body part by clicking a hot spot ... A shadow appears, marking the area covered by that hot spot. If two hot spots are too close by, a dialog box appears to allow you to specify the body part.
 - Alternatively, you can select the body part from the Body part selection drop-down list.
 - The protocol display to the right of the illustration changes to show the appropriate pre-defined protocols.
- 2. Click the desired pre-defined protocol.
- If needed, change the thickness and spacing values in the Parameters and Planes dropdown lists.
- 4. If needed, change the orientation using the Parameters and Planes drop-downs lists. The changes you make in the Parameters and Planes drop-down lists are immediately reflected in the image display.
- 5. Click **OK** to retain the new view or **Cancel** to revert to the previous view.

Setting the Series Display

Use the **Series Chooser** icon to set up the series display. Click the **Series Chooser** icon to see a list of all series of the displayed exam and a set of tabs showing all the loaded exams in the current session. The active series is highlighted with orange. An icon near the series name signifies whether the series is a DICOM or non-DICOM series. The displayed series are marked with light blue. Click the series that you want to display or drag it to the display area.

Dragging a series is not supported for tablets.

Click the arrow icons to navigate to the next or previous series.

Sharing Exams with Other Viewers

NOTE: Available for MyVue customers only.

The sharing capability allows sharing an exam with another web user. The person with whom the exam is shared has access to all image-manipulating tools.

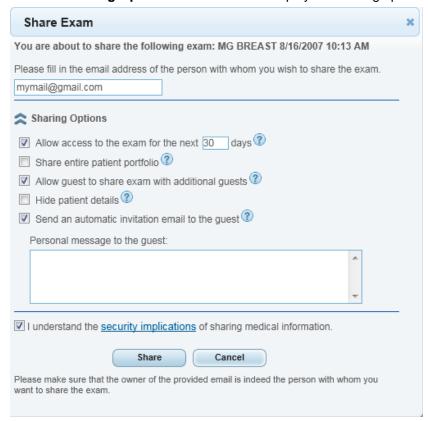
Sharing Exams

To share an exam:

1. Right-click a patient name on the search page and select the **Share Exam** menu option. The **Share Exam** form opens.



- 2. In the **Share Exam** page, fill in the email of the person with whom you wish to share the exam.
- 3. Click the **Sharing Options** double arrow to display the sharing options.



You can determine the following parameters –

- Number of days for which access is allowed. The maximum number of days is configured in the Vue Motion system.
- Whether all available studies of the patient are shared or only the one currently being viewed.
- Whether the person with whom the study is shared is allowed to further share the exam.
- Whether the patient's personal details are masked in the study when viewed by the person with whom the study is shared.
- Whether an email is automatically sent to the person with whom you are sharing to alert them about the shared exam.
- 4. Click the **Security Implications** link and select the checkbox to express your familiarity and agreement with the security implications of sharing medical information.

An email is sent by the system to the person with whom you shared the exam to inform them of the sharing (if you selected that option in the **Share Exam** window).

Managing Existing Sharing

The **Manage Existing Sharing** menu option in the patient name right-click menu offers a possibility to undo existing sharing instances.

The right-click menu and exam sharing capability are not supported on tablets.



Click the icon to the right of each of the rows you wish to cancel. Click **Undo All** to undo all existing sharing instances.

Guest Users

Depending on permissions granted by the person who originally shared the exam, the person with whom the exam is shared (a "guest" user) may further share the exam and manage existing sharing.

Click the **Share** icon in the toolbar: (or right-click the patient name in the **Search** page). A drop-down displays the **Share Exam** and **Manage Existing Sharing** options.

- To further share the exam, select the **Share Exam** option and fill in the sharing options (see Sharing Exams section above).
- To manage existing sharing options, select the **Manage Existing Sharing** menu option. For a guest user, the table displays only the sharing options already granted by that user. (For example, if it is the first time that a study has been shared with you and you have not shared a study with anybody else, the **Manage Existing Sharing** table is empty). Click the icon to cancel existing sharing options. Click **Undo All** to undo all existing sharing options.

Patient History Pane

Use the **Patient History** pane at the left of the image to load a prior exam. Click the prior exam that you want to view in the **Image Viewer**. The status of the prior exam is represented by the following icons:

| Icon | Description |
|------|--|
| 4₺ | Only an order is available for the exam. Images are not yet stored in the archive. |
| H | Images are available. The exam can be viewed, but a report is not yet available for this exam. |
| - | A report exists for this exam. |
| | A sticky note exists for this exam. |
| | A report and sticky notes are available for this exam. |

Additional information for each exam is available in its tooltip. Hover with the mouse cursor over the exam area to display the tooltip.

The tooltip with the additional information is not available for tablets.

Filtering the List of History Studies

If there are a large number of history studies for the patient, you can filter the list of prior studies.

- To narrow the list to studies to a specified time frame, use the timeline filter.
- To filter by modality, body part, or exam description, click ¥.

Comparative Viewing

You can display a prior exam simultaneously with the current one for comparison purposes.

To display a prior exam in addition to the currently displayed one, click the + sign which appears when you hover with the mouse cursor over the top right corner of the exam box in the **Patient History** pane.

The display area turns into a two-layout display and the series of the prior exam is placed in the vacant area. If no vacant areas are available, the series of the prior exam replaces the active series.

Note that the previously displayed series remains the series in focus.

Linked Exams

Linked exams (different exams performed for the same patient under a single order and with a single report) are marked in the **Patient History** pane with a colored frame.

Displaying Multiple Series Side-by-Side

Vue Motion enables you to select a layout that splits the display area into two or four areas, thus allowing you to display more than a single series of images side-by-side:

- 1. Select the 1 x 2 or 2 x 2 layout from the **Series Chooser** menu . The display area is split according to your selection.
- 2. Place the images in the display areas by dragging a series from the **Series Chooser** menu to the desired display area or by clicking on the series in the **Series Chooser** menu. In the latter case, the series is placed in the available display area.
 - Dragging a series is not supported in tablets.
- 3. Navigate through the series to display the desired image.



Double-clicking on an image displayed in one of the display areas enlarges the display area to the entire screen. Double-clicking again restores the display area to its former size.

Synchronizing Displayed Series

Reference Lines

In multiple-layout display, if different display areas display images in perpendicular planes, the images automatically appear with reference (scout) lines. The reference line is not displayed on the active image.

Sync

Synchronizing series displayed in two or four display areas enhances the diagnostic process by allowing synchronous scrolling, thus facilitating comparison.

You can synchronize series for comparison purposes.

When synchronized series are on the same planar view, every scroll, zoom, or pan action is performed on both series. Synchronized series that are not on the same planar view display dynamic reference lines on one of the series.

Use the **Sync** icon in the image manipulation bar to synchronize series. If the displayed series are of different frames of reference, registration (volumetric matching) is performed and series of the same planar view are linked. In multiple-layout display, the system attempts to synchronize all displayed series with the active series.

Hovering over the **Sync** icon displays these menu options:

• Sync @A

Synchronizes displayed series. A highlighted icon is an indication that all displayed series are synchronized.

Break Sync

Click to unlink synchronized series.

Manual Sync

You may want to synchronize series even when there is not enough DICOM information for automatic synchronization. Click the **Manual Sync** icon and then click the images to be synchronized. In multiple-layout displays, specify which images are to be synchronized.

Patient Reports Pane

The **Patient Reports** pane located to the right of the image shows the reports of the displayed exam. When you load a different exam from the **Patient History** pane, the **Patient Reports** pane updates with the report of the selected exam.

The user name of the radiologist who signed the report (signing physician tag) and the report date display at the upper part of the pane.

If the report serves a number of linked exams, the linked exams are specified at the upper part.

The report may contain text marked as hyperlinks to bookmarks marked on images. Clicking on a hyperlink scrolls the data set and displays the image where the bookmark has been marked.

If more than one report exists for the selected exam, you can navigate through the report by clicking .

If an order exists, a **View Order** link appears at the top right corner of the report. Click the link to open an **Order Information** window, which displays order details as captured in the RIS or patient registration system.

Click to open the report in a new window.

NOTE: To prevent mismatches between reports and exams, reports opened in a new window close whenever you select a different exam.

Bookmarks

Vue Motion displays information about bookmarks in the exam. Bookmarked measurements can be easily viewed either by clicking a hyperlink in the report text, if a hyperlink for that bookmark exists in the text, or by clicking a bookmark icon in the **Bookmarks** pane.



Each icon in the Bookmarks pane represents a bookmark in the exam marked as the active exam in

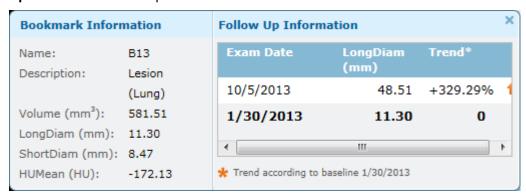
the **Patient History** pane. Vertical white stripes in the orange area of the icon indicate the existence of follow-up bookmarks (measurements of the same finding in other earlier or later exams).

A bookmark icon with no stripes signifies a bookmark with no follow-up.

Hover with the mouse over a bookmark icon to open the **Bookmark Information** window, which displays relevant details of the bookmarked measurements.

Clicking on the bookmark icon causes the displayed series to scroll and display the image containing the measurement. If necessary, the orientation of the image changes automatically to best show the measurement.

Clicking on a striped bookmark icon (that is, a bookmark with follow-up bookmarks) opens a **Follow-Up Information** window placed next to the **Bookmark Information** window.



The **Follow-Up Information** window displays a list of the follow up bookmarks, the exam date of each of the bookmarks, relevant measurements, and the trend (change over time) in relation to the baseline (the earliest measurement of the bookmark). An arrow indicates the direction of the change over time. The bold row represents the current exam.

Click a follow-up bookmark to display the image containing the bookmark side-by-side with the displayed image. To display more than two bookmarked images simultaneously, go to the series chooser, change the display to 2 x 2, and then click on the desired bookmark.

Notes Pane

The **Notes** pane at the bottom right of the **Patient Exam** window displays any sticky notes that have been added to the exam. You can view, add, edit or delete sticky notes, based on your user permissions.

The Notes pane is minimized if the exam does not have a sticky note.

Customizing the Panes

To change the display mode of the panes, click the **Pin** icon [♣] of the pane. When a pane is unpinned, it maximizes when you hover with the mouse cursor over its sidebar. You can also change the pane width by clicking and dragging the external border of the pane.

Dragging or mouse hovering is not available for tablets. Panes can be either pinned or unpinned, with no possibility to control their size.

Viewing ECG Lead Waveforms

Vue Motion offers you tools to view Electrocardiogram (ECG) lead waveforms, including a display of exam portfolios in the Patient History pane on the left-hand side, a 12-lead waveform display, and a display of exam details and interpretation statements in the right-hand side pane. You can display current and prior ECG exams side by side or in a top-bottom mode.

- 1. Search for the patient whose ECG exam you wish to view and click the patient name.
- 2. In the **Patient History** pane, locate the ECG exam and click to display the ECG lead waveforms.

An ECG grid displays the heart activity as voltage (Y axis) against time (X axis).

Vue Motion displays a 12-lead ECG view, showing the three bipolar limb leads (annotated I, II, and III), the three unipolar limb leads (annotated aVR, aVL and aVF) and the six unipolar chest leads (annotated V1-6).



NOTE: CARESTREAM Vue Motion does not support the viewing of ECG lead waveforms on mobile phones.

Selecting a Screen Layout

You can display ECG lead waveforms of 2 exams simultaneously.

To select a layout, click the **Series Chooser** menu and click one of the layouts



Manipulating ECG Lead Waveforms

Use the Image Manipulation toolbar at the bottom of the exam display to zoom, add measurements, change format, change gain, change speed, and reset the display.

| Icon | Description |
|------------|---|
| A | Pointer |
| Q | Zoom the lead waveform. |
| | Measurement menu—Lets you measure differences between two points along the lead waveform, assess rhythm (with a caliper), hide grid, hide measurements, and delete measurements. |
| 3x4+1 ▼ | Change Format menu —Lets you change the lead display format. |
| 25 mm/s | Change Speed menu—Lets you increase or decrease distance per second (mm/s) representation on the X axis. |
| 10 wm/mv | Change Gain menu—Lets you Increase or decrease distance per voltage (mm/mV) representation on the Y axis. |
| C | Reset all changes to the default display. |

Zooming

Click the **Zoom** button and drag the mouse up and down to zoom in and out in a single lead waveform.

Measuring Time and Voltage Differences

Use the **Line** tool **Line** to measure time and elevation differences between two points.

- 1. From the **Measurement** menu , select **Line** .
- 2. Click the lead waveform at the starting point of the measurement line, keep the mouse pressed, and drag to the end point.

A dotted line is drawn and an annotation appears displaying the second (x axis) and millivolt (y axis) values covered by the line.

Assessing Rhythm

Use the **Caliper** tool to assess rhythm normality by defining a time segment and comparing the heart activity during the same duration in other locations along the lead waveform.

- 1. From the **Measurement** menu , select **Caliper** .
- 2. Click the lead waveform at the starting point of the segment to be defined, keep the mouse pressed, and drag to the end point.
 - A caliper appears with an annotation of the duration represented by that segment.
- 3. Click any other location on the lead waveform to move the caliper and compare the rhythm in that duration.

Hiding the Grid, Annotations, and Measurements

- Use the **Hide Grid** tool in the **Measurement** menu to hide the grid in the lead display.
- Use the **Hide Annotation** tool in the **Measurement** menu to hide the block values annotation at the bottom right corner of the display and the Current Study annotation.
- Use the **Hide Measurements** tool in the **Measurement** menu to hide all measurements you have added to the lead waveform.

Deleting Measurements

Use the **Delete Measurements** tool to delete all measurements you have added.

Changing the Format

Use the **Change Format** menu to change the format of the lead display. By default the exam opens with a 3 x 4 lead display (each lead representing 2.5 seconds), with a longer rhythm lead (representing 10 seconds) at the bottom (a 3 x 4 + 1 format). You can change the format to $3 \times 4 + 3$, 3×4 , 6×2 , or 12×1 .

In formats displaying longer rhythm leads at the bottom of the display, you can drag any of the other leads to the bottom part of the display to view the full 10 seconds.

Changing the Speed

Use the **Change Speed** menu to change the paper speed representation of the display. The default speed is 25 mm/s. You can change the displayed speed to 12.5, 50, 100 or 200 mm/s. The annotation at the bottom left corner changes to reflect the new values per one grid block.

Changing the Gain

Use the **Change Gain** menu to change gain representation in the display. The default is 10 mm/mV. You can change the displayed gain to 5, 20, or 50 mm/mV. The annotation at the bottom left corner changes to reflect the new values per one grid block.

Interpretation Pane

The right-hand side pane displays information originating from the ECG device used for the exam. The pane displays study-related details (for example accession number, referring physician etc), interpretation values, and the automated interpretation supplied by the device.

Additional Functions

| Name | Icon | Function | |
|---|-----------------|--|--|
| Full Screen | には | Enlarges the image display area. | |
| Complete to Lossless | O. | Displays the image in lossless mode. | |
| Save Image | | Saves the exam to your local PC. A zip file is created, containing the exam files (DICOMDIR and JPEG files). | |
| Print | | Prints the displayed report. | |
| Email | | Sends an email with a link to the exam. When the email recipient clicks the link, the same patient and exam open in Vue Motion (after logging on). | |
| Share | 252 | For users with the appropriate options and permissions. Opens the Share Exam menu, where you select Share . A page opens, where you enter the email of the person with whom you share the exam and select sharing options. | |
| Advanced Viewer (Available only with MICROSOFT INTERNET EXPLORER) | Advanced Viewer | Opens the same exam in the CARESTREAM Vue PACS Client to make the full range of viewing options available. NOTE: If the Vue PACS Client is not installed on your PC, an installation process runs automatically. Use INTERNET EXPLORER to launch the Vue PACS Client. | |

Vue Motion for Mobile Devices

Introduction

The CARESTREAM Vue Motion feature range and interface has been adjusted to mobile devices.

The application is self-deployable on virtually any device capable of running a web browser including validated mobile technology such as APPLE IPAD, APPLE IPHONE, SAMSUNG GALAXY S, SAMSUNG GALAXY NOTE. See Appendix A for more details.

Logging In

To log in, insert the server URL address in the browser on your mobile device. The mobile-adjusted version of Vue Motion is displayed.

On the login page, insert your user name and password and either tap **Log In** (same as the desktop version) or Go (or equivalent).

The login page also includes a **Change password** link that enables you to change your password (same as the desktop version).

Additionally, the login page includes a **Monitor Calibration** link. Clicking on it opens pages with grayscale patterns that enable you to verify that your monitor is calibrated properly. Based on this page, you can adjust the monitor's brightness and contrast for better display.

Searching for a Patient or Exam

After you have inserted your user name and password in the login page, a search box is displayed (similar to the desktop version).



Insert a full or partial patient name, ID number, accession number, etc., and tap Go (or equivalent).

The search results page displays a maximum of 50 records. If there are more than 50 records that match the search criteria, a message is displayed, notifying the user that only 50 results are shown.

The search results are displayed in a single, scrollable list (unlike the desktop version, where the display is divided to page).



By default, each entry represents a patient and displays the details of this patient's last exam. (Similarly to the desktop version, with appropriate configuration, the list may display an exam list rather than a patient list).

URL Activation

In cases in which Vue Motion is accessed via URL activation, if the system has been configured so that you have access only to the exam to which the URL leads, the search page is not displayed, and the Back button at the top right is replaced by a **Sign Out** button.

Loading Images

To load an exam, tap the patient in the search results page. The images of the exam are loaded.

Viewing Images

The monitor displays the first image of the series with three annotations (name, series number, and compression mode).



A **Back** button at the top left serves to go back to the previous page.

Scrolling

To scroll through the series images, either slide a finger over the image area or use the scrollbar at the right.

Zooming

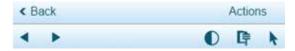
To zoom, use a two-finger pinch gesture.

Panning

To pan, use a two-finger slide gesture.

Using the Actions Menu

Tap Actions at the top right to open a menu that enables windowing and series navigation.



Series Navigation

To display the next or previous series, use the left and right arrows in the **Actions** menu. Clicking on the series navigation arrows does not cause the **Actions** menu to disappear.

Windowing

To use windowing, tap the **Actions** menu and then tap **Windowing**. The menu closes. In this mode, slide your finger over the image to perform a windowing action rather than panning. To go back from a windowing mode to the regular mode, tap **Actions** and then the arrow icon to the right of the **Windowing** icon.

Complete to Lossless

Use this tool to display the images in lossless mode.

Viewing Prior Exams

To view prior exams, tap **Priors** at the left bottom of the monitor. A list of that patient's prior exams is displayed. To load a prior study, tap this exam in the list.

Viewing Reports

To view reports, tap **Report** at the bottom of the monitor. The report is displayed in full size and is scrollable.

Viewing Notes

To view the notes that have been created for an exam, tap **Notes** at the bottom right. You can view the reason for the study and the content of the note. You can also edit an existing note or create a new one.

Appendix A: Portable and Mobile Devices Validated

The following is the list of validated devices for reading exams with Vue Motion over portable and mobile devices:

- SAMSUNG GALAXY NOTE 10.1
- SAMSUNG GALAXY
 - SAMSUNG GALAXY S3
 - SAMSUNG GALAXY S4
 - SAMSUNG GALAXY S5
- APPLE IPHONE
 - o APPLE IPHONE 4S
 - o APPLE IPHONE 5
 - o APPLE IPHONE 6
- APPLE IPAD
 - o APPLE IPAD 2
 - o APPLE IPAD 3
 - o APPLE IPAD 4
 - APPLE IPAD AIR

Additional devices may be released from time to time. Contact Carestream personnel for further details.

The sections below summarize bench test results for the validated mobile devices.

NOTE: CARESTREAM recommends that reading of exams with Vue Motion over portable and mobile devices be done in lossless mode only.

SAMSUNG GALAXY NOTE 10.1

| Test Description | Results/Recommendations |
|--------------------------------------|---|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings section |
| Optimal Angle of Viewing | +/- 39 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 18 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency section |
| Exception Handling | Exceptions handled by browser and/or operating system |

Device and Display Settings

For optimal display and minimal visualization effect stemming from the viewing environment:

- 1. Turn Auto-Brightness off by clearing the Automatic brightness checkbox. This setting is located in the Display > Brightness settings.
- 2. Set the Brightness level to its maximum (move the slider all the way to the right).



3. Disable all backlight dimming and power saving mode settings.

Device Specifications and Latency

Battery Life

- 7000 mAh rechargeable battery.
- Up to 8 hours of server access and viewing of image data in cine mode. Battery life depends on device settings, usage, and many other factors leading to different results.
- · Charging via power adapter.

Communications

- Wi-Fi + 3G model: UMTS/HSDPA/HSUPA (850, 900, 1900, 2100 MHz); GSM/EDGE (850, 900, 1800, 1900 MHz)
- Wi-Fi (802.11a/b/g/n)

Network and Latency

The following table presents values for a SAMSUNG GALAXY NOTE 10.1 device used over a Wi-Fi (54 Mb) and 3G network with different signal reception scenarios:

| Parameter Recorded | Wi-Fi (54 Mb) Weak Signal (-75 dBm) | Wi-Fi (54 Mb) Strong Signal (-30 dBm) |
|------------------------|---|---|
| Time to display report | 2 | 5.1 |
| Time to first image | 12 | 8.3 |
| Time to replace study | 4 | 2.2 |
| Cine frame rate | 8.5 | 9.5 |
| Windowing frame rate | 8.2 | 13.5 |
| Network latency | 47 ms | 47 ms |

SAMSUNG GALAXY

SAMSUNG GALAXY S III

| Test Description | Results/Recommendations |
|--------------------------------------|---|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings section |
| Optimal Angle of Viewing | +/- 36 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 20 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency section |
| Exception Handling | Exceptions handled by browser and/or operating system |

SAMSUNG GALAXY S 4

| Test Description | Results and Recommendations |
|--------------------------------------|--|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings. |
| Optimal Angle of Viewing | +/- 36 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 200 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency section |
| Exception Handling | Exceptions handled by browser and/or operating system |

SAMSUNG GALAXY S 5

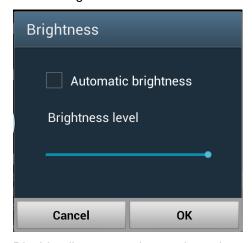
| Test Description | Results and Recommendations |
|--------------------------------------|--|
| Luminance Response | Luminance range of device best utilized at 100% brightness |
| Device and Display Settings | See detailed settings |
| Optimal Angle of Viewing | +/- 45 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100% device brightness |
| Noise | Acceptable with 100% brightness and noise artifacts (e.g. fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 400 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See related section for device specifications and latency |
| Exception Handling | Exceptions handled by browser and/or operating system |

Device and Display Settings

NOTE: The following instructions relate to SAMSUNG GALAXY S III. Use the same procedure on SAMSUNG GALAXY S 4 and SAMSUNG GALAXY S 5.

For optimal display and minimal visualization effect stemming from the viewing environment:

Turn Automatic brightness off by clearing the checkbox located in the Display > Brightness settings. Set the Brightness level to its maximum (move the slider all the way to the right).



Disable all power saving mode settings.

Device Specifications and Latency

NOTE: The following specifications describe SAMSUNG GALAXY S III. Bench testing results for SAMSUNG GALAXY S 4 and SAMSUNG GALAXY S 5 are the same or higher.

Battery Life

- Li-lon 2100 mAh rechargeable battery.
- Up to 7 hours of accessing the server and viewing image data.
 Testing consisted of full battery discharge of the SAMSUNG GALAXY S III while performing a continuous viewing of CT images using Wi-Fi. Battery life depends on device settings, usage, and many other factors leading to different results.
- Charging via power adapter or USB to computer system.

Communications

- 2.5G: (GSM/ GPRS/ EDGE): 850 / 900 / 1800 / 1900 MHz
- 3G: (HSPA+ 21Mbps): 850 / 900 / 1900 / 2100 MHz
- WiFi a/b/g/n, WiFi HT40

Network and Latency

The following table presents minimal (slowest) values for a SAMSUNG GALAXY device used over a Wi-Fi (54 Mb) and 3G network with different signal reception scenarios:

| Parameter Recorded | Wi-Fi (54 Mb) Weak Signal (-90 dBm) | Wi-Fi (54 Mb) Strong Signal (-30 dBm) | 3G (standard signal) |
|------------------------|---|--|----------------------------|
| Time to display report | 1.5 | 2.6 | 2.1 |
| Time to first image | 5.3 | 5.7 | 6.3 |
| Time to replace study | 4.1 | 4.3 | 4.8 |
| Windowing frame rate | 7.6 | 14 | 6.3 |
| Network latency | 77.6 ms | 40.6 ms | 149 ms |

APPLE IPAD

APPLE IPAD 2

| Test Description | Results/Recommendations |
|-----------------------------------|---|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings_section |
| Optimal Angle of Viewing | +/- 39 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 42 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency_section |
| Exception Handling | Exceptions handled by browser and/or operating system |

APPLE IPAD 3

| Test Description | Results and Recommendations |
|--------------------------------------|---|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings |
| Optimal Angle of Viewing | +/- 45 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 50 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency section |
| Exception Handling | Exceptions handled by browser and/or operating system |

APPLE IPAD 4

| Test Description | Results and Recommendations |
|--------------------------------------|---|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings |
| Optimal Angle of Viewing | +/- 39 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 42 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency |
| Exception Handling | Exceptions handled by browser and/or operating system |

APPLE IPAD AIR

| Test Description | Results and Recommendations |
|--------------------------------------|---|
| Luminance Response | Luminance range of device best utilized at 100% brightness |
| Device and Display Settings | See detailed settings |
| Optimal Angle of Viewing | +/- 48 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100% device brightness |
| Noise | Acceptable with 100% brightness and noise artifacts (e.g. fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 70 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See related section for device specifications and latency |
| Exception Handling | Exceptions handled by browser and/or operating system |

Device and Display Settings

NOTE: The following instructions relate to APPLE IPAD 2. Use the same procedure on APPLE IPAD 3, APPLE IPAD 4, and APPLE IPAD AIR.

For optimal display and minimal visualization effect stemming from the viewing environment:

- Turn Auto-Brightness off in the Brightness & Wallpaper settings.
- Set the brightness to its maximum (move the slider all the way to the right).



Disable all backlight dimming and power saving mode settings.

Device Specifications and Latency

NOTE: The following specifications describe APPLE IPAD 2. Bench testing results for APPLE IPAD 3, APPLE IPAD 4, and APPLE IPAD AIR are the same or higher.

Battery Life

- Built-in 25-watt-hour rechargeable lithium-polymer battery.
- Up to 10 hours of server access and viewing of image data in cine mode. Battery life depends on device settings, usage, and many other factors leading to different results.
- Charging via power adapter or USB to computer system.

Communications

- Wi-Fi + 3G model: UMTS/HSDPA/HSUPA (850, 900, 1900, 2100 MHz); GSM/EDGE (850, 900, 1800, 1900 MHz)
- Wi-Fi + 3G for Verizon model: CDMA EV-DO Rev. A (800, 1900 MHz)

Data only

Wi-Fi (802.11a/b/g/n)

Network and Latency

The following table presents minimal (slowest) values for an APPLE IPAD device used over a Wi-Fi (54 Mb) and 3G network with different signal reception scenarios:

| Parameter Recorded | Wi-Fi (54 Mb) Weak Signal (-75 dBm) | Wi-Fi (54 Mb) Strong Signal (-30 dBm) |
|------------------------------|---|---|
| Time to display report (sec) | 2 | 2.1 |
| Time to first image (sec) | 10.9 | 4.9 |
| Time to replace study (sec) | 4.3 | 2 |
| Cine frame rate | 11.8 | 9.9 |
| Windowing frame rate | 9 | 16 |
| Network latency | 27 ms | 25 ms |

APPLE IPHONE

APPLE IPHONE 4 S

| Test Description | Results and Recommendations |
|--------------------------------------|---|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings |
| Optimal Angle of Viewing | +/- 39 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 32 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency |
| Exception Handling | Exceptions handled by browser and/or operating system |

APPLE IPHONE 5

| Test Description | Results and Recommendations |
|--------------------------------------|--|
| Luminance Response | Luminance range of device best utilized at 100 % brightness |
| Device and Display Settings | See the following Device and Display Settings |
| Optimal Angle of Viewing | +/- 45 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100 % device brightness |
| Noise | Acceptable with 100 % brightness and noise artifacts (e.g., fingerprints and other marks) removed |
| Reflectivity | An ambient light environment of < 200 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
| Device Specifications and Latency | See the following Device Specifications and Latency |
| Exception Handling | Exceptions handled by browser and/or operating system |

APPLE IPHONE 6

| Test Description | Results and Recommendations |
|-----------------------------|--|
| Luminance Response | Luminance range of device best utilized at 100% brightness |
| Device and Display Settings | See detailed settings |
| Optimal Angle of Viewing | +/- 45 degrees |
| Resolution | Acceptable in both dark reading room and staff office lit environments with 100% device brightness |
| Noise | Acceptable with 100% brightness and noise artifacts (e.g. fingerprints and other marks) removed |

| Reflectivity | An ambient light environment of < 400 Lux minimizes diffuse reflectivity. Positioning device in a manner that removes specular noise is recommended. |
|--------------------------------------|--|
| Device Specifications and Latency | See related section for device specifications and latency |
| Exception Handling | Exceptions handled by browser and/or operating system |

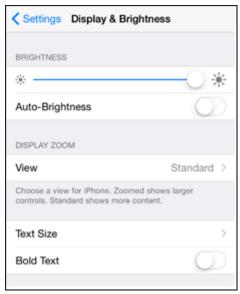
Device and Display Settings

NOTE: The following instructions relate to APPLE IPHONE 4S. Use the same procedure on APPLE IPHONE 5 and APPLE IPHONE 6.

For optimal display and minimal visualization effect stemming from the viewing environment:

- Turn Auto-Brightness off.
- Set the brightness to its maximum (move the slider all the way to the right).





Disable all backlight dimming and power saving mode settings.

Device Specifications and Latency

NOTE: The following specifications describe APPLE IPHONE 4S. Bench testing results for APPLE IPHONE 5 and APPLE IPHONE 6 are the same or higher.

Battery Life

- Non-removable Li-Po 1432 mAh battery (5.3 Wh).
- Up to 7 hours of server access and viewing of image data in cine mode. Battery life depends on device settings, usage, and many other factors leading to different results.
- Charging via power adapter or USB to computer system.

Communications

2G Network: GSM 850 / 900 / 1800 / 1900 CDMA 800 / 1900

3G Network: HSDPA 850 / 900 / 1900 / 2100 CDMA2000 1xEV-DO

Wi-Fi 802.11 b/g/n

Network and Latency

The following table presents minimal (slowest) values for an APPLE IPHONE device used over a Wi-Fi (54 Mb) and 3G network with different signal reception scenarios:

| Parameter Recorded | Wi-Fi (54 Mb) Weak Signal (-80 dBm) | Wi-Fi (54 Mb) Strong Signal (-30d Bm) | 3G (standard signal) |
|------------------------|---|---|----------------------------|
| Time to display report | 1.5 | 1.8 | 2.3 |
| Time to first image | 10.2 | 4.6 | 7.1 |
| Time to replace study | 5 | 3.9 | 5.5 |
| Windowing frame rate | 11 | 16 | 5 |
| Network latency | 60 ms | 46 ms | 255 ms |

Appendix B: Display Recommendations

Verify that your viewing angle is optimal for the device (see bench test results summary tables for each device in Appendix A).

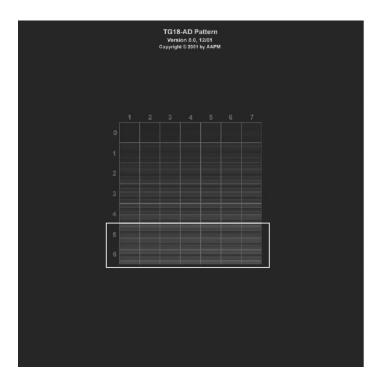
Verify the device is positioned to eliminate reflections.

Ambient Light Test

Perform the following ambient light test:

Display the TG18-AD test pattern at 100 % zoom in accordance with the zoom annotation and default window and center of 4096 and 2048 respectively.

Examine the test pattern and verify the low-contrast lines are visible across rows 5 and 6 (e.g., bottom two rows) as outlined in the following figure. Note that the image is much fainter when viewed on the Apple® iPhone® 4S, as it was enhanced for illustration purposes in this document.



Visibility of the low-contrast lines across rows 5 and 6 of the TG18-AD test pattern indicate that the ambient light is at a sufficient level for viewing on the device (e.g., < 32 Lux) and this test is successful. Repeat this test every 20 minutes.

If the Ambient Light test as described fails, the following corrective actions should be taken and the Ambient Light test re-executed:

Verify the screen brightness is set to 100 %. If not, you may not see the test pattern correctly. Auto-Brightness should also be turned off.

Verify the device is being viewed at its optimal view angle (see bench test results summary tables for each device in Appendix A).

Verify the device is positioned to eliminate reflections.

Verify the screen is clear of fingerprints and other marks and obstructions. If needed, wipe or otherwise remove the obstruction.

Verify that there is not too much ambient light. The recommended viewing conditions are a dim environment, away from overhead fluorescent lights and exterior windows. Move to an area with the proper lighting conditions.

If all actions fail, images should not be viewed on your device.

CARESTREAM is a trademark of Carestream Health.

Carestream



© Carestream Health, Inc. 2015

Carestream Health 150 Verona Street Rochester, NY 14608 United States

Made in the USA

P/N 6K9272 v6.0