

HemoSphere Remote Application

User Guide



Edwards

HemoSphere Remote Application User Guide

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HSAREMOTE

Using This Guide

The HemoSphere Remote Application user guide is comprised of four chapters. Figures in this guide are intended for reference only and may not be an exact replication of the screens as a result of continuous software improvements.

Chapter	Description
1	Introduction: Provides an overview of the HemoSphere Remote Application
2	Navigation: Provides information on screen views
3	Troubleshooting: Describes error messages, troubleshooting tips, and frequently asked questions
4	Technical Specifications: Provides compatibility, system, and hardware requirements

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Introduction

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1.1 Overview

The HemoSphere Remote Application displays data from connected HemoSphere Alta™ Advanced Monitoring Platforms (monitors) on a compatible web browser. It facilitates remote display of information from connected monitors within a specified physical area (within a hospital network) for independent review. The live stream of the information shows exactly what is currently displayed on the connected monitors (hemodynamic data, alarm notifications, parameter waveform data, etc). The HemoSphere Remote Application is designed to provide user convenience and does not control the connected HemoSphere Alta™ Advanced Monitoring Platform(s) or alter the data provided by the monitor(s), and is not intended for monitoring or making treatment decisions. If protected health information or patient demographic information is being viewed on the monitor, that information is not transmitted to the HemoSphere Remote Application. For questions on how to install the HemoSphere Remote server at your site, contact your sales representative.

CAUTION The HemoSphere Alta™ Advanced Monitoring Platform is the primary display device of a patient's hemodynamic data. The HemoSphere Remote Application is solely intended to display data from the connected HemoSphere Alta™ Advanced Monitoring Platform for independent review and is not intended for monitoring, diagnosis, or making treatment decisions.

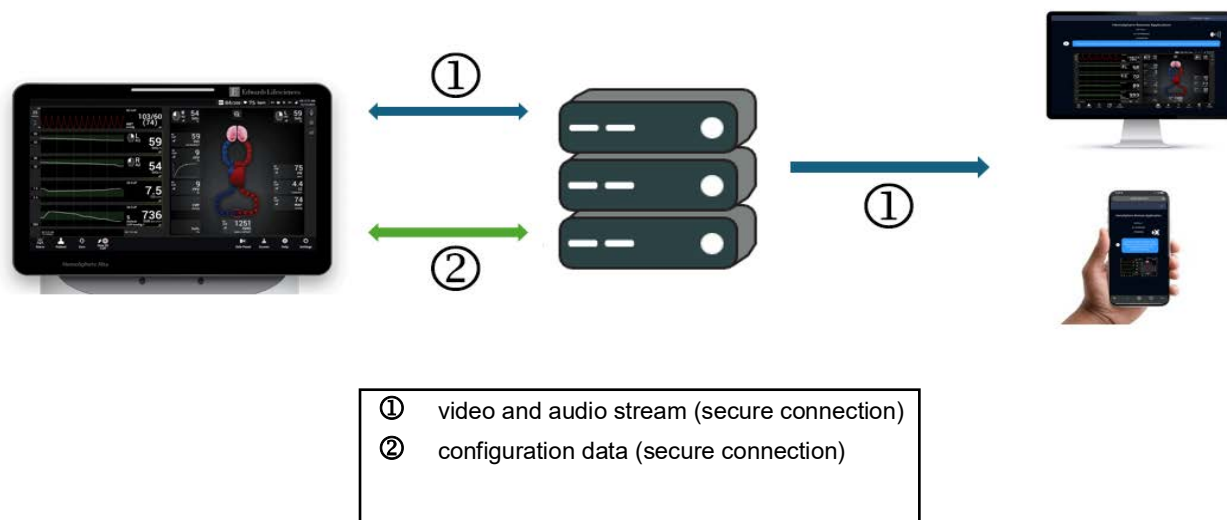


Figure 1-1 HemoSphere Remote Application concept of operation

1.1.1 User Registration

Only registered users can sign on and access the HemoSphere Remote Application. The HemoSphere Remote Application is compatible with HemoSphere Alta™ Advanced Monitoring Platform software versions listed in “Compatibility and System Requirements” on page 13.

1.1.2 HemoSphere Alta™ Advanced Monitoring Platform

Refer to the HemoSphere Alta™ Advanced Monitoring Platform Operator’s Manual for instructions.

1.2 Intended Use/Purpose

The HemoSphere Remote Application is intended to provide display of the data from the connected HemoSphere Alta™ Advanced Monitoring Platform(s) within the specified area, where the user can access the live display of the connected monitor for independent review.

CAUTION HemoSphere Remote Application is intended for use by clinicians as a supportive visual aid for review of information and not as a replacement for in-person patient monitoring.

1.3 Cybersecurity

This section provides general cybersecurity instructions for HemoSphere Remote Application users to minimize both the loss of any patient data and the overall impact of any potential cybersecurity risks. It is important to note that any user of the HemoSphere Remote Application takes measures to protect the

privacy of a patient's personal information in accordance with country-specific regulations, and consistent with the facility's policies for managing this information. Steps to be taken to safeguard this information and the general security of the HemoSphere Remote Application include:

Authentication. User authentication is done through active directory capabilities or equivalent, as supported by the hospital site. The application utilizes standard security practices with connection certificates and encrypted communications between HemoSphere Alta™ Advanced Monitoring Platforms, the application, and browsers on connected user devices. If choosing your own password, ensure the password is strong and not shared with others. A strong password has a minimum length of 10 characters with the following characteristics:

- 10-64 character count
- At least one lowercase character
- At least one uppercase character
- At least one number, 0-9
- At least one special character

Active Use. Users of the application should take measures to limit the exposure of information present within the application. Users should not take screenshots of the information displayed by the application. Do not leave an active application with a logged-in user session unattended.

Device Security. Jailbroken and/or Rooted mobile devices should not be used to view the HemoSphere Remote Application. In addition, precautions should be taken to use the application only on known trusted devices. Ensure that the device used for multi-factor authentication is secure and notification settings are turned off when the device is locked.

The use of the HemoSphere Remote Application interface outside of its intended purpose could pose cybersecurity risks. HemoSphere Remote Application is HIPAA and GDPR compliant.

The HemoSphere Remote Application maintains an active session until one of the following occurs:

- User logs out of the application
- User closes the browser running the HemoSphere Remote Application



User Name:

Password:

[Log in](#)

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Figure 1-2 HemoSphere Remote Application login screen

1.4 User Roles

The HemoSphere Remote Application uses Role-Based Access Control (RBAC) with clearly defined user and admin roles. For more information on these roles, contact your organization's administrator.

1.5 Symbols

For a list of symbols used, refer to the HemoSphere Alta™ Advanced Monitoring Platform Operator's Manual..

1.6 Acronyms

Acronyms used in this guide are listed in this table 1-1 on page 4.

Table 1-1 Acronyms

Acronym	Definition
GDPR	General Data Protection Regulation
HIPAA	Health Insurance Portability and Accountability Act
RBAC	Role-Based Access Control
PHI	Protected Health Information

Navigation

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2.1 User Interface

The HemoSphere Remote Application can be viewed on both the Dashboard and Streaming page. Dashboard view displays thumbnails of monitors connected to the application. From Dashboard view the user can select one monitor to view on the Streaming page.

NOTE At this time, you can only view one monitor at a time on the Streaming page.

The HemoSphere Remote Application identifies patient monitoring sessions by device ID, or other non-personal identifiers, to protect patient health information. The application will not display personal health information (PHI), only an indication that PHI is currently being displayed.

2.1.1 Dashboard

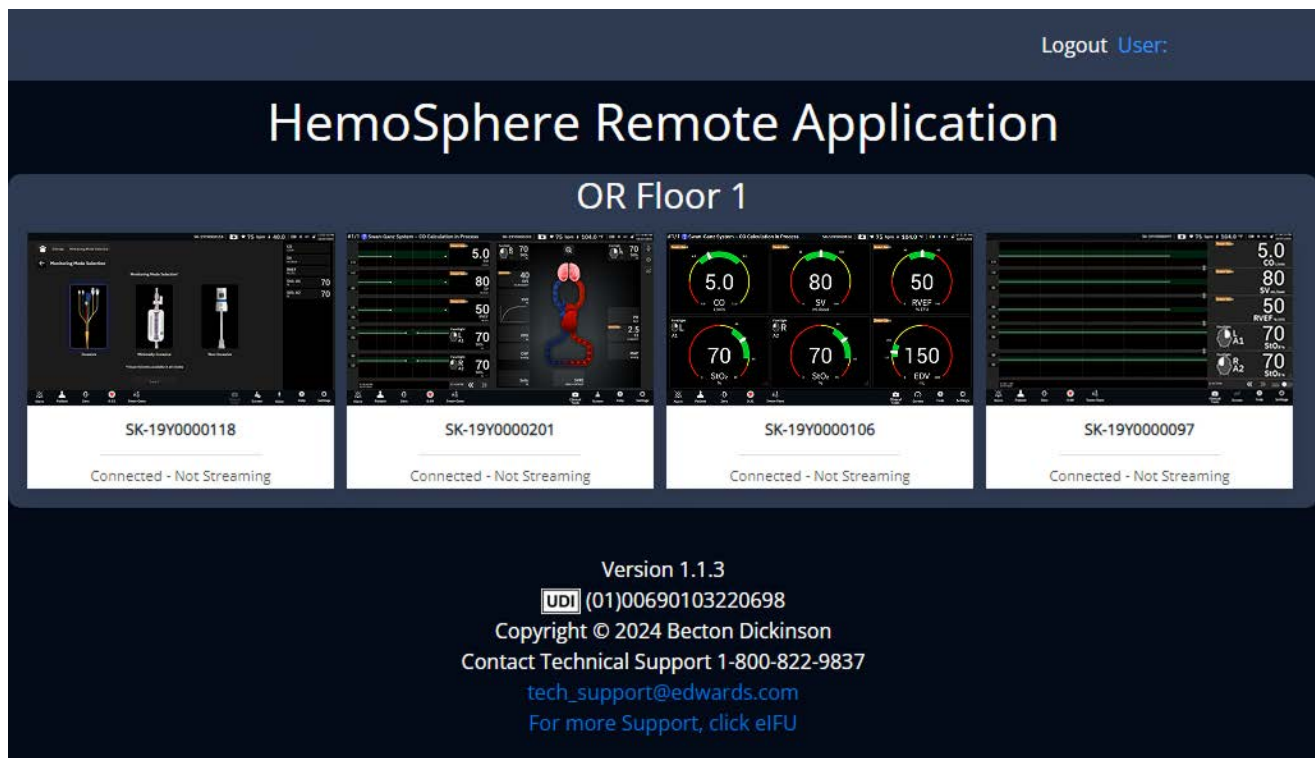


Figure 2-1 HemoSphere Remote Application dashboard

Admin Portal (optional). Available if the user is part of the administrator group. For more information on roles, contact your organization's administrator.

Logout. Used to logout of the HemoSphere Remote Application. The user can also close the browser running HemoSphere Remote Application to be logged out.

User. User type (user or admin). For more information on roles, contact your organization's administrator.

Title Bar. A title composed of: "HemoSphere Remote Application at [Site Name]," where [Site Name] is the name of your site.

Panel Thumbnails. A thumbnail for each connected monitor. Select any thumbnail to view it on the Streaming page. Monitors can be organized into groups so they can be identified by room, unit, function, or any method your organization would like to use. For more information, or to set up groups, contact your site administrator.

On each thumbnail is:

- **Device ID.** The connected monitors identification number.
- **Serial Number.** The connected monitors serial number.
- **Group Name.** The name of the group the monitor is a part of (if any).
- **Status Indicator.** The current status of the connected monitor.

The status indicator displays one of the following:

- **Started Streaming.** When a monitor with the status **Connected - Not Streaming** is selected, **Started Streaming** is displayed in the status field for the respective monitor on the dashboard.
- **Streaming.** Monitor is actively streaming. When a streaming connection is active, the image of the connected device will update at least every 30 seconds.
- **Connected - Not Streaming.** Monitor is connected, but not streaming.
- **Unable to display monitor video stream; monitor buffer error.** A buffering error occurred.
- **Unable to display monitor video stream; communication error with monitor.** A connection error occurred.
- **Personal Health Information is currently being displayed on the monitor. Video stream has been paused and will resume automatically.** Monitor is displaying demographic information. While protected health information (PHI) is displayed on a monitor, the thumbnail displays information to indicate the video and audio stream is paused and that the monitor is still connected.

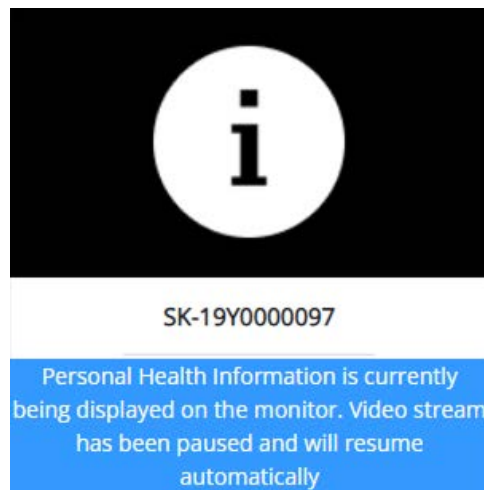


Figure 2-2 Personal Health Information indicator

2.1.2 Streaming Page

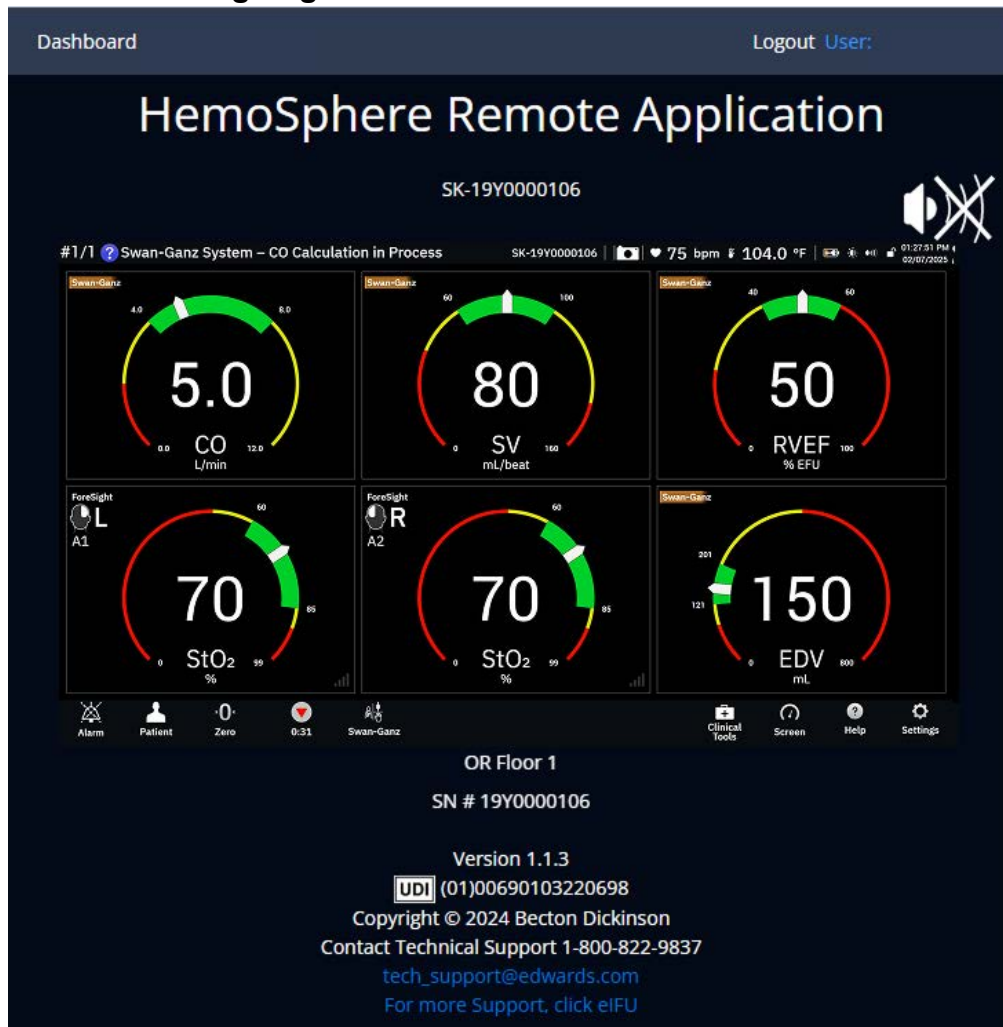


Figure 2-3 HemoSphere Remote Application streaming page

Dashboard. Return to the dashboard.

Admin Portal (optional). Available if the user is an administrator. For more information on roles, contact your organization's administrator.

Login/Logout. Used to logout of the HemoSphere Remote Application. The user can also close the browser running HemoSphere Remote Application to be automatically logged out.

User. User type (user or admin). For more information on roles, contact your organization's administrator.

Title Bar. A title composed of: "HemoSphere Remote Application at [Site Name]," where [Site Name] is the name of your site.

Group Name. The name of the group this monitor belongs to.

Device ID. The identification number of the device.

Serial Number. The serial number of the device.

Audio Status. Shows the audio status of both the HemoSphere Remote Application and the connected monitor.

Speaker icon. Audio can be muted and unmuted by clicking the speaker icon. An 'X'ed speaker appears when audio on the browser is muted.



NOTE If the HemoSphere Remote Application or a personal device's audio is muted, audio can still be played/produced on the HemoSphere Alta™ Advanced Monitoring Platform.

When the Streaming page has been displayed for a period of time, a confirm streaming timeout popup is displayed. The default duration is 20 minutes. If the user does not respond, the HemoSphere Remote Application returns to the dashboard page.

Video Panel. The video display of the connected HemoSphere Alta™ Advanced Monitoring Platform. When you switch to the Streaming page, the video stream will update the resolution and refresh rate to match the screen being used (mobile device, tablet, or computer). The application also plays the audio stream of the monitor.

Troubleshooting

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3.1 HemoSphere Remote Application Error Messages/ Troubleshooting Tips

Common issues and troubleshooting steps are outlined below.

Table 3-1 System errors

Message	Possible Causes	Suggested Actions
Unable to display monitor video stream; monitor buffering error	Poor Wi-Fi signal Poor cellular service	Move to a location with a stronger Wi-Fi or cellular signal Switch to a different Wi-Fi network Switch from Wi-Fi to cellular data, or from cellular to Wi-Fi data Close out of application and log back in Contact your hospital IT department to verify HemoSphere hub and HemoSphere monitor connections If problem persists, contact technical support
Unable to display monitor video stream; communication error with monitor	Poor Wi-Fi signal Poor cellular service	Move to a location with a stronger Wi-Fi or cellular signal Switch to a different Wi-Fi network Switch from Wi-Fi to cellular data, or from cellular to Wi-Fi data Close out of application and log back in Contact your hospital IT department to verify HemoSphere hub and HemoSphere monitor connections If problem persists, contact technical support
Monitor video stream does not automatically start when navigating to a monitors streaming page	Phone or tablet is in low power mode	Disable low power mode on phone or tablet and refresh the monitor streaming page If problem persists, contact technical support

Table 3-1 System errors

Message	Possible Causes	Suggested Actions
PHI indicator or information icon is displayed on dashboard or monitor streaming page for extended duration after PHI is no longer displayed on a monitor	Poor Wi-Fi Signal / Network congestion	Refresh the dashboard monitor streaming page If problem persists, contact technical support

3.2 Frequently Asked Questions

Question	Answer
What OS software version is required to run the HemoSphere Remote Application?	<p>HemoSphere Remote Application has been tested with:</p> <p>iOS (17.7, 17.7.1) - Chrome, Safari</p> <p>iPadOS (18.0) - Chrome, Safari</p> <p>Android (10, 12) - Chrome</p> <p>Windows (10 Pro, 11 Pro) - Chrome, Edge</p> <p>MacOS (14.5) - Chrome, Safari</p> <p>Minimum Chrome browser version 131.0.6778.81</p> <p>Minimum Edge browser version 131.0.2903.112</p> <p>Minimum Safari browser version 17.5</p> <p>Minimum Alta software version 2.0.7</p>
How do I add monitors to the dashboard?	Adding a monitor to HemoSphere Remote Application is done using the settings menu of the HemoSphere Alta™ Advanced Monitoring Platform.
Can I change which key parameters I see on the HemoSphere Remote Application?	The key parameters displayed on the HemoSphere Remote Application reflect the information, including key parameters displayed on the connected HemoSphere Alta™ Advanced Monitoring Platform. To view a different parameter on the HemoSphere Remote Application, please modify the parameters displayed on the connected HemoSphere Alta™ Advanced Monitoring Platform.
Can I adjust alarm threshold settings for key parameters?	The HemoSphere Remote Application does not control or alter the functions of the connected HemoSphere Alta™ Advanced Monitoring Platform. It only provides mirror display of the monitor. To modify the displayed information, please modify the connected monitor.
Can I control the connected HemoSphere Alta™ Advanced Monitoring Platform using the application?	The HemoSphere Remote Application does not modify the data, control the functions or parameters, or analyze or interpret data of the connected monitor. The HemoSphere Remote Application does not generate alarms or alerts. It only provides the data that is being displayed on the connected monitor.

Question	Answer
What if I have further questions?	If issues persist or you have additional questions, please contact Technical Support by phone at 1-800-822-9837 or by email at tech_support@edwards.com .

Technical Specifications

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4.1 Compatibility and System Requirements

The HemoSphere Remote Application has been tested with:

- iOS (17.7, 17.7.1) - Chrome, Safari
- iPadOS (18.0) - Chrome, Safari
- Windows (10 Pro, 11 Pro) - Chrome, Edge
- Android (10, 12) - Chrome
- MacOS (14.5) - Chrome, Safari
- Minimum HemoSphere Alta™ Advanced Monitoring Platform software version 2.0.7

4.2 Minimum Hardware Requirements

The minimum hardware requirements for the web server that will host the HemoSphere Remote Application are:

- Windows Server 2022
- 32 processor cores
- 32 GB
- 120 GB hard disk space
- Recommend 1 Gbit Ethernet interface

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