OPERATION GUIDE

HexaVue™ Integration System
HexaVue™ IP Integration System

Rev H **OPM3200**

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Notice for Users

IMPORTANT: To help report a loss or theft, or for service maintenance purposes, please record the device's model and serial numbers in the space provided. The numbers are on the side of the device.

Model No.:

Serial No.:

Declaration of Conformity

HexaVue™ Integration System and HexaVue™ IP Integration System

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This device has been evaluated to the UL 60601-1 standard.

Equipment evaluated to this standard is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide (unless additional tests have been passed). Therefore this device is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide. This device was not tested to the IPX standards.

Function, Intended Application and Mode of Operation:

The HexaVue™ Integration System and HexaVue™ IP Integration System are integrated audio-visual systems which combines monitors, medical imaging devices, lights, music, and cameras. They are intended to be used in the displaying and viewing of video and graphics for review and analysis by trained medical practitioners. The mode of operation for these devices is continuous operation.

Class 1 Equipment

This device is classified as Class I Equipment.

Class I equipment is defined as equipment in which protection against electric shock does not rely on basic insulation only, but which includes an additional safety precaution in that means are provided for accessible parts of metal or internal parts of metal to be protectively earthed.

Accessory Equipment

The use of ACCESSORY equipment not complying with the equivalent safety requirements of this equipment may lead to a reduced level of safety of the resulting system. Consideration relating to the choice shall include:

- Use of the accessory in the PATIENT VICINITY
- Evidence that the safety certification of the ACCESSORY has been performed in accordance to the appropriate IEC 60601-1-1 harmonized national standard.

Manual Scope

This document describes the user interface for both the HexaVue™ Integration System and the HexaVue™ IP Integration System. Unless otherwise specified, the documentation applies to both. To determine which type of integration system you have, click the **Admin** tab and look under the Password field in the window that appears. It says either "HexaVue™ Integration System" or "HexaVue™ IP Integration System."

Safety Precautions



This alerts the user to the presence of uninsulated “dangerous voltage” within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



This alerts the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Class 1 Laser Product

This symbol appears on a class 1 laser product beside the fiber input port where invisible laser radiation is present. It complies with IEC 60825-1 Ed. 2 (2007). Avoid long-term viewing of the laser.



This label alerts you to read the operating manual for important safety information.

MD

This label indicates that the product is a medical device.

UDI

This label appears beside a product’s unique device identifier.

EC REP

The European Authorized Representative (AR) for this product on behalf of the manufacturer is:

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County Offaly
R35 X865
Ireland

Tel: +44(0)166 276 8636
24 Hr. Emergency No. +44(0)1895 622639

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CH-2504 Biel-Bienne
Switzerland

GENERAL WARNINGS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- For the purpose of this document, the end user is someone using the touch-panel interface and associated accessories.
- Use of this system outside of operating specifications will void the device warranty and may cause permanent damage.
- Only trained personnel should attempt to operate the integration system and its components. STERIS provides training for end users before and during the system’s first use. After that, trained personnel can train other personnel. If additional training is required, contact your STERIS service team.
- Do not modify this equipment without authorization of the manufacturer.

- If any liquid, object, or foreign substance enters the integration system, unplug the power cord and contact STERIS Technical Support for assistance.
- If there are any unusual smells or sounds coming from your integration system, turn the system off, unplug the power cord, and contact STERIS Technical Support for assistance.
- The HexaVue™ Integration System and HexaVue™ IP Integration System are not to be used for diagnostic purposes.
- Do not service the integration system when it's in use with a patient.
- Do not service the integration system when it's powered on.
- If the UPS is disconnected from the wall outlet, it will continue to provide power to the integration system via battery.
- Refer to "MAINTANENCE INSTRUCTIONS" on page 8 for preventative maintenance instructions.

Caution: Fire Hazard

- Do not connect items that are not specified as part of the system. This may cause damage, fire, or electric shock.
- Do not remove or replace components of the integration system. This may cause electric shock or fire. Contact STERIS Technical Support for assistance.
- Keep the integration system indoors and away from locations exposed to moisture, oil, or smoke. Not doing so may cause damage, fire, or electrical shock.
- If the system is not in use for an extended period of time, turn it off and unplug it. Not doing so may degrade insulation or allow dirt to accumulate, causing heat emission, electric shock, or fire.
- Never insert anything metallic (wire, tools, etc.) or flammable (matches, paper, etc.) into the openings or ports of the system. This may cause damage, fire, electric shock, or bodily harm.

Caution: Equipment Damage

- In the event of a storm or lightning, you may want to disconnect the power plug from the outlet if power surges are a possibility. Power surges can cause system damage.

STORAGE

- Prior to installation, store and ship the integration system and its power distribution box (if any) in a dry location with temperatures between -4° Fahrenheit (F) and 140° F / -20° Celsius (C) and 60° C and a barometric pressure of 700 hPa to 1060 hPa.

INSTALLATION

The following are guidelines followed by STERIS technicians during equipment installation.

- Install the integration system so you can reach the back of the system to disconnect its power.
- STERIS recommends that the ambient temperature of the location containing the rack and its components be 75° F (24° C) or lower.
- If a HexaVue™ IP Integration System is installed in an enclosure in the room, make sure the enclosure is well ventilated with an air filter. STERIS also recommends that the enclosure has sound-proofing insulation.

Caution: Possible Equipment Damage

- When the unit is in a crate, move it only with a pallet jack or forklift. After it's removed from the crate, the unit should be moved only by STERIS installation or service personnel.
- Medical electrical equipment needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided in the accompanying documents.
- Be mindful when locating installed equipment; portable and mobile RF communications equipment can affect medical electrical equipment.
- The use of accessories, transducers, and cables other than those specified, with the exception of transducers and cable sold by STERIS for the use with the HexaVue™ Integration System and HexaVue™ IP Integration System as replacement parts for internal components, may result in increased emissions or decreased immunity of the integration system equipment.

- The integration system equipment should not be used adjacent to or stacked with other equipment and if adjacent or staked use is necessary, the integration system equipment should be observed to verify normal operation in the configuration in which it will be used.

Warning: Avoid Interference

To avoid interference, the following precautions are made by STERIS integration staff during installation.

- When the integration system and cable infrastructure are installed, all DVI boom cables must be 24AWG. All display cables must use 28AWG
- Avoid running digital video cables in parallel with data cables in order to avoid electromagnetic interference.
- A safe separation distance of 12 inches is preferred if running digital video cables alongside data cables.
- It is recommended not to locate any item with a strong magnetic field above or below the integration system.
- Medical electrical equipment needs special precautions regarding ESD and needs to be installed and put into service according to the ESD information provided in the accompanying documents
- When you install or remove cards, wear an electrostatic discharge (ESD) wrist strap to prevent damaging the equipment with static electricity.
    - Wear the ESD wrist strap around the wrist of your non-dominant hand. Make sure it's under your clothing and firmly tightened so it maintains contact with your skin.
    - Connect the alligator clip on the other end of the cable to an unpainted metal surface on the equipment rack.

Warning: Fire Hazard

- Keep candles and other open flames away from the integration system. Not doing so may cause a fire.
- Do not install the integration system in a badly ventilated location. Increases in the internal temperature of the system may cause fire.
- Poor ventilation may raise the internal temperature of the system, causing fire or reduced component life.

Warning: Electric Shock Hazard

- If the system is dropped or knocked over, or if the surface is damaged, turn off the system, unplug the power cord, and contact STERIS Technical Support for assistance. The system could malfunction, causing fire or electric shock.
- Do not try to move any part of the system by pulling only on a wire or signal cable. This may damage the wire or cable, or cause electric shock or fire.
- Install the integration system in a location with low humidity and minimal dust. Failure to do so may cause fire within the system or electric shock.

Warning: Personal Injury Hazard

- Changes or modifications to the integration system not expressly approved by STERIS should not be performed by the end user. Doing so may void their right to operate the equipment.
- Do not drop the system when moving it. This may damage the system or injure the person(s) moving it.
- When moving the integration system equipment rack or a monitor, do not turn it upside down. This may cause it to fall and become damaged or injure the person moving it.
- Dropping the product may cause damage to the system or injure the persons carrying it.

CLEANING

- Remove the dust from the equipment rack with a dry microfiber cloth or hand-held vacuum cleaner. Disinfect the rack as needed by wiping the surface with a soft cloth moistened with a hospital-grade disinfectant, as recommended for use in hospitals.
- Use appropriate disinfection measures to clean the touch panel, displays, and video sources as needed. The surgical monitors should be disinfected following every surgical procedure by wiping the surface with a soft cloth moistened with disinfectant. Please refer to each item's manufacturer's guide for approved cleaning agents and methods.
- Do not spray water or any other liquid directly onto any component of the equipment rack, touch panel, or displays. This may cause damage, fire or electric shock.

Warning: Electric Shock Hazard

- If a connector is dusty or dirty, gently clean it using a dry cloth. A dirty connector may cause fire or electric shock.
- Unplug the power cord before cleaning the system. Not doing so may cause fire or electric shock.
- Dropping the product may cause damage to the system or injure the person(s) carrying it.
- Do not connect anything to the outlet located on the UPS other than what has been specified in this manual.

POWER

- Firmly insert the power plug so that it does not become loose or disconnect. A bad connection may cause fire.
- An additional MPSO or extension cord should not be connected to the system.
- Do not connect too many extension cords or power plugs to one outlet. This may cause fire.
- Do not disconnect the power cord from the UPS while the integration system is in use. A power surge may be caused that may damage the system.

Electric Shock Hazard

- Do not use a damaged or loose plug. This may cause electric shock or fire.
- Do not pull the system's plug out by the wire. This may cause electric shock or fire.
- Only use a properly grounded plug and receptacle. An improper ground may cause electric shock or system damage.
- Do not touch the system's power plug with wet hands. This may cause electric shock or fire.
- Do not bend the power cord excessively or place a heavy object on the plug. Doing so may cause system damage, electric shock, or fire.
- Do not connect any electrical equipment that is not part of the integration system to the MPSO. This could overload the MPSO, causing damage or electric shock.
- Do not connect non-medical equipment directly to the wall outlet when the system is supplied with a separating transformer via MPSO. This includes non-medical equipment that is a part of the system. The equipment may not have a common ground with the system, so doing so may cause electric shock.
- External equipment using an additional power source may not have common ground with the integration system. This may cause electric shock.
- Grounding reliability at the UPS can only be achieved when the UPS is connected to an equipment receptacle marked 'Hospital Only' or 'Hospital Grade' or equivalent.

EXPLOSION HAZARD

- Keep the system away from combustible chemical sprays or flammable substances. This could cause fire or an explosion.

MAINTANENCE INSTRUCTIONS

The following preventative maintenance steps should be performed quarterly by the facility Biomed team.

- Visually check the overall condition of the equipment, looking for signs of physical damage, such as broken cables. Be careful when touching anything inside the rack.
- Wipe off any dust that has accumulated on the electronic components with a dry cloth.
- Verify there is no excessive heat buildup inside video rack. It should not exceed 104° F or 40° C.
- When there is no procedure underway, reboot the AVC-X by holding its power switch for 5 seconds to turn it off, and then press it again to turn it back on.

WASTE MANAGEMENT GUIDELINES

- When you dispose of the integration system or its parts, make sure you properly dispose of hazardous and other regulated waste in compliance with national, state, and local WEEE/RoHS regulations.

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Introduction

1

Overview

The HexaVue™ Integration System or HexaVue™ IP Integration System is an all-digital, high resolution video routing and control center for operating rooms. The integration system is connected to OR equipment and the hospital's internal network, and let's you manage them from a touch-screen panel in the OR. The integration system equipment rack may be in the operating room (outside the surgical field) or outside the operating room.

Here's what you can do:

- Route video: Route video to the display closest to the person who needs it from the Home screen. The video can be from the OR's cameras, remote PCs, and vitals. If you see a MultiVue tab on the bottom of the touch pane, you can view more than one source on a display.
- Control devices: Control devices all around the operating room from the central touch panel from the Device Control screen. You can focus and move cameras or turn surgical lights on and off, And if a device is inside the surgical field, you don't need to enter the field to adjust it.
- Collaborate remotely: Share live video of a procedure with a classroom of students from the Home screen or consult with experts from another OR or around the world as they watch streaming video from the Conference screen. If you see a Deidentification tab, you can hide a patient's identity by blocking the face and other identifying details.
- Share images and videos: Save videos and images taken during a procedure from the Home screen, so you can share them with the patient, patient's family, or other doctors. If you see a Conference tab at the bottom of the touch screen, you can perform video conference calls. If your system supports the telestration feature, you can annotate images and live video, use the telestration feature.
- Connect to the facility's network: If your facility uses the HexaVue™ Connect Software Suite, you can view a room's schedule from the touch panel and save images and videos directly to the facility's servers and maybe even to the EMR.

About the Interface

You control the integration system from a touch-panel display, normally located at the nurse's station, and sometimes in other locations as well. To operate it, touch the screen directly or use the mouse and keyboard beside it. The station may contain a USB hub, where you can insert USB drives to copy files from the system.

Here's what's on the touch-panel display's screen:

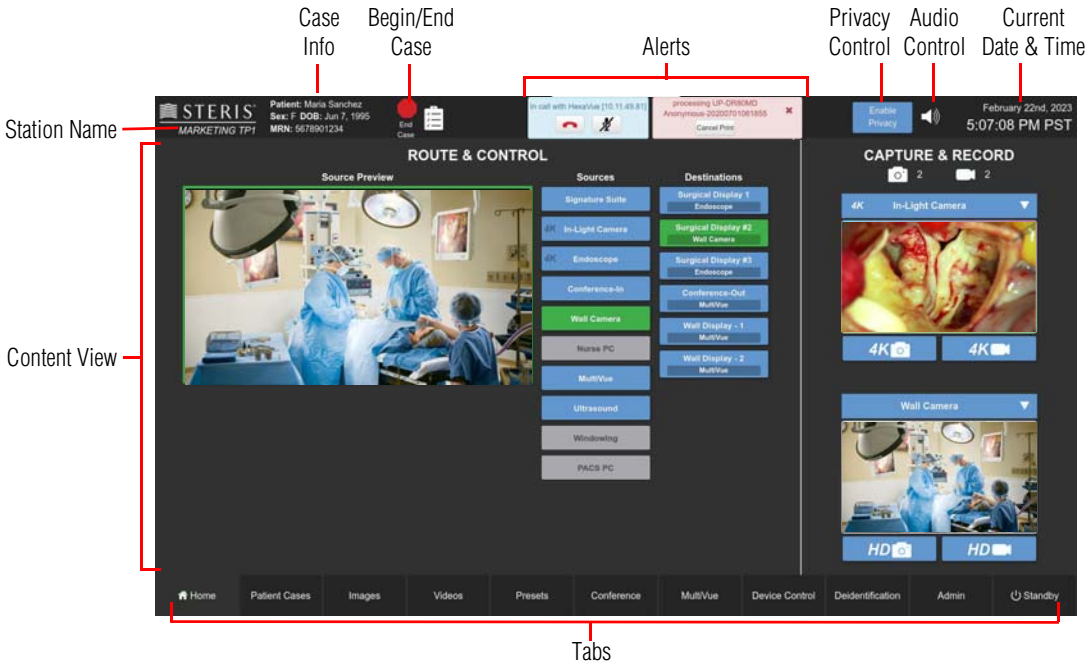

Figure 1-1. Touch-Panel Display Interface

- **Content View**: The contents of this view depends on which tab you choose.
- **Station Name**: The name for the integration station. When you contact STERIS technical support or your facility's OR integration support staff, they may ask for this name
- **Case Info**: The patient's name, date of birth, and procedure for the current case. If there's no case, the name is "Anonymous."
- **Begin/End Case**: Click to start a new case or end the current case. See"Patient Cases" on page 27.
- **Alerts**: If a video conference call comes in or the printer needs attention, an alert message appears here.
- **Privacy Control**: During a video conference, click to prevent the other room from hearing or viewing your room temporarily. Click it again to resume it. See "Temporarily Disabling Audio and Video" on page 92.
- **Audio Control**: Click this control to choose which audio source to play on the room's speakers and to change the volume. See "Controlling Audio" on page 26.
- **Current Date & Time**: The current date and time at the integration system.
- **Tabs**: Click one of the tabs to choose what appears in the content area.

Using the Integration System During a Procedure

Here's the typical process you'll follow when using the integration system during a procedure.

1. Turn on the system.

   If you see this image on the touch-panel screen, the integration system is in standby mode. Touch the screen to wake the system.



Figure 1-2. Standby Mode Screen

   If the touch panel screen is blank, power on the integration system. See "Powering the System On" on page 16.

2. Connect any mobile video sources.

   For any mobile video input device, including any on a cart you wheeled into the room, connect the device's universal cable to a universal receptacle in the room. Then turn on the device.

3. Power on the video sources and displays.

   Make sure all video sources and displays you'll be using during the procedure have buttons on the Home screen that are not gray.

   If some of the buttons are gray, see "If an Input Device Is Not Displaying Video" on page 23.

4. Route the video and audio to monitors and speakers.

   - To route video, click the Home tab, click a source from the Sources list and then click a destination in the destination's list. For more information, see "Routing a Source to a Destination" on page 21.
   - To route audio, click the Volume button at the top of the screen and select an audio source from the drop-down list that appears.

Powering the Integration System and Placing it into Standby

Usually, you'll leave the integration system on, and put it in standby when you're done with a procedure. If you need to power it on or off, following the instructions here.

Powering the System On

If the touch panel screen is blank, power on the integration system. Someone from the facility's IT department may need to do this.

1. If the fans in the AVC-X server are on, there maybe be an issue with the AVC-X. Do the following to turn it off and back on again:
   - To turn off the AVC-X, press and release its power button and wait until its internal fans stop spinning.

     To turn on the AVC-X again, press and release its power button. Its internal fans start spinning again.
2. If the integration system is powered off and you need to power it on, do the following:
   a. Press and hold the soft power switch located on the right hand side of the UPS for 5 seconds and then release.
   b. If the power LED on the front of CXPS is off, flip the power switch on the rear of the router to the ON position.

      The power indicator LED on the front of the unit lights up.
   c. If the fans in the AVC-X server are off, press and release the power button.

      The fans should start to spin.
   d. Wait for the Home screen to appear on the touch-panel display.Placing the Integration System Into Standby Mode

When you're done using the integration system, place the system into standby mode to save energy and prevent images from burning into any displays.

There are three ways to do this:

- If you started a case, click the **End Case** button on the top of the screen and click **Set Entire System into Standby**.

  See "Ending a Case" on page 31.

- Click the **Standby** tab at the bottom of the screen, and then click **Set Entire System Into Standby**.



Figure 1-3. Standby Options Window

- Let the integration system go into standby mode automatically

  The system can go into standby mode automatically when the touch panel isn't used for a period of time, if the occupancy sensors (if any are installed) don't detect people in the room, or when it's outside normal business hours. Before it goes into standby mode, a window appears on the touch-screen display that lets you keep the system awake.

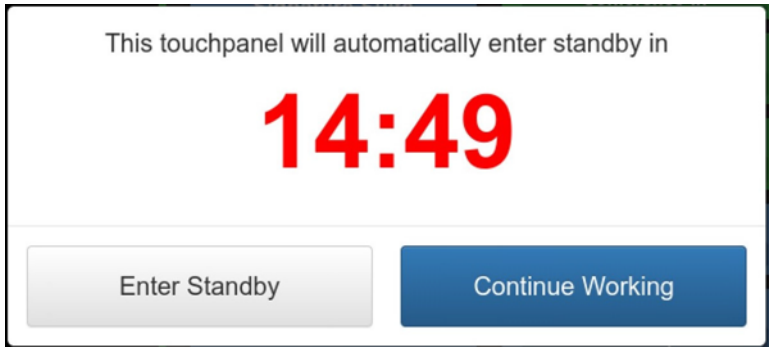

Figure 1-4. Automatic Standby Window

Powering the Integration System Off

If you won't be using the integration system for a long period of time or if the integration system isn't operating correctly and you want to power it off and on, here's how to power it off. Someone from the facility's IT department may need to do this.

1. Power off the AVC-X server.

   There are two ways to do this:

   - If the touch-panel display is displaying the user interface, click the **Admin** tab at the bottom of the screen and use the **Power Off** button.

     You may need to enter the administrative password after you press the **Admin** tab. If you don't know it, ask the facility's IT department for help.

- If the touch-panel display is not displaying the user interface, you may need to perform a “hard” power off. This process may result in lost or corrupted data, and you should use it only as a last resort.

  Press and hold the power button on the AVC-X for a total of 5 seconds.

  Wait for the fans visible through the vents on the front of the AVC-X to stop spinning.

2. If you have a HexaVue™ Integration System with a CXPS video router, power off the video router.

   On the router, flip the rocker switch at the rear of the unit to the OFF position.

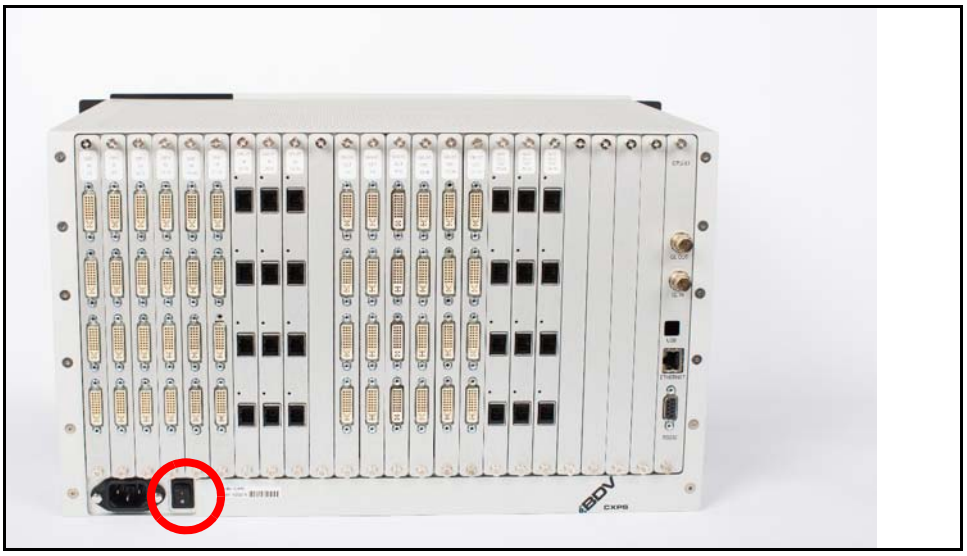

Figure 1-5. CXPS Video Router On/Off Switch

   The power indication LED on the front of the unit turns off.

3. Power off the UPS.

   Press and hold the power button on the UPS for a total of 5 seconds.

Video and Audio Routing

2

You can direct a video signal from a selected video input device, such as a camera or PACS system, to an output device, such as a monitor. This is called video routing. You can also choose what's playing on the room's speakers and change the volume.

This chapter discusses the following:

- "About the Video Routing Controls" on page 19
- "Routing a Source to a Destination" on page 21
- "Using Mobile Video Inputs" on page 23
- "Controlling Audio" on page 26

Your integration system may also support these additional video-routing features:

- If you see a MultiVue tab at the bottom of the screen, you can view multiple sources on one destination. See "MultiVue" on page 71.
- If you see a Deidentification tab at the bottom of the screen, you can hide identifying details, such as a patient's face, with a black box. See "Deidentification" on page 77.

About the Video Routing Controls

To route video, click the **Home** tab at the bottom of the screen.

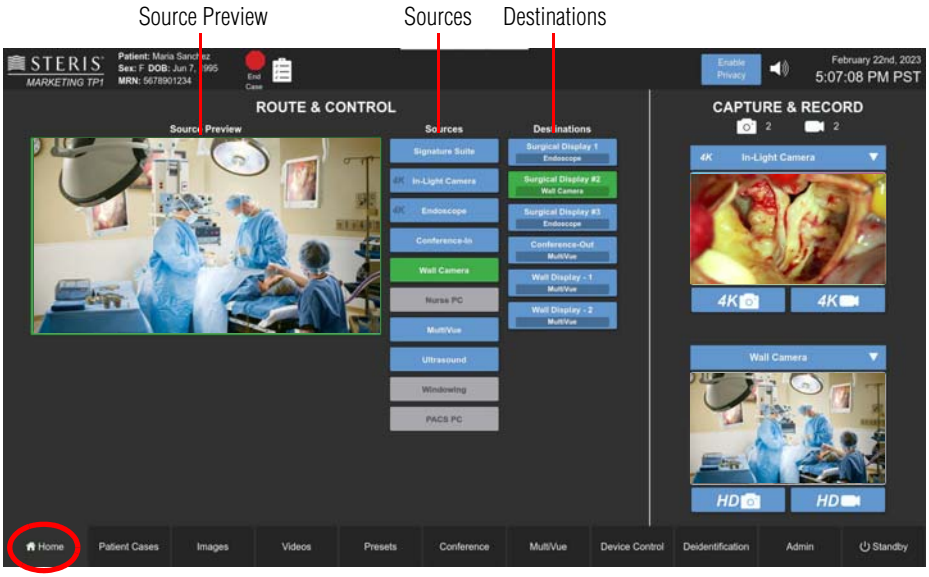

Figure 2-1. Home Screen

The controls used in video routing are the following:

- **Source Preview**: The image being sent from the device selected in the Sources list. To view a full-screen preview, click the preview window. Click the screen again to return to the Home screen.

- **Sources**: A video source is a device that sends an image signal, such as a camera, endoscope, or Picture Archiving and Communications System (PACS).

  If you need to control a source, such as moving or focusing a camera, click the **Device Control** tab. See “Device Control” on page 61.

- **Destinations**: Devices which can receive image signals, such as monitors. The bottom of the button displays the name of the video source device it’s displaying.

The other controls on this screen are for capturing images and videos, which is described in “Capturing Images and Videos” on page 39.

Source and Destination Buttons

The video source buttons show their status with the following indicators:

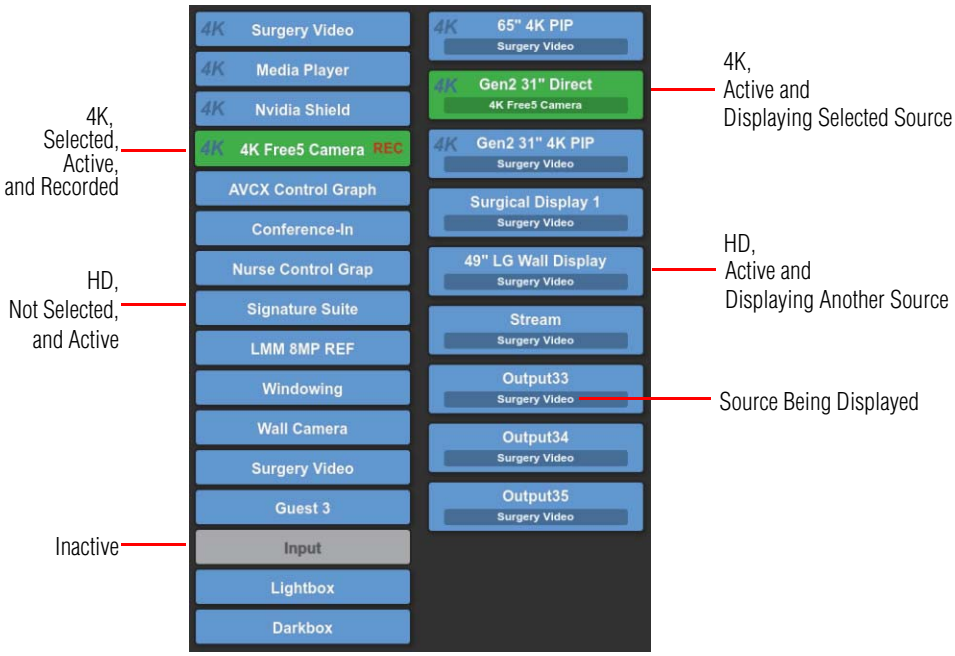

Figure 2-2. Source and Destination Buttons on the Home Screen

- **Green button**: The device is active and selected. Its video is being displayed in the Source Preview pane.
- **Blue button**: The device is active and not selected.
- **Gray button with no border**: The device is inactive and not selected.

- **Gray button with green border**: The device is selected but inactive. You can route it to destinations so its video will appear on those destinations when it becomes active. Here's what that button looks like:



Figure 2-3. Selected and Inactive Source Button

- **Rec symbol**: The source is being recorded.
- **4K symbol**: The device displays or transmits a 4K signal.

Destination buttons also list the source they're displaying below the destination's name.

If you see arrows at the top and bottom of the Sources or Destinations list, the list contains more buttons that can fit. Click the arrows to scroll through the list.

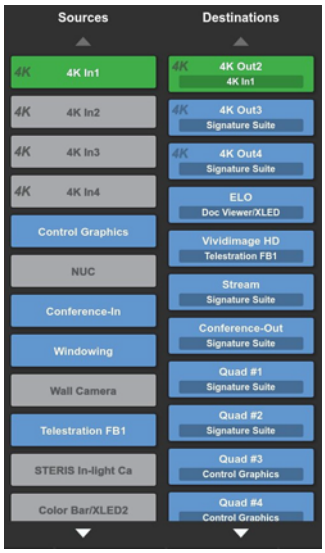

Figure 2-4. Arrows in the Sources and Destinations Lists

Routing a Source to a Destination

1. Click the **Home** tab.
2. From the Sources list, select a video source to display or record.

   The image from that device appears in the Source Preview window.

3. From the Destinations list, select the output device.

   The name of the source appears at the bottom in the selected destination button and the source video is displayed on the selected destination device.

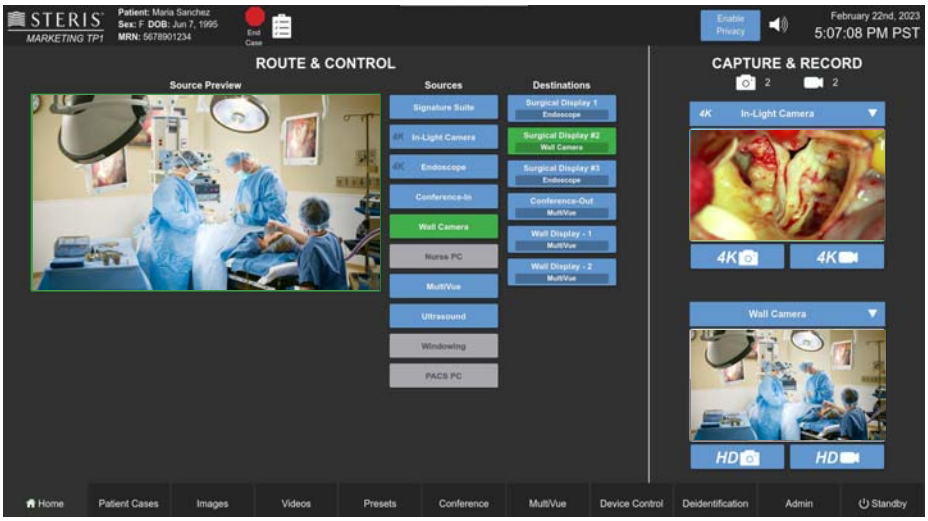

Figure 2-5. Routing a Source to a Destination

If you're routing a deidentified source to a destination and don't see the deidentifying black boxes, click the **Deidentification** tab and route the source from there. See "Deidentification" on page 77.

Viewing Full-Screen Video

To view a video source using the entire area of the touch-screen display, click the Source Preview window. The video from that source fills the display, with buttons at the top to control privacy and volume, and arrows at the top and bottom that let you display and hide image capture controls and image thumbnails. To return to the Home screen, click anywhere in the middle of the screen.

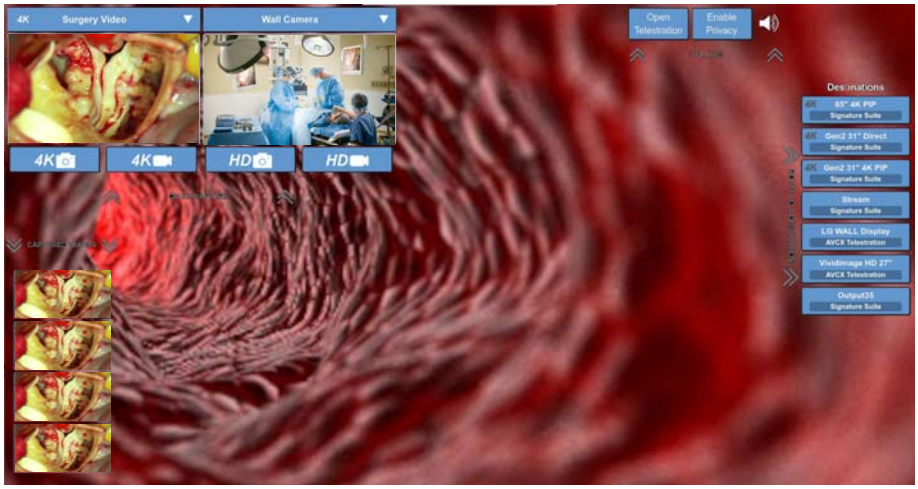

Figure 2-6. Full-Screen Video With All Controls Displayed

For more information on image capture controls and image thumbnails, see "Capturing Images and Videos" on page 39. For more information on the privacy

control, see “Temporarily Disabling Audio and Video” on page 92. For more information on the audio control, see “Controlling Audio” on page 26.

Accessing a Remote Computer

If a video source is a connected computer with remote control enabled, you can access it from the touch panel. Click the computer’s button in the Sources list, click the Source Preview so the source appears full-screen, and then use the keyboard and mouse at the touch panel to operate the computer.

If an Input Device Is Not Displaying Video

If you believe the device should be displaying video, but its button is gray, indicating it’s turned off, try the following:

- Make sure the device is turned on.
- If the device is connected to a video converter, make sure the power light on the converter is on. If it’s off, the converter isn’t getting power from the port it’s connected to. A Biomed or STERIS technician needs to inspect it.

If the device is connected to a guest port, try these solutions as well:

- Unplug and re-plug the device’s connector.
- If another guest port is available, try switching the device’s cable to the other guest port. If the device’s button is still gray, check the cabling or converter connected to the equipment.
- Turn the device off and then turn it back on.

Using Mobile Video Inputs

Some video input devices, such as endoscopes or microscopes, are shared among several operating rooms. The device is on mobile cart and wheeled wherever it’s needed. To use a mobile device, connect it to a universal wall port in the operating room.

About Universal Wall Ports

A universal wall port lets you connect devices on mobile carts to an integration system. After you connect the cart’s cable to the universal port, you can route the device just like any other device in the room.

The device on the cart is connected to a video converter box which converts the device’s signal to a signal the universal port can use. That box is usually on the device, in a boom, or sitting next to the device. Always connect the converter’s cable to the wall port. Do not bypass the converter and connect the device directly. Doing so could damage your equipment.

If a cord on the mobile cart is damaged, contact STERIS technical support for a replacement. Using a cord that STERIS hasn’t verified could damage your equipment.

There are three types of universal wall ports: one for HD devices, one for 4K devices, and one for both.

This HD wall port and cable work with HexaVue™ Integration Systems::.



Figure 2-7. HD Universal Wall Port and Connector

This 4K universal wall port and cable: work with HexaVue™ Integration Systems:

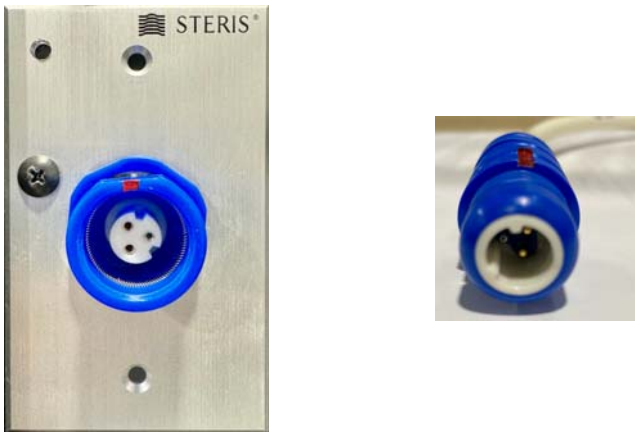

Figure 2-8. 4K Universal Wall Port and Connector

This type has a blue plastic wall port with a blue plastic connector. Both the port and connector have a groove or red line on top that line up when they're connected correctly. To plug it in, line the marks up together, hold the connector by its front ring, and push it in. To unplug it, hold the connector by its front ring, and pull it out.

This HD and 4K universal wall port and cable work with HexaVue™ IP Integration Systems::



Figure 2-9. HD and 4K Universal Wall Port and Connector

This type has a metal wall port and a metal connector with a blue collar with the STERIS name and a large ridge at the top. The connector fits into the port in only one position. To plug it in, hold the connector by the blue collar with large ridge at the top, and push it in. To unplug it, pull back on the blue ring on the connector, and pull the connector out.

Routing a Device Connected to a Guest Port

After you connect the device's connector to the guest port, turn on the device. After a short time, a button for the device appears on the Home screen of the touch screen.

When you're done with the device, unplug its connector from the wall port. The button disappears from the Home screen.

If you route the mobile device to a monitor, that routing is restored the next time you connect the device. Similar devices on other mobile carts may also use that routing.

If you create a preset that routes the mobile device to a display, that routing is restored the next time the device is connected and you select that preset. That preset's routing may also apply to similar devices on other mobile carts.

Controlling Audio

You can control the audio being played in the room by clicking the Audio button on the top of the screen.



Figure 2-10. Audio Controls

A small window appears with the controls. Click anywhere outside the window to close it.

To choose the audio source played over the room's speakers, select it from the Audio Sources list.

To change the volume, click the Volume Up button and Volume Down button .

To mute the audio, click the Mute button . To unmute it, click Unmute.

Patient Cases

3

HexaVue™ Integration Systems and HexaVue™ IP Integration Systems organize information about medical procedures into cases, which contain information on the patient, physician, and procedure, as well as any videos and photos taken during the procedure.

If your facility uses the HexaVue Connect™ Software Suite, it may download information about your operating room's next case from your facility's scheduling system to the integration system when you start a new case. You can choose to save images and videos captured during the procedure to the HexaVue Connect™ Software Suite server. You can save all the case's media (See "Saving a Case" on page 32) or just selected pieces of media (See "Saving Images to the HexaVue Connect Software Suite Server" on page 46 and "Saving Videos to the HexaVue™ Connect Software Suite Server" on page 50). Later, you may be able to view this media anywhere on the facility's network in the MediaVue tab of your facility's HexaVue™ Connect Software Suite website. using an approved device, such as a computer, tablet, or smart phone. You may also be able to include media in a patient's electronic medical record (EMR) (See "Sending Images to a Patient's EMR" on page 46 and "Saving Videos to the EMR" on page 51).

If you don't have HexaVue Connect™ Software Suite, enter the case information at the integration system. That information, along with any photos and videos you take during the procedure, are stored on the integration system's disk. If you want to view them elsewhere, copy them to an encrypted USB flash drive or print them. See "Saving Images to a USB Drive" on page 44, "Saving Videos to a USB Drive" on page 50, and "Printing Images" on page 45.

This chapter discusses the following:

- "Performing a Case With HexaVue™ Connect Software Suite" on page 27
- "Performing a Case Without HexaVue™ Connect Software Suite" on page 33

For more information on managing the images and videos in previous cases, see "Managing Images" on page 43 and "Managing Videos" on page 47.

Performing a Case With HexaVue™ Connect Software Suite

If an integration system uses HexaVue™ Connect Software Suite, use your facility's scheduling system to create, edit, and manage upcoming cases. At the integration system, you'll start and end cases, capture images and videos, and if enabled, send those media to a server on the facility's network.

To begin or end a case use the **Begin Case** or **End Case** button at the top of the screen.

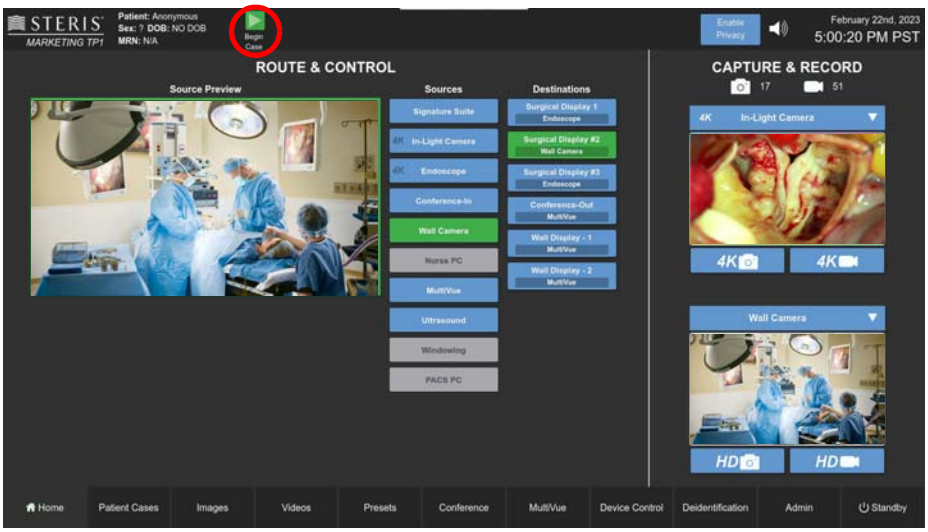

Figure 3-1. Begin Case Button on the Home Screen

If you take a picture or recording before you start a case, those images are saved to the default anonymous case on the integration system. To send media in the anonymous case to the server, you must first move the media to another case. See “Moving Images to a Different Patient Case” on page 47 and “Moving Videos to a Different Patient Case” on page 51.)

If you take a picture or recording after you start a case, those media are saved to that case.

Beginning a Scheduled Case

To start a case that was previously scheduled on the facility's scheduling system, do the following:

1. Click **Begin Case** at the top of the screen.The New Patient Case window appears. The information for the case that most closely matches the current room, date, and time appears in the window.

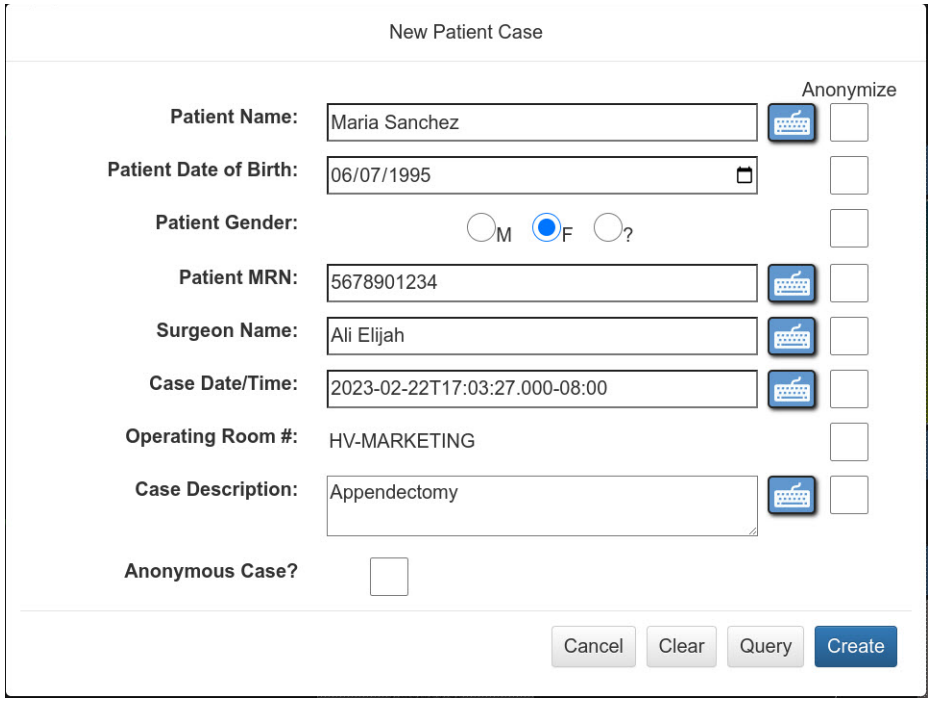

Figure 3-2. Begin Case: Filled New Patient Case Window

2. Check the case information.
   - If the case information is wrong, click **Query**.

     A window appears with a list of upcoming cases for this room. To see a list of cases for all rooms, click the tab labeled **All OR**.

     To filter the list of cases, enter type something in the Search field and press Enter. You can search by any field such as room number, patient or surgeon name, and date.

     Click a case to enter its information in the New Patient Case window.
   - If the you don't see the case in that list, enter the case information manually. See "Beginning an Unscheduled Case" on page 30.
3. Decide whether to anonymize any case information.

   To anonymize one field, select the **Anonymize** check box next to it. To anonymize all case information, select the **Anonymous Case?** check box.

   When you anonymize a field, its contents are replaced with X's.

   If you anonymize any case data, you cannot successfully include media from this case in the patient's EMR.
4. Click **Create** to start the case.

Beginning an Unscheduled Case

To start a case that wasn't previously created on the facility's scheduling system, such as an emergent case, create a placeholder case on the integration system. Later, someone will add a case on the facility's scheduling system, and you can copy the media captured during the procedure to that case.

To create a placeholder case, do the following:

1. Click **Begin Case** at the top of the screen.

   The New Patient Case window appears.

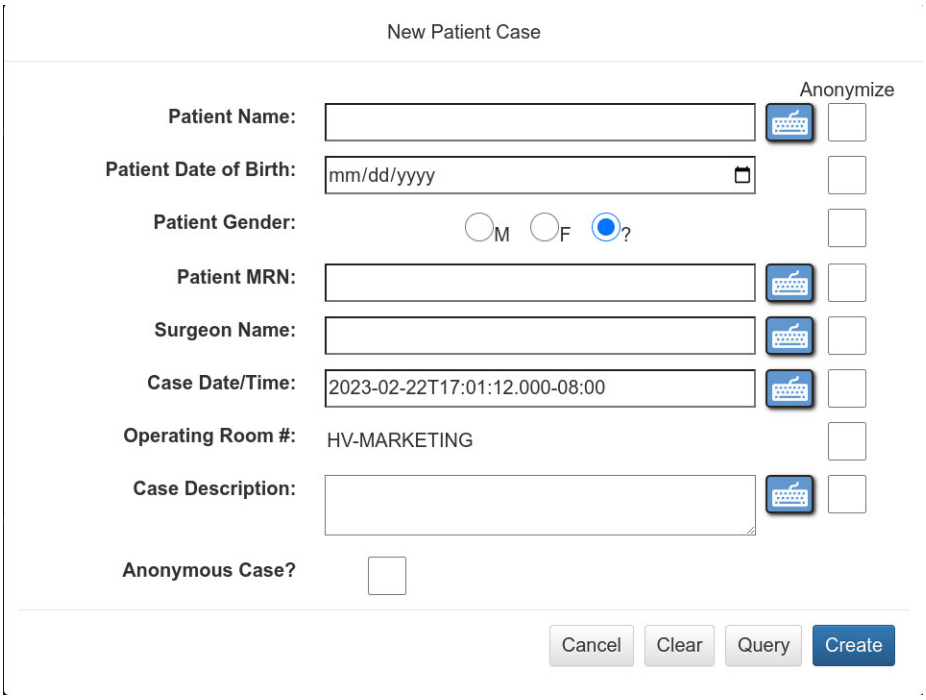

Figure 3-3. Begin Case: New Patient Case Window

2. Click **Clear**.
3. Enter the case information.

   Enter as much of this information as possible so you can find the case later:

   - **Patient Name**
   - **Patient Date of Birth**
   - **Patient Gender**
   - **Surgeon Name**
   - **Case Description**

   Note that **Operating Room #** is set to the current operating room and can't be changed.

   Do not anonymize any of the fields.

4. Click **Create**.

During the case, capture images and videos as usual, but don't use the **Save to Server** or **Export to EMR** buttons because there's no case on the server to save them to.

When the case is over, go to the facility's scheduling system and make sure there's a case with the proper information. If the case hasn't been created by midnight on the day of the procedure, call STERIS technical support for help.

After you've verified that the case was created, go back to the integration system and do the following:

1. Select the placeholder case as the current case. See "Choosing Which Case to View" on page 43
2. Move over any images you want to save to the case you created. See "Moving Images to a Different Patient Case" on page 47.
3. Move over any videos you want to save to the case you created. See "Moving Videos to a Different Patient Case" on page 51.
4. Double-check the Images and Videos screens to make sure you've moved all the media you want to save.
5. Delete the placeholder case from the integration system. See "Deleting a Case" on page 37.
6. If you want to save any media to the patient's EMR, use your facility's HexaVue™ Connect Software Suite website.

If a case and its media have been saved to a server, they remain there even after they have been deleted from the integration system.

Ending a Case

- Click **Stop Case** at the top of the screen and then choose what to do next.

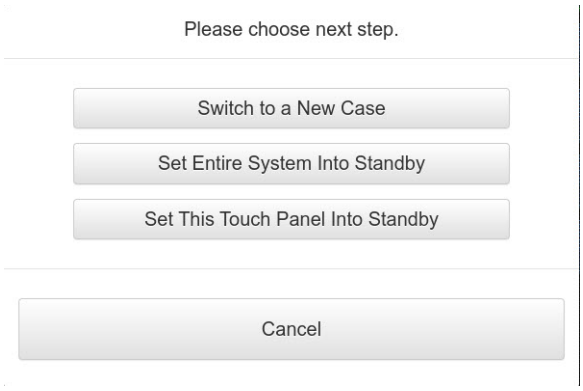

Figure 3-4. End Case: Closing Patient Case Window

- To start another case, click **Switch to a New Case**.

  The New Patient Case window appears. See "Beginning a Scheduled Case" on page 29.
- To end the case and put the integration system, included any connected displays, into standby, click **Set Entire System into Standby**.
- To end the case and put the touch-screen panel in standby mode, click **Set This Touch Panel into Standby**.

- To go back to the default anonymous case, click **Cancel**.

Saving a Case

You may be able save all the case's media and information to the HexaVue Connect™ Software Suite server. Later, you can view this media anywhere on the facility's network in the MediaVue tab of your facility's HexaVue™ Connect Software Suite website. Ask your facility's OR integration support staff for details on how to view it.

To see which cases have been saved, see the status icons on the Patient Cases screen.

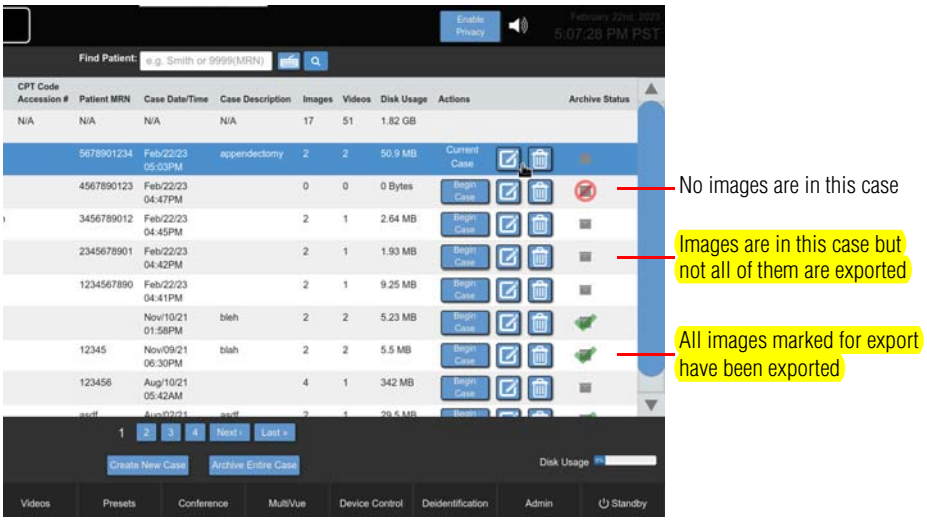

Figure 3-5. Archive Status Icons

To save all a case's media to the facility's internal network:

1. Click the **Patient Cases** tab.
2. Click the case to archive.
3. Click **Archive Entire Case**, and then click **OK**.

   If you do not see an **Archive Entire Case** button, your integration system does not support this feature.

   The integration server reprocesses any videos. The server copies all the cases media from the integration system and stores them together. The entire process can take as long as 20 minutes for each hour of video.

To save some of a case's media to the server, see "Saving Images to the HexaVue Connect Software Suite Server" on page 46 and "Saving Videos to the HexaVue™ Connect Software Suite Server" on page 50.

To send some of a case's media to the patient's EMR, see "Saving Images to the HexaVue Connect Software Suite Server" on page 46 and "Saving Videos to the EMR" on page 51.

Deleting a Case

You can let the integration system delete media automatically according to the facility's retention policy or you can delete a case's media before that time.

When the integration system's storage is more than 75% full, it deletes its oldest media until it's below that threshold. It may also delete a case and its media when it's older than a certain age. Ask your facility's OR integration support staff for details.

To delete a case and its media before the retention policy requires its deletion, do the following:

1. Click the **Patient Cases** tab.
2. Click the Trash Can button next to the case to delete, and then click **OK**.

   The integration system marks the case for deletion. Once a day, the integration system deletes cases that have been marked for deletion and that don't have media waiting to be copied to the HexaVue™ Connect Software Suite server.

To see how much storage space is left on your integration system, look at the Disk Usage indicator at the bottom left of the Patient Cases screen.

If a case has been saved to a server, it remains there even after the case has been deleted from the integration system.

Performing a Case Without HexaVue™ Connect Software Suite

If the integration system isn't connected to your facility's scheduling system, you can create and manage cases right from the integration system.

Here's what's in this section:

- "About the Patient Cases Screen" on page 33
- "Creating a New Case" on page 35
- "Editing a Case" on page 35
- "Starting a Case" on page 36
- "Ending a Case" on page 36
- "Deleting a Case" on page 37

About the Patient Cases Screen

The Patient Cases Screen displays all the cases on the integration system. The cases are listed in chronological order, with upcoming cases first and then past cases. It lists only cases that are on the integration system.

Each screen displays a list of ten cases. Use the scroll bars to see all ten cases. Use the numbered page buttons on the bottom of the list to view other lists of ten cases.

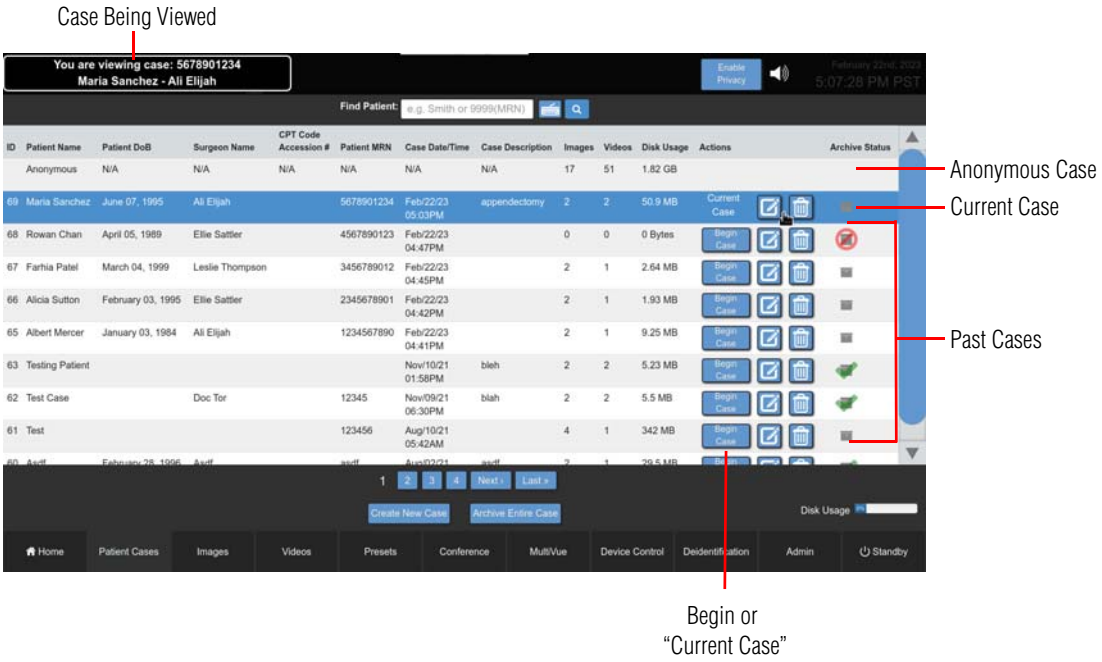

Figure 3-6. Patient Cases Screen

- The default Anonymous case at the top of the list is where images are stored if you take pictures or recordings without starting a case.
- Any upcoming cases created on the integration system appear between the anonymous case and the current case.
- If you're in the middle of the case, the tag "Current Case" appears in the case's entry instead of the **Begin Case** button.
- Any past cases on the integration system appear after the current case.

Creating a New Case

1. Click the **Patient Cases** tab.
2. Click **Create New Case**.

   The New Patient Case window appears.

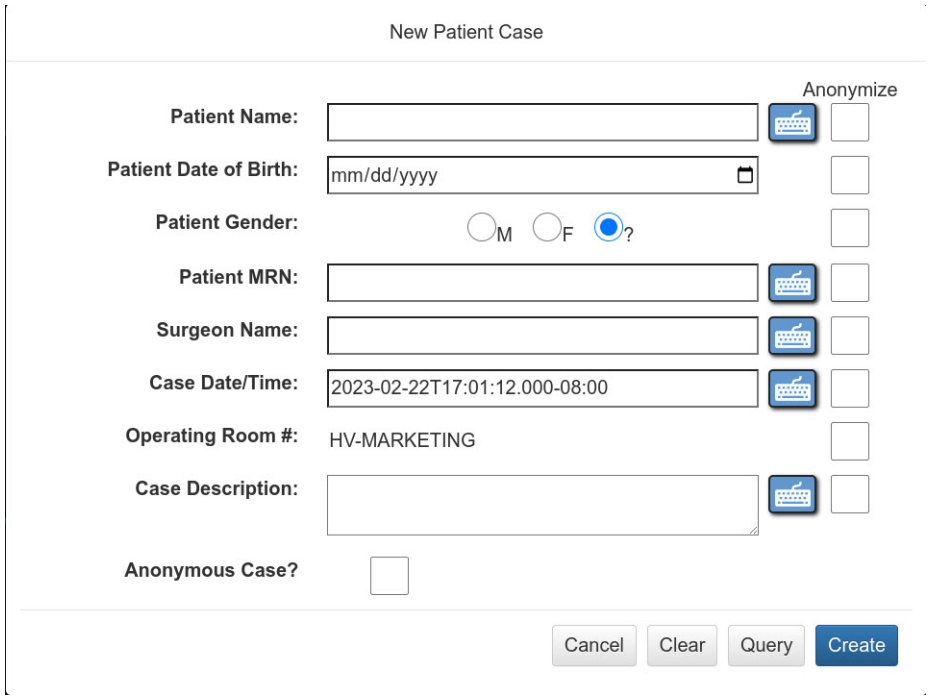

Figure 3-7. Create Case: New Patient Case Window

3. Enter the case information.

   As you type in the **Patient Name** and **Surgeon Name** fields, suggested completions appear in a list using names from other cases.

   Note that **Operating Room #** is set to the current operating room and can't be changed.

   You don't need to update **Case Date/Time** which contains the current date and time. Although the case won't reflect the time when it was started, the media will be timestamped with the correct time.

4. To anonymize one field, select the **Anonymize** check box next to it. To anonymize all case information, select the **Anonymous Case?** check box.

   When you anonymize a field, its contents are replaced with X's.

5. Press **Create** when finished.

To start the case, find it in the cases list, and click the **Begin** button.

Editing a Case

If you need to change information in a case, do the following:

1. Click the **Patient Cases** tab.
2. Press the pencil button next to the case you want to edit.

   The Edit Patient Case window appears.

3. Edit the case information.

   As you type in the **Patient Name** and **Surgeon Name** fields, suggested completions appear in a list using names from other cases.

4. To anonymize one field, select the **Anonymize** check box next to it. To anonymize all case information, select the **Anonymous Case?** check box.

   When you anonymize a field, its contents are replaced with X's.

5. Press **Save Changes** when finished.

Starting a Case

To start a case that you created on the Patient Cases page:

1. Click the **Patient Cases** tab.
2. Press the **Begin Case** button next to the case you want to start.

   The Home screen appears and the case starts.

To start a case that you haven't created on the Patient Cases page:

1. Click **Begin Case** at the top of the screen

   The New Patient Case window appears.

2. Enter the case information.

   As you type in the **Patient Name** and **Surgeon Name** fields, suggested completions appear in a list using names from other cases.

   Note that **Operating Room #** is set to the current operating room and can't be changed.

3. To anonymize one field, select the **Anonymize** check box next to it. To anonymize all case information, select the **Anonymous Case?** check box.

   When you anonymize a field, its contents are replaced with X's.

4. Press **Create**.

Ending a Case

- Click **End Case** at the top of the screen and then choose what to do next.

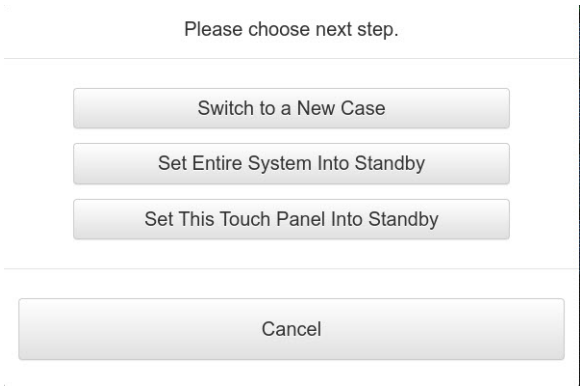

Figure 3-8. End Case: Closing Patient Case Window

- To start a case that wasn't entered in the Patient Cases screen, click

Switch to a New Case.

The New Patient Case window appears. See “Beginning a Scheduled Case” on page 29.

- To start a case that was entered in the Patient Cases screen, click **Cancel**, click the **Patient Cases** tab, and click the **Begin Case** button beside the case to start.
- To end the case and put the integration system, included any connected displays, into standby, click **Set Entire System into Standby**.
- To end the case and put the touch-screen panel in standby mode, click **Set This Touch Panel into Standby**.
- To go back to the default anonymous case, click **Cancel**.

Deleting a Case

You can let the integration system delete media automatically according to the facility’s retention policy or you can delete a case’s media before that time.When the integration system’s storage is more than 75% full, it deletes its oldest media until it’s below that threshold. It may also delete a case and its media when it’s older than a certain age. Ask your facility’s OR integration support staff for details.

To delete a case and its media before the retention policy requires its deletion, do the following:

1. Click the **Patient Cases** tab.
2. Click the Trash Can button next to the case to delete, and then click **OK**.

   The integration system marks the case for deletion. Once a day, the integration system deletes cases that have been marked for deletion and that don’t have media waiting to be copied to the HexaVue™ Connect Software Suite server.

To see how much storage space is left on your integration system, look at the Disk Usage indicator at the bottom left of the Patient Cases screen.

Images and Videos

4

If your integration system has a capture and recording system, you can record video and take photos using any input device connected to the integration system, all from the touch screen.

This chapter discusses the following:

- “Capturing Images and Videos” on page 39
- “Managing Images” on page 43
- “Managing Videos” on page 47

Capturing Images and Videos

About the Image Capture Controls

There are two ways to view the image capture controls: at the Home Screen or when viewing a video source at full-screen. Here are the controls on the Home screen.

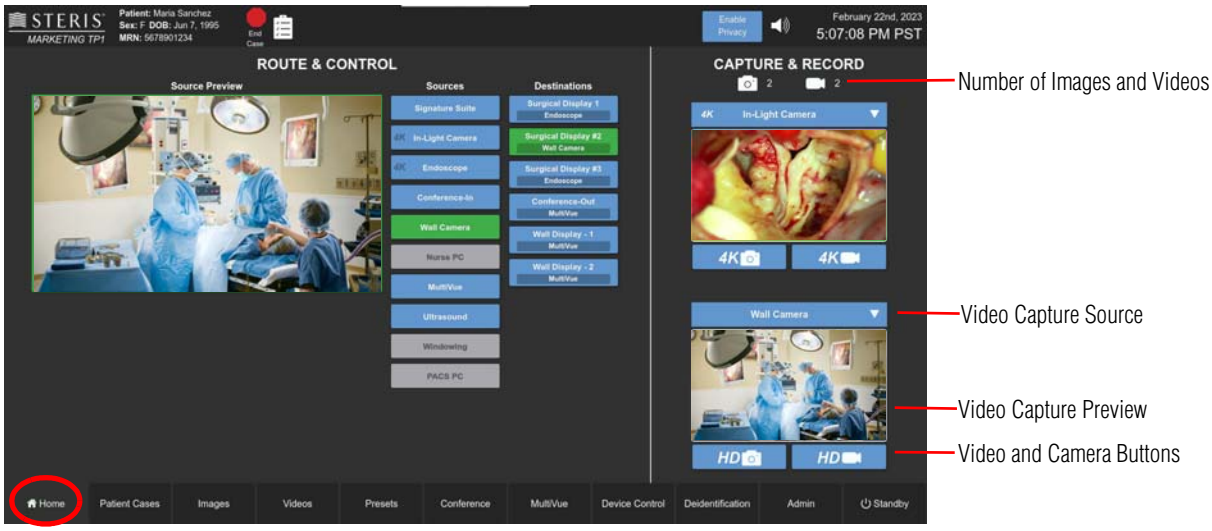

Figure 4-1. Image Capture Controls in the Home Screen

Also, while you’re viewing a video source in full-screen mode, you can display image capture controls and image thumbnails. To display the image capture controls, click the arrows at the top of the screen, To display thumbnails of

captured images, click the arrows at the bottom of the screen. To hide the controls, click the arrows again.

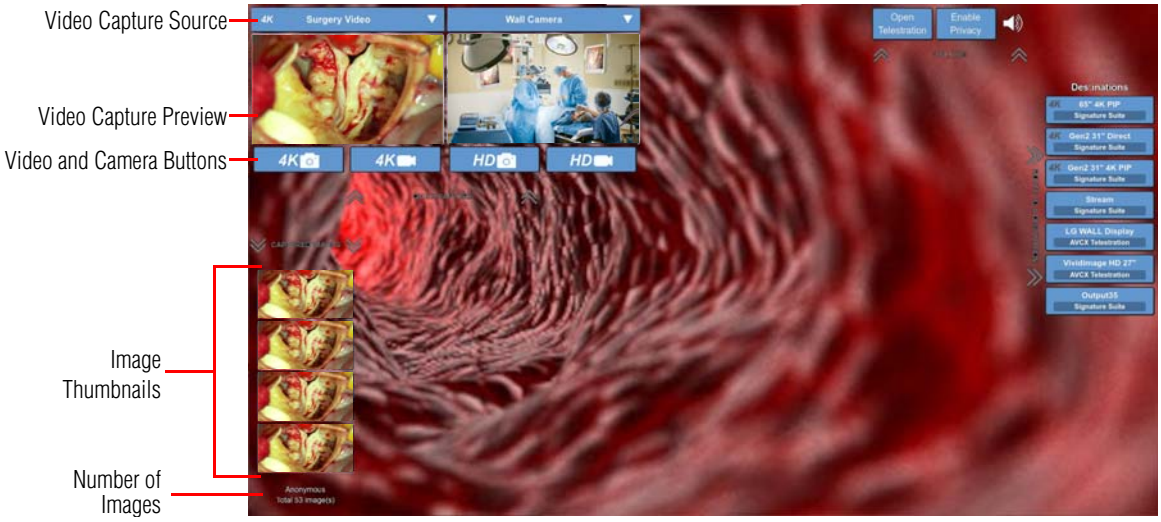

Figure 4-2. Image Capture Controls in Full-Screen Mode

Here are the image capture controls:

- **Video Capture Source**: The source that's captured when you click the Camera or Video button. To change the video capture source, click this button and choose a source from the list that appears.
- **Video Capture Preview:** The image that's captured when you click the Camera or Video button.
- **Video and Camera buttons:** Click to take a photo or start recording the video input above the button.

  The badges on the buttons show the format used for captured video:

  - If the buttons have 4K badges, the video will be 4K. (Video from HD sources is upscaled.)
  - If the buttons have HD badges, the video will be HD. (Video from 4K sources is downscaled.)

If you're at the Home screen, you also see

- **Number of Images and Videos**: The total number of images and videos taken from any source during the current case.

If you're viewing a video source full-screen, click the Images arrows at the bottom of the screen to view these options:

- **Image Thumbnails**: Thumbnails of the last five images captured during the current case.
- **Total Images**: The total number of images taken from any source during the current case.

Depending on your integration system's setup, you may see one or two sets of the video capture preview and buttons.

The other controls on the screen are for video routing, which is described in "Video and Audio Routing" on page 19.

Capturing an Image

1. Click the **Home** tab.

   If you're viewing a video source full-screen, you can also click the Video Capture arrows at the top of the screen.

2. Select the source to capture.

   Click the button above a video capture preview and select a source from the list that appears.

   You can also click the source's button in the Sources list and then click a video capture preview.

   The buttons below the video capture preview tell you the format for captured images: 4K or HD.

3. To take a picture of a source's video, click the Camera button  under the source list.

   A preview of the captured image momentarily appears in the upper right corner of the touch panel. The preview may also appear on any surgical displays showing that captured source, depending on the system's configuration. You can capture up to one image per second.

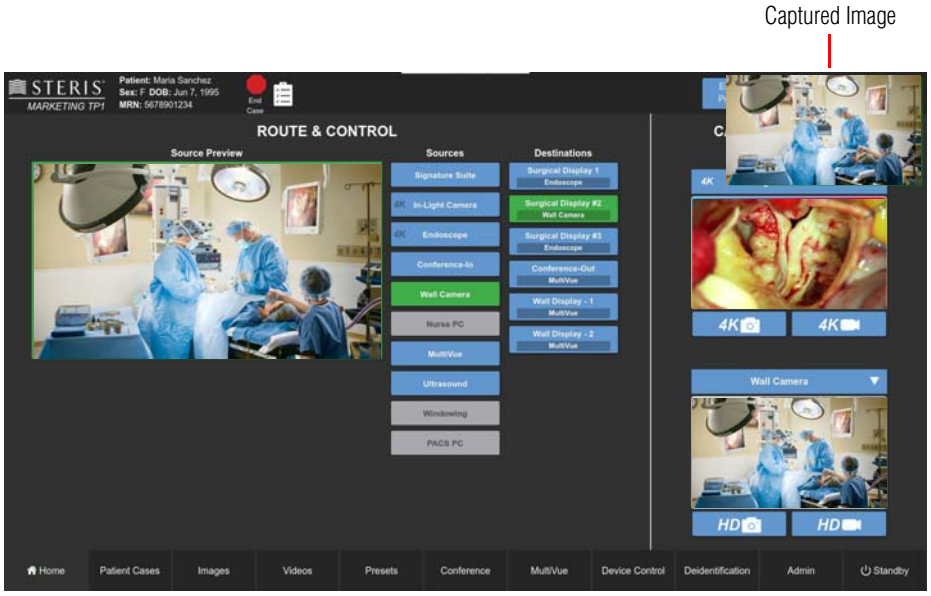

Figure 4-3. Capturing an Image

If you want to capture deidentified video and you don't see the deidentifying black boxes, go to the Deidentification screen to choose the source to capture. See "Deidentification" on page 77.

Recording a Video

1. Click the **Home** tab.

   If you're viewing a video source full-screen, you can also click the Video Capture arrows at the top of the screen to display the video capture controls.

2. Select the source to record.

   Click the button above a video capture preview and select a source from the list that appears.

   You can also click the source's button in the Sources list and then click a video capture preview.

   The buttons below the video capture preview tell you the format for captured images: 4K or HD.

3. To start recording, click the Video button under the source list.

   The Video button turns red. The word "REC" appears in red on the top of the screen and on the source button for the source being recorded.

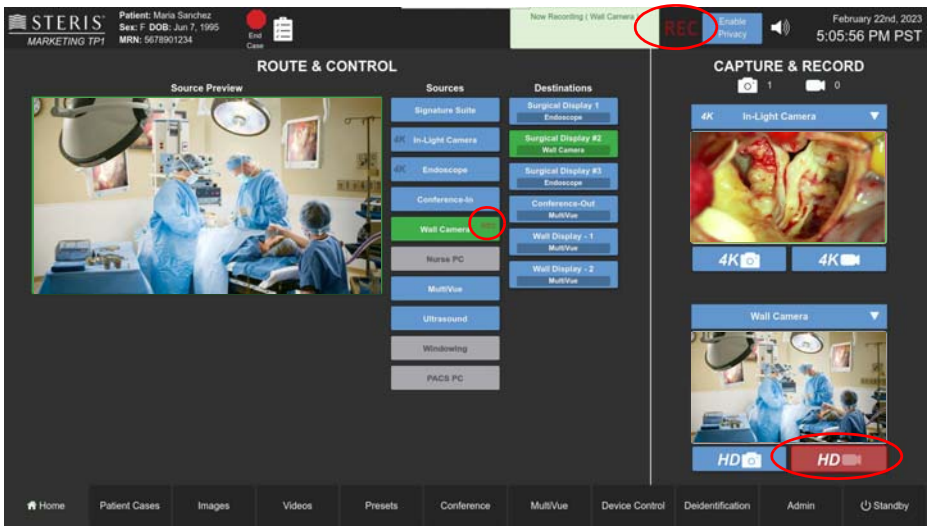

Figure 4-4. Recording Video Indicators

4. At significant moments, click the Camera button to save an image and create an event marker.

   Event markers help you find significant moments in the video. When you play back the video on the integration system, the markers appear in the video's time line.

5. To stop recording, click the Video button again.

If you want to capture deidentified video, and you don't see the deidentifying black boxes, go to the Deidentification screen to choose the source to capture. See "Deidentification" on page 77.

Capturing Images or Videos With a Trigger

You may be able to capture images or videos with a trigger, which could be a button on a camera or a pedal on the floor. Ask your facility's OR integration support staff for more information on what the trigger is configured to do.

Note that pressing a trigger always captures images or video from one of the selected capture sources. To capture images or media from a camera with a trigger, that camera must be selected as a capture source.

Managing Images

Here's how you can manage your captured images:

- "Choosing Which Case to View" on page 43
- "Viewing an Image" on page 44
- "Saving Images to a USB Drive" on page 44
- "Printing Images" on page 45
- "Saving Images to the HexaVue Connect Software Suite Server" on page 46
- "Moving Images to a Different Patient Case" on page 47
- "Deleting Images" on page 47

Choosing Which Case to View

You can view images from the current case as well as past cases. By default, the current case is selected when you're in the middle of a case.

To choose a past case:

1. Click the **Patient Cases** tab.

   The Patient Cases Screen displays all the cases on the integration system. The cases are listed in order of creation. Each screen displays a list of ten cases. Use the scroll bars to see all ten cases. Use the numbered page buttons on the of the list to view other lists of ten cases.

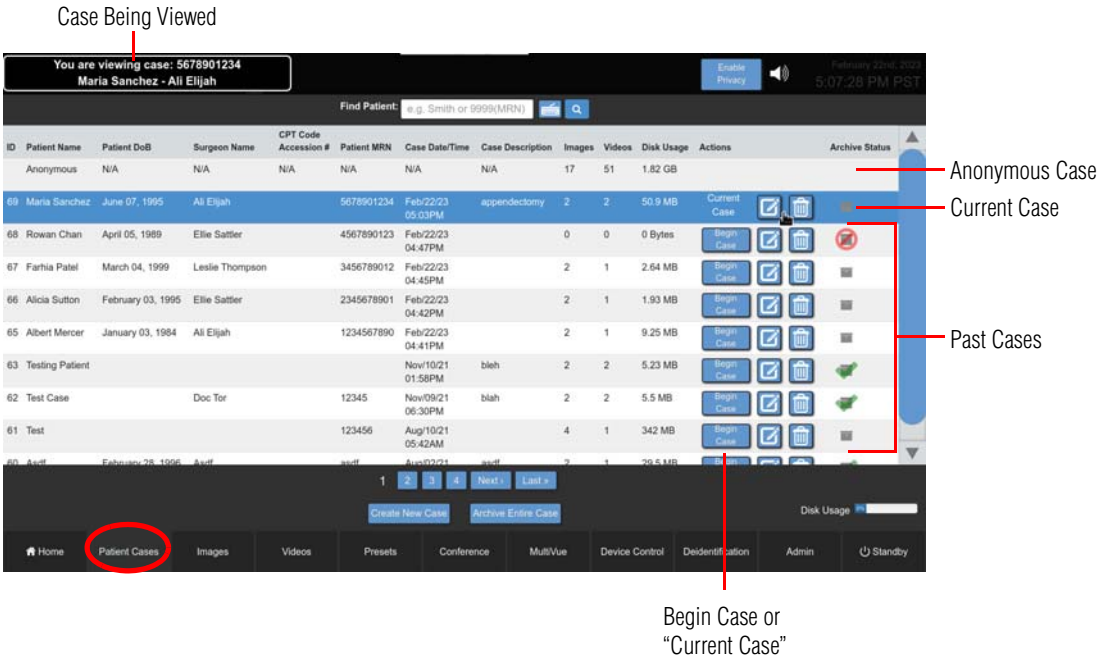

Figure 4-5. Patient Cases Screen

- If you take pictures or recordings without starting a case, the images are stored in the default Anonymous case at the top of the list.
- If you began a case with the **Begin Case** button at the top of the screen or the **Begin Case** button in the Patient Cases screen, the tag "Current Case" appears in that case's entry instead of the **Begin Case** button.

2. Click the case to view.

   The top of the screen displays the message “You are viewing case” and the case number.

   When you click the **Images** or **Videos** tab, the images and videos from that case are displayed and you see that case’s number at the top of the screen. However, any new images and videos you take are added to the current case.

To view the images and videos for the current case, click the **Patient Cases** tab, and click the case marked “Current Case.”

Viewing an Image

1. Click the **Images** tab.

   The images for the current viewing case appear.

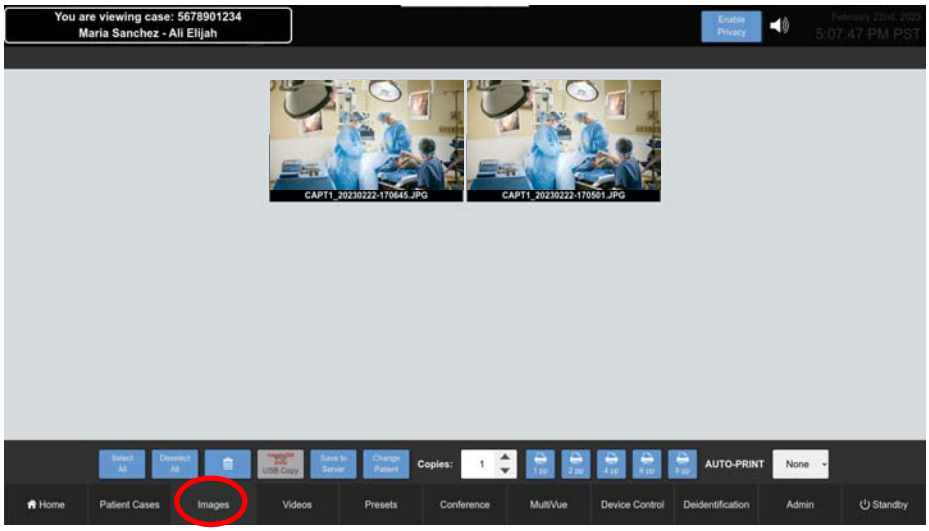

Figure 4-6. Images Screen

   Click the arrow buttons near the bottom of the screen to view more pages of images.

2. To view an image full-screen, click the full-screen icon in the upper right-hand corner of the image.

   Touch the screen again to exit full-screen mode.

Saving Images to a USB Drive

You may be able to copy images to a USB drive so you can view them elsewhere. You can use any of the following:

- A USB drive formatted as FAT, FAT32, or NTFS.
- A software-encrypted Kingston DataTraveler Vault - Privacy Edition drive with model number 04301-093.A00LF or 04331-162.A01LF. To set up a pass code for the drive, connect it to a PC and follow the instructions that appear.
- A hardware-encrypted USB drive such as the Aegis Apricorn. To set up a pass code for the drive, follow its instructions.

STERIS recommends using an encrypted USB drive for data protection

To copy images to the USB drive, do the following:

1. Insert a USB drive in the USB hub by the touch-screen display.

   If you're using a software-encrypted USB drive, enter its pass code at the touch panel. If you're using a hardware-encrypted USB drive, enter its pass code on the drive's keypad.

2. Click the **Images** tab
3. Select the images to copy.

   To select an image, click it.

   To select all images in the current viewing case, click **Select All**.

4. Click **USB Copy**, and then click **OK**.

   If the **USB Copy** button is not available, the USB hub may not support file copying. Try inserting the USB drive in a different hub.

   The touch panel displays a status window. as the system copies the images. Leave the USB drive inserted until it finishes.

5. When copying is complete, click **OK**.

Printing Images

You can choose to print selected images or to print images automatically as they're taken.

To print selected images

1. Click the **Images** tab.
2. Select the images to print.

   To select an image, click it.

   To select all images in the current viewing case, click **Select All**.

3. Select the number of copies to print from the **Copies** list.
4. To choose how many images to print per page and then print the images, click the **1 pp**, **2 pp**, **4 pp**, **6 pp**, or **8 pp** button (to print the images one per page, two per page, etc.).

   A message appears at saying the print job has been queued. Click **OK** to continue using the integration system.

   Status messages appear at the top of the screen showing the printing progress. To cancel the printing, click the **Cancel Printing** button in the status message. To hide a status message. click the X in the upper-right corner of the message. Closing a status message does not stop the printing.

To print images automatically as they're taken

1. Click the **Images** tab
2. Select how many images to print per page from the **Auto-Print** list: 1, 2, 4, 6, or 8.

   When that many images have been taken, they're printed.

To turn off automatic printing, select **None** from the **Auto-Print** list.

Saving Images to the HexaVue Connect Software Suite Server

You may be able to save images to the HexaVue™ Connect Software Suite server on your facility's internal network. You can view the media in the MediaVue page of your facility's HexaVue™ Connect Software Suite website. Ask your facility's OR integration support staff for details on how to access it.

1. Click the **Images** tab.
2. Select the images to save.

   To select an image, click it.

   To select all images in the current viewing case, click **Select All**.
3. Click **Save to Server**.

   If you do not see an **Save to Server** button, your integration system does not support this feature.

   The server copies the images from the integration system and stores them with all the other saved media from this case.

To save all of a case's media to the server, see "Saving a Case" on page 32. To save videos to the server, see "Saving Videos to the HexaVue™ Connect Software Suite Server" on page 50.

Sending Images to a Patient's EMR

You may be able to include images from a case in a patient's electronic medical record. Saving images to the EMR automatically saves them to the HexaVue™ Connect Software Suite server.

If case is anonymized, you can't include images from this case in the patient's EMR.

1. Click the **Images** tab.
2. Select the images to save.

   To select an image, click it.

   To select all images in the current viewing case, click **Select All**.
3. Press **Export to EMR**.

   If you do not see an **Export to EMR** button, your integration system does not support this feature.

   The HexaVue™ Connect Software Suite server copies the images from the integration system, and stores them with all the other saved media from this case. Then the server copies the videos to long-term storage and ensures they appear in the patient's record.



IMPORTANT:

If you press **Send to Server** after pressing **Export to EMR**, the selected images may not be sent to the patient's EMR.

Moving Images to a Different Patient Case

If you start the wrong case or forget to start a case before you start taking images, you can move images to a different patient case.

1. Click the **Images** tab.
2. Select the images to move.

   To select an image, click it.

   To select all images in the current viewing case, click **Select All**.
3. Click **Change Patient**.

   The Select Patient Case window appears.
4. Search for and then select the desired case.
5. Click **OK**.

To save videos to a different patient case, see "Moving Videos to a Different Patient Case" on page 51. To save the images to the server, see "Saving Images to the HexaVue Connect Software Suite Server" on page 46. To save the images to the server and include them in a patient's EMR, see "Sending Images to a Patient's EMR" on page 46.

Deleting Images

You can delete images that you don't need from the integration system. This does not delete images from the HexaVue™ Connect Software Suite server or the EMR.



IMPORTANT:

- This permanently deletes the images from the integration system. They cannot be restored or undeleted.
- After exporting images using **Send to Server** or **Send to EMR**, do not delete them from the integration system until you verify they're available on the HexaVue™ Connect Software Suite server. Deleting images that are being exported may result in an export failure.

1. Click the **Images** tab.
2. Select the images to delete.

   To select an image, click it.

   To select all images in the current viewing case, click **Select All**.
3. Click the Trash Can button.

   A dialog appears asking you to confirm the deletion.
4. Click **OK**.

Managing Videos

Here's how you can manage your captured videos:

- "Playing Video from a Patient Case" on page 48
- "Clipping a Video" on page 48
- "Capturing an Image from a Video" on page 49

- “Saving Videos to a USB Drive” on page 50
- “Saving Videos to the HexaVue™ Connect Software Suite Server” on page 50
- “Saving Videos to the EMR” on page 51
- “Moving Videos to a Different Patient Case” on page 51

For information on how to view videos from old cases, see “Choosing Which Case to View” on page 43

Playing Video from a Patient Case

1. Click the **Videos** tab.
2. Click a video file in the Videos list to play it.

   The video appears to the left and starts to play.

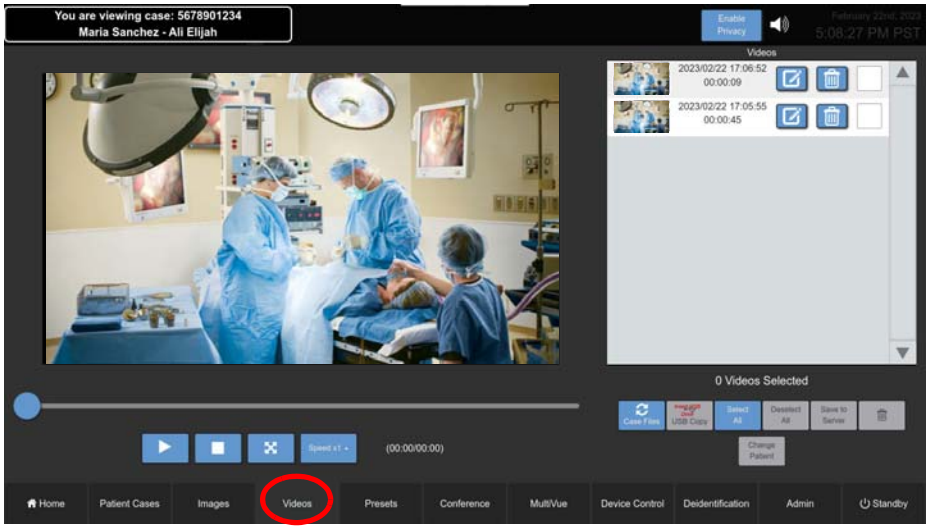

Figure 4-7. Playing Video from a Patient Case

Use the buttons below the video to pause, stop, rewind, or fast forward it. To increase the speed of rewinding or fast forwarding, click the button repeatedly.

To view a recording full-screen, click the preview screen. To return the video to its original size, click the screen again.

Clipping a Video

You can create shorter videos from a long one. For example, if you have an hours-long video of an entire procedure, you can create shorter videos highlighting the most important parts.

1. Click the **Videos** tab.

2. In the Videos list, click the **Pencil** button next to the video file to edit.

   The Edit Video File window appears.



Figure 4-8. Edit Video File Window

3. Drag the **Mark In** and **Mark Out** markers to choose the length of the segment.
4. Click the **Play Segment** button to review the segment.
5. Click **Save Segment and Close** to save the clipped video as a new video.

   The touch panel displays a status window as the video is saved. A long clip may take several minutes to save. You can use the touch panel when the operation completes.

   The original video is retained.

To save a video clip to the server, see “Saving Videos to the HexaVue™ Connect Software Suite Server” on page 50. To save a video clip to the server and include it in a patient’s EMR, see “Saving Videos to the EMR” on page 51.

Capturing an Image from a Video

You can take a snapshot of a video frame to add it to the case’s media. And if your facility supports exporting images to the EMR system, you can include the image in a patient’s record.

1. Select the **Videos** tab.
2. Click the **Pencil** button next to the video to edit it.

   The Edit Video File window appears.
3. Click **Play Segment**, or drag the end marker.
4. To capture the frame being displayed, click the **Camera** button.

   The captured image appears in the Images screen.

To save the image to the server, see “Saving Images to the HexaVue Connect Software Suite Server” on page 46. To save the image to the server and include it in the patient’s EMR, see “Sending Images to a Patient’s EMR” on page 46.

Saving Videos to a USB Drive

You may be able to copy videos to a USB drive so you can view them elsewhere. You can use any of the following:

- A USB drive formatted as FAT, FAT32, or NTFS.
- A software-encrypted Kingston DataTraveler Vault - Privacy Edition drive with model number 04301-093.A00LF or 04331-162.A01LF. To set up a pass code for the drive, connect it to a PC and follow the instructions that appear.
- A hardware-encrypted USB drive such as the Aegis Apricorn. To set up a pass code for the drive, follow its instructions.

STERIS recommends using an encrypted USB drive for data protection.

To copy videos to the USB drive, do the following:

1. Insert a USB drive in the USB hub near the touch-screen panel.

   If you're using a software-encrypted USB drive, enter its pass code at the touch panel. If you're using a hardware-encrypted USB drive, enter its pass code on the drive's keypad.
2. In the Videos list, select the check box to the right of each video to copy.
3. Click **USB Copy**, and then click **OK**.

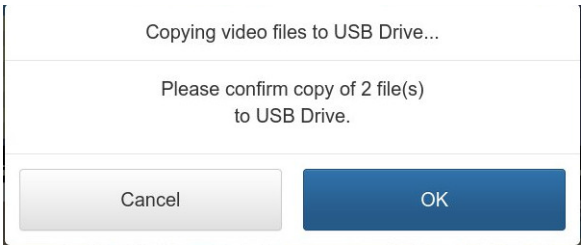

Figure 4-9. Copy to USB Window

   If the **USB Copy** button is not available, make sure you inserted the drive into the correct USB hub.

   The touch panel displays a status window as the system copies the videos, which cold take several minutes for long videos. Leave the USB drive inserted until it finishes.
4. When the copying is done, click **OK**.

Saving Videos to the HexaVue™ Connect Software Suite Server

You may be able to save videos from a case to the HexaVue™ Connect Software Suite server. You can view the media in the MediaVue page of your facility's HexaVue™ Connect Software Suite website. Ask your facility's OR integration support staff for details on how to access it.

1. Click the **Videos** tab.
2. In the Videos list, select the check box to the right of each video to save.
3. Click **Save to Server**.

   If you do not see an **Save to Server** button, your integration system does not support this feature.

The integration server reprocesses the videos, and the server copies the videos from the integration system and stores them with all the other saved media from this case.

You can continue to use the integration system while this process happens in the background. The videos are available on your facility's HexaVue™ Connect Software Suite server when the process is complete

To save all of a case's media to the server, see "Saving a Case" on page 32. To save images to the server, see "Saving Images to the HexaVue Connect Software Suite Server" on page 46.

Saving Videos to the EMR

You may be able to include videos from a case in a patient's electronic medical record. Saving videos to the EMR automatically saves them to the HexaVue™ Connect Software Suite server as well.

If the case is anonymized, you can't include videos from this case in the patient's EMR.

1. Click the **Videos** tab.
2. In the Videos list, select the check box to the right of each video to save.
3. Click **Export to EMR** to include the videos in the patient's EMR.

   If you do not see an **Export to EMR** button, your integration system does not support this feature.

   The integration server reprocesses the videos, and the HexaVue™ Connect Software Suite server copies the videos from the integration system, and stores them with all the other saved media from this case. Then the server copies the videos to long-term storage and ensures they appear in the patient's record.

   You can continue to use the integration system while this process happens in the background The videos are available on your facility's HexaVue™ Connect Software Suite server and EMR when the process is complete.



IMPORTANT:

If you press **Send to Server** after pressing **Export to EMR**, the selected videos may not be sent to the patient's EMR.

If a video is exported to the HexaVue™ Connect Software Suite Server but not to the patient's EMR, it may exceed your facility's maximum size for media that can be included in the EMR. Go to your facility's HexaVue™ Connect Software Suite website and break the video down into smaller sizes or capture images from it, and export those into the patient's EMR.

Moving Videos to a Different Patient Case

If you start the wrong case or forget to start a case before you started recording, you can move videos to a different patient case.

1. Click the **Videos** tab.
2. In the Videos list, select the check box to the right of each video to save.

3. Click **Change Patient**.

   The Select Patient Case window will appear.

4. Find the desired case and click it.
5. Click **OK** to move the selected videos to this case.



Figure 4-10. "Select Patient Case To Move Media To" Window

To save images to a different patient case, see "Moving Images to a Different Patient Case" on page 47. To save the videos to the server, see "Saving Videos to the HexaVue™ Connect Software Suite Server" on page 50. To save the videos to the server and include them in a patient's EMR, see "Saving Videos to the EMR" on page 51.

Deleting Videos

You can delete videos that you don't need from the integration system. This does not delete videos on the HexaVue™ Connect Software Suite server or the EMR system.

IMPORTANT:

- This permanently deletes the videos from the integration system. They cannot be restored or undeleted.
- After exporting videos using **Send to Server** or **Send to EMR**, do not delete them from the integration system until you verify they're available on the HexaVue™ Connect Software Suite server. Deleting videos that are being exported may result in an export failure.

To delete a single video

1. Click the **Videos** tab.
2. In the Videos list, click the Trash Can icon to the right of the video to delete.

   When your asked to confirm, click **OK**.

To delete multiple videos

1. Click the **Videos** tab.
2. In the Videos list, select the check box to the right of each video to delete.
3. Click the Trash Can button below the Video list.

   A dialog appears asking you to confirm the deletion.

4. Click **OK**.

If you see Signature Suite controls in the Presets screen, you can help a patient relax by playing soothing audio and video within the OR.

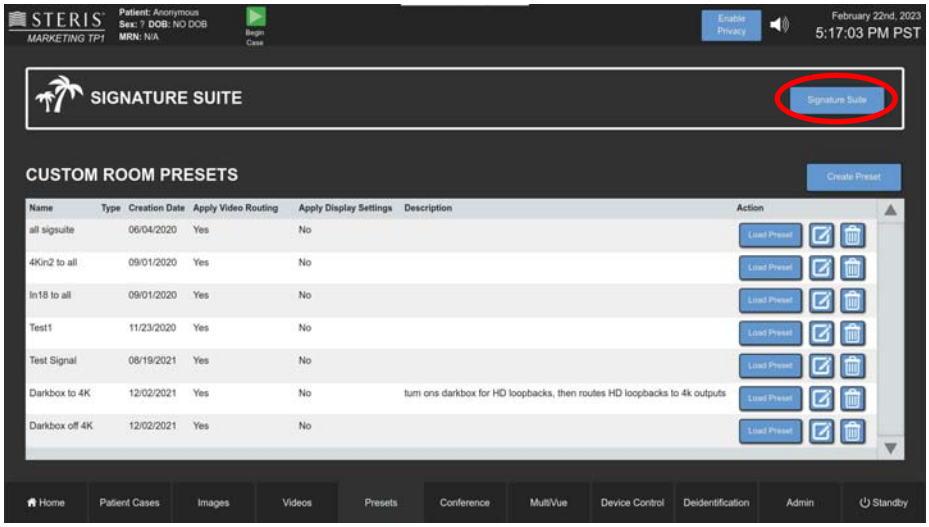

Figure 5-1. Signature Suite Multimedia Button

1. Click the **Presets** tab.
2. Click **Signature Suite**.

   The Signature Suite window appears.



Figure 5-2. Signature Suite Multimedia Scene Selection Menu

3. Choose a Signature Suite scene.

   The scene's audio is played on the room's speakers, and the scene's video appears on all displays in the room. A Signature Suite Active alert appears at the top of the touch-panel display.

To stop Signature Suite, click the **End** button in the Signature Suite Active alert.

If you see a Checklist button on the top of the screen during a case, you can review a checklist of items to do before, during, and after a procedure. And you may be able to use a count board to keep count of the items you enter and remove from the field of operation.

Using the Checklist

To use the checklist:

1. Click the Checklist button at the top of the screen.

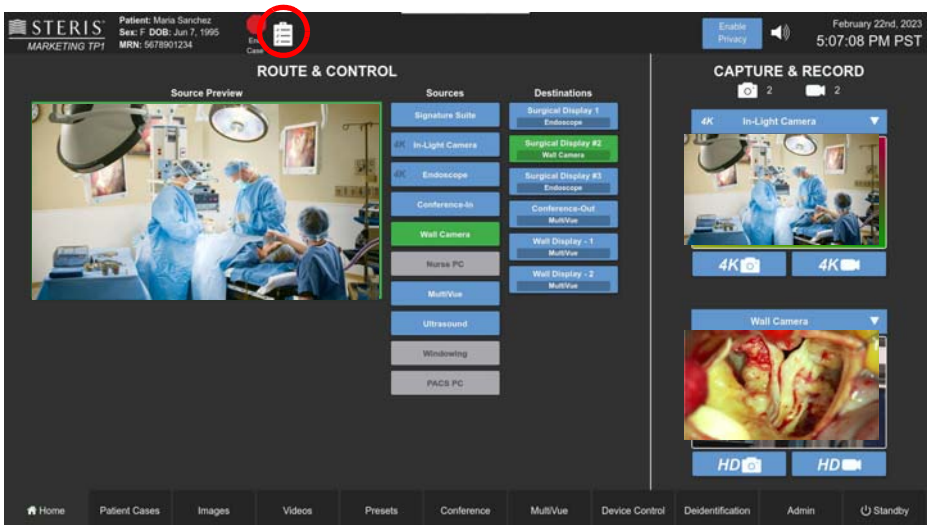

Figure 6-1. Checklist Icon on Home Screen

2. Click the tab for the checklist to complete, **Checkin**, **Timeout** or **Checkout**.

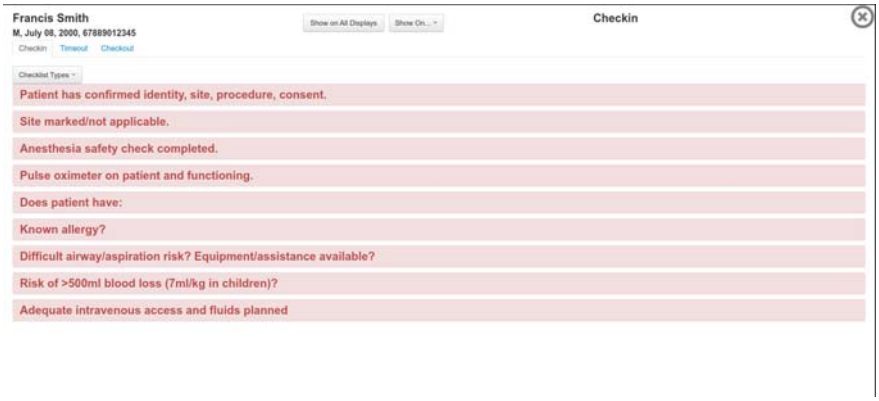

Figure 6-2. Checklist

3. To display the checklist on a display, select the display from the **Show On** list, or select **Show on All Displays**.

4. Touch a red line item to check it off the list.

   The line turns green.

5. To print the checklist, press **Print**.

To close the checklist, click the **X** in the upper right-hand corner of its window.

Using the Count Board

If there's a Checklist button at the top of the screen and if the window it displays contains a **Count Board** tab, you can use it to keep count of the items you bring into and remove from the field of operation.

This feature is for sharing the count with others in the operating room. It's not intended to be the primary method for counting.

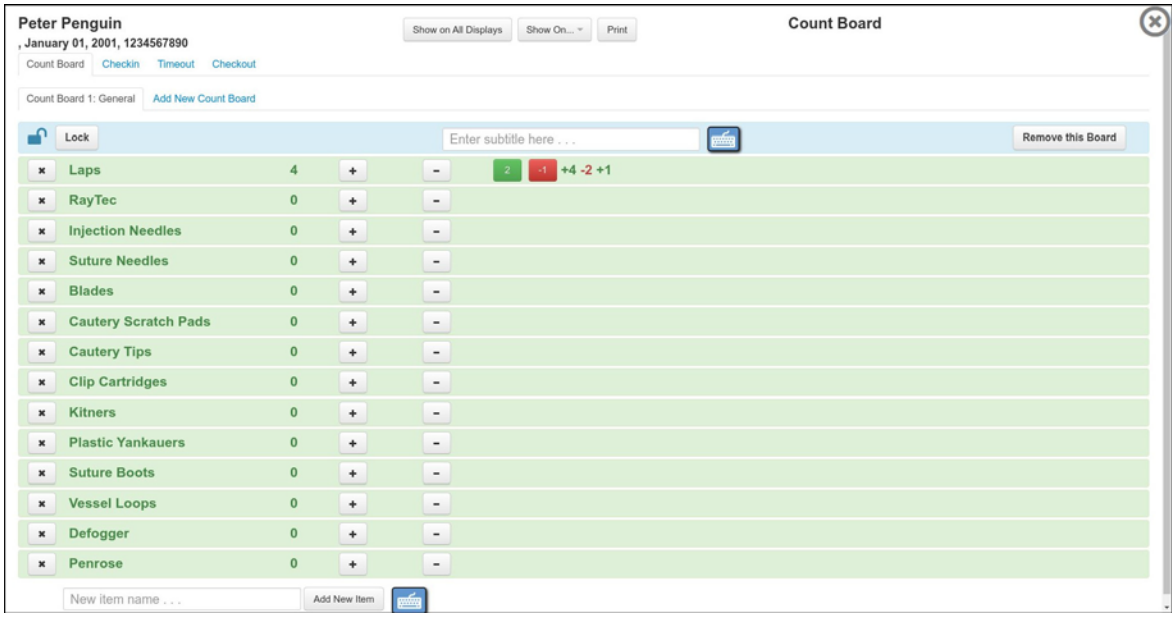

Figure 6-3. Count Board Screen

Each line displays a type of item, the total number of items of that type in the field, and a running history of its additions and removals. Here's an example:

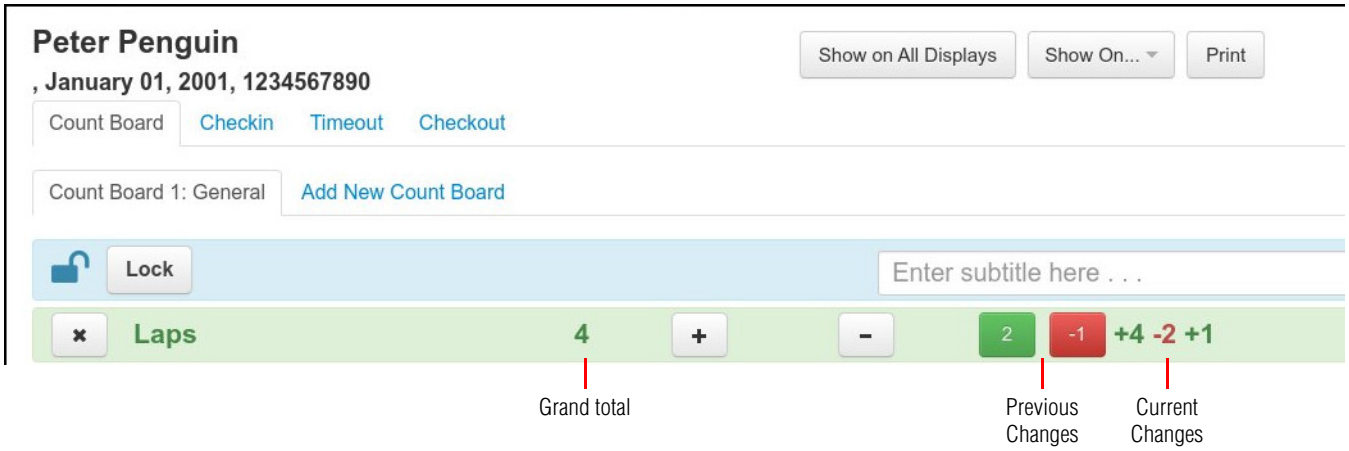

Figure 6-4. Count Board Screen, Closeup

- **Grand Total**: The total number of items currently in the field of operation.
- **Previous Changes**: The number of items added or removed from the field during the previous times the board was unlocked.

  In this example, a two items were added when the board was first unlocked , and one item was removed when the board was next unlocked.
- **Current Changes**: The number of items added or removed since the board was last unlocked. If the board were locked now, the "+4 -2 +1" would be replaced by a "3" in a green square.

Creating the Count Board

At the start of the procedure, create a new count board.

1. Click the Checklist button at the top of the screen.
2. Click the **Count Board** tab.
3. Create a new count board by clicking the type of count board.

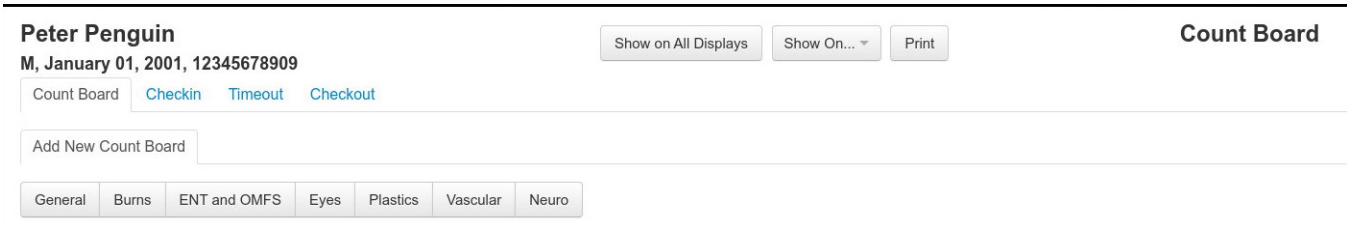

Figure 6-5. Count Board Choices

The new Count Board appears.

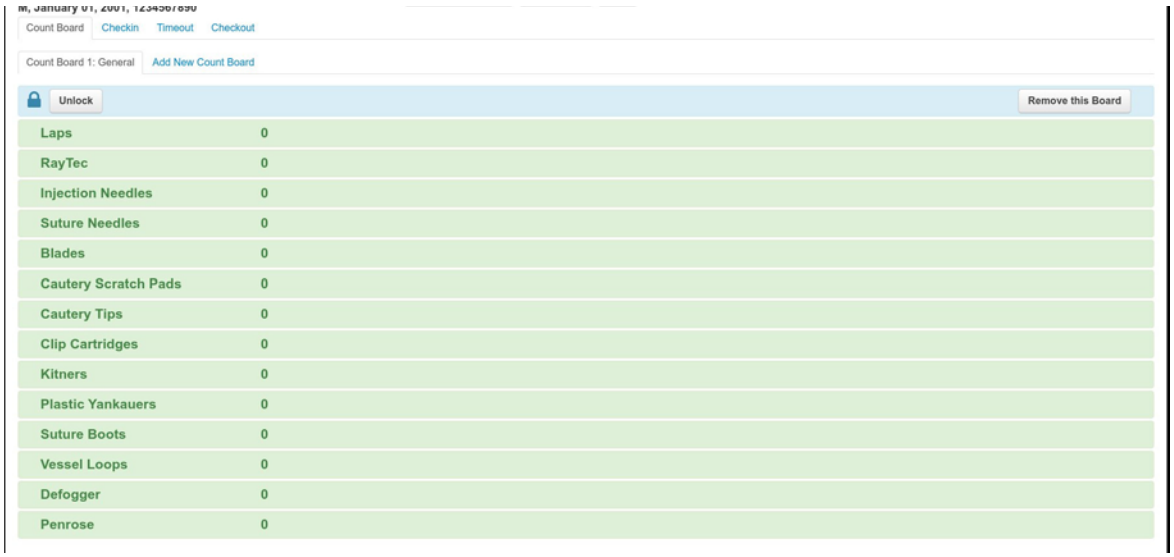

Figure 6-6. Locked Count Board

4. To update the count board, click **Unlock**. See “Updating the Count Board” on page 58.

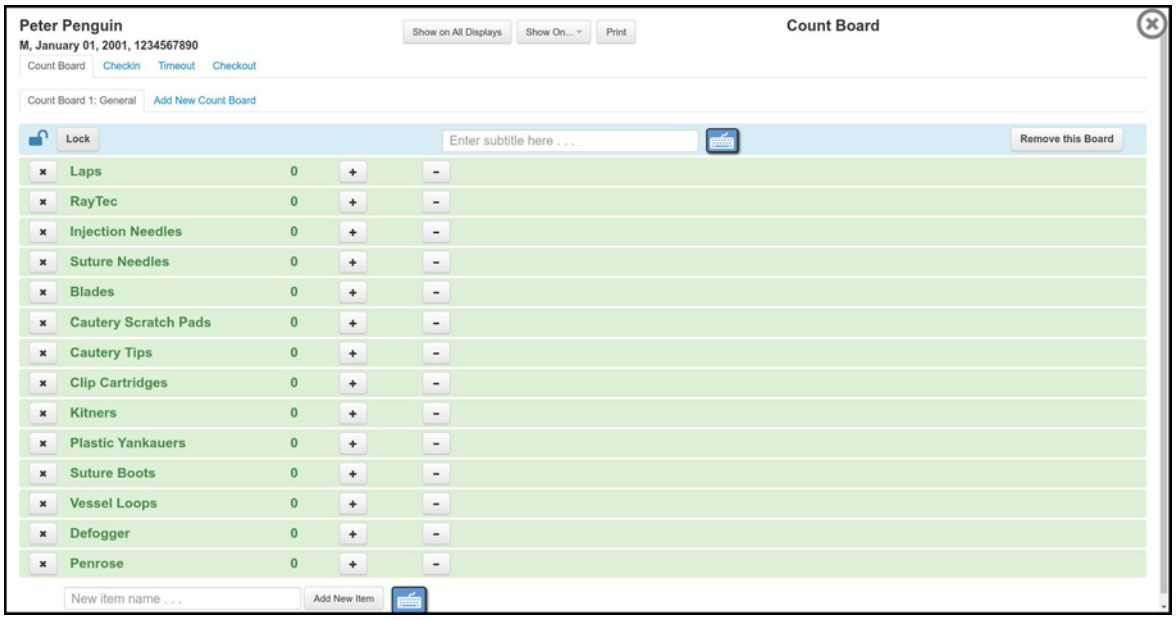

Figure 6-7. Unlocked Count Board

To give the count board a name, enter name in the **Enter a subtitle here** field.

Updating the Count Board

As you add and remove items from the field of operation, update the count board.

1. If the count board isn’t visible, click the Checklist button at the top of the screen and then click the count board’s tab.

2. Click **Unlock**.
3. During the procedure, update the number of items in the field of operation:.
   - When you enter an item to the field, click **+** beside its name, enter the number being added, and click the checkmark.

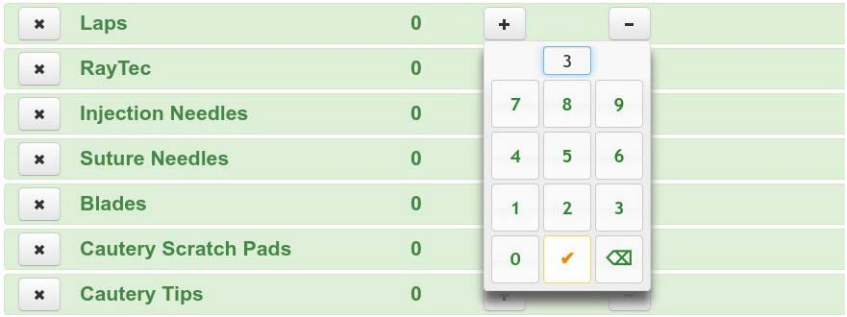

Figure 6-8. Adding an Item

The number entered is added to the history of the item's count, and the the total is updated.

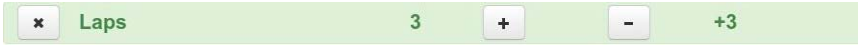

Figure 6-9. Item Added

- When you remove an item from the field, click **–** beside its name, enter the number being removed, and click the checkmark



Figure 6-10. Removing an Item

The number entered is subtracted from the history of the item's count, and the grand total is updated.

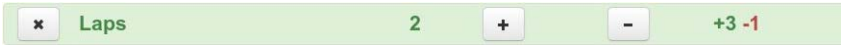

Figure 6-11. Item Removed

- To remove a type of item from the list, click **X** beside its name.

  When you're asked if you're sure you want to remove it, click **OK**.
- To add an new type of item to the list, enter its name in the field at the

bottom of the screen and then click **Add New Item**.

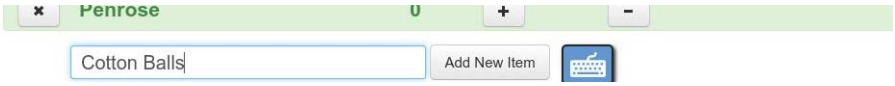

Figure 6-12. Adding a New Type of Item

- To display the count board on a specific display, select the display from the **Show On** list. To display the count board on all displays in the room, click **Show on All Displays**.

4. When you've finished updating the count board, lock it .
   - To lock the count board, click **Lock**.

     The running histories of each item are replaced with the number added or removed since the board was last unlocked.

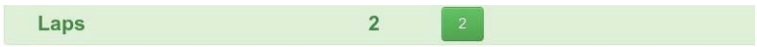

Figure 6-13. Count Board Item Locked

- To lock and close the count board, click the X on the upper right corner.

Device Control

7

HexaVue™ Integration Systems and HexaVue™ IP Integration Systems let you control devices directly from its touch screen. For example, you can focus and move a camera, turn surgical lights on and set their brightness, or turn off surgical displays when the system goes into standby mode. To control these devices, click the **Device Control** tab at the bottom of the screen.

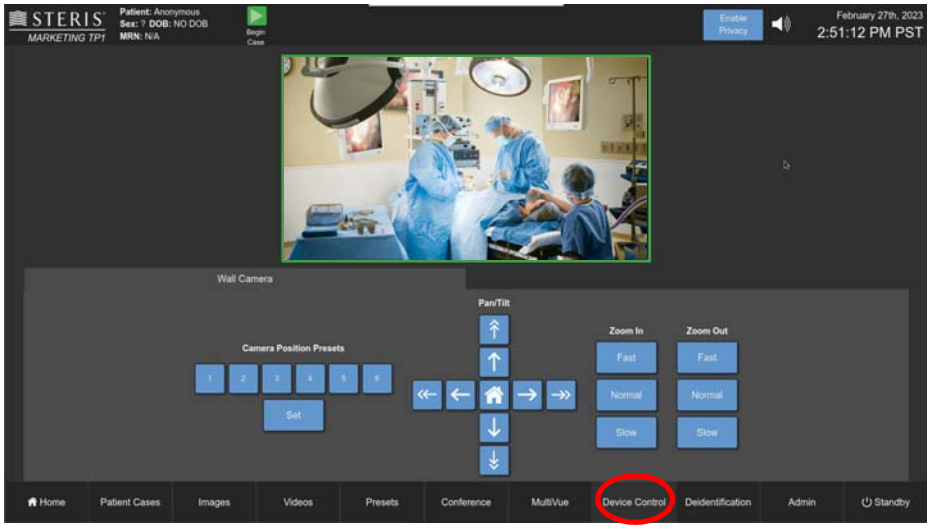

Figure 7-1. Device Control Screen

Here are the devices you may be able to control from the Device Control screen.

- “Controlling a HarmonyAIR™ M/G/E Series Surgical Lighting System” on page 62
- “Controlling a STERIS XLED Surgical Lighting System” on page 64
- “Controlling the Lutron Room Lights” on page 66
- “Controlling the STERIS HD Free5™ Camera Series” on page 67
- “Controlling the Wall Camera” on page 68
- “Turning Displays On or Off” on page 69

If you see a tab for STERIS Lights at the bottom of the screen, your system can control the room’s HarmonyAIR™ A-Series Lights and in-light camera (if available). For more information on those controls, see their documentation. They are similar to the control panel that’s part of the lighting system.

What appears on the Device Control screen depends on what’s connected to your integration system. The controls you see on your integration system may be different depending on how that device is configured.

Controlling a HarmonyAIR™ M/G/E Series Surgical Lighting System

If a tab for HarmonyAIR™ M/G/E Series Lights appears on the Device Control screen, you can adjust its surgical and ambient lights.



Figure 7-2. HarmonyAIR™ M/G/E Series Light Control

You may not see all these controls on your Device Control screen depending on how the lights are configured.

Adjusting the Lights

Adjusting the Surgical Lights

Each surgical light has its own control that lets you turn the light on or off and adjust its brightness.

1. Click **Device Control**, and then click the tab for the HarmonyAIR™ lights.
2. To adjust the lights, do the following:
   - To turn an individual light on or off, use the On/Off (⏻/⏻) buttons in the light's numbered section.
   - To turn all the lights on or off at once, use the On/Off (⏻/⏻)buttons in the All Lights section.
   - To adjust an individual light's brightness, use the **+** (Plus) and **–** (Minus) buttons in the light's numbered section,

     To adjust the light to its maximum brightness, click **Max**. To adjust the light to its minimum brightness without turning it off, click **Min**.
   - To adjust the brightness of all the lights at once, use the **+** (Plus) and **–** (Minus) buttons in the All Lights section,

     To adjust all the lights to their maximum brightness, click **Max**. To adjust all the lights to their minimum brightness without turning it off, click **Min**.

Adjusting the Ambient Lights

If the system include ambient lights, you can control them from the **Ambient Light** control:



Figure 7-3. Ambient Light Control

- To turn the ambient lights on or off, set the control to **On** or **Off**.

  If you can't turn it on, then one or more of the surgical lights is on. You must turn off all the surgical lights before you can turn on the ambient light.

- To turn the ambient lights on or off automatically, set the control to **Auto**. The ambient lights turn on when none of the surgical lights are on, and they turn off if any of the surgical lights are on.

The state of the ambient light control shown on the Device Control screen may be different from the one shown on the lighting system's touchscreen.

HarmonyAIR™ M/G/E Series In-Light Camera

If a tab for HarmonyAIR™ M/G/E Series In-Light Camera appears on the Device Control screen, you can adjust it's focus, zoom level, exposure, or and rotation.



Figure 7-4. HarmonyAIR™ M/G/E Series In-Light Camera Controls

- To turn the camera on and off, use the **Power** buttons**.**
- To rotate the camera lens counter-clockwise or clockwise, use the **Rotation** buttons.

- To make the image bigger or smaller, use the **Zoom** buttons. To get a close-up shot, use the **+** (Plus) button. To get a distance shot, use the **–** (Minus) button.
- To change the size of the camera's iris and make the image brighter or darker, use the Exposure buttons. To change the brightness automatically, turn on **Auto**. To manually change the brightness, turn on **Man** and use the **+** (Plus) and **–** (Minus) buttons.
- To make the image sharper, use the **Focus** buttons. To focus the camera automatically, turn on **Auto**. To manually focus the camera, turn on **Man** and use the **+** (Plus) and **–** (Minus) buttons.

Controlling a STERIS XLED Surgical Lighting System

If a tab for STERIS XLED Surgical Lighting System appears on the Device Control screen, you can adjust its surgical and ambient lights.



Figure 7-5. STERIS XLED Surgical Lighting System Controls

You may not see all these controls on your Device Control screen depending on how the lights are configured.

Adjusting the Lights

Each surgical light has its own control that lets you turn the light on or off and adjust its brightness.

- Click **Device Control**, and then click the tab for the STERIS XLED lights.

  To turn the surgical lights on and off:

  - To turn an individual surgical light on or off, use the On/Off (⏻/⏻) buttons in the light's numbered section.
  - To turn all the surgical lights on or off at once, use the On/Off (⏻/⏻)buttons in the All Lights section.

To adjust the brightness of the surgical lights

- To adjust an individual surgical light's brightness, use the **+** (Plus) and **–** (Minus) buttons in the light's numbered section.

  To adjust the surgical light to its maximum brightness, click **Max**. To adjust the surgical light to its minimum brightness without turning it off, click **Min**.

- To adjust the brightness of all the surgical lights at once, use the **+** (Plus) and **–** (Minus) buttons in the All Lights section.

  To adjust all the surgical lights to their maximum brightness, click **Max**. To adjust all the lights to their minimum brightness without turning it off, click **Min**.

To adjust the color temperature for all the surgical lights:

- Use the Color Temperature buttons: **3500**, **4000**, **4500**, and **5000**.

To turn the ambient lights on and off:

- To turn on or off an ambient light in an individual surgical lighthead, use the Ambient Light **On**/**Off** buttons in the lighthead's numbered section.
- To turn on or off all the ambient lights, use the Ambient Light **On**/**Off** buttons in the All Lights section.

Using the In-Light Camera

If a tab for STERIS XLED In-light Camera appears on the Device Control screen, you can adjust it's focus, zoom level, exposure, or and rotation.



Figure 7-6. STERIS XLED In-light Camera Controls

- To turn the camera on and off, use the **Power** buttons**.**
- To rotate the camera lens counter-clockwise or clockwise, use the **Rotation** buttons.
- To make the image bigger or smaller, use the **Zoom** buttons. To get a close-up shot, use the **+** (Plus) button. To get a distance shot, use the **–** (Minus) button.

- To make the image brighter or darker, use the Brightness buttons. To change the brightness automatically, turn on **Auto**. To manually change the brightness, turn on **Man** and use the **+** (Plus) and **–** (Minus) buttons.
- To make the image sharper, use the **Focus** buttons. To focus the camera automatically, turn on **Auto**. To manually focus the camera, turn on **Man** and use the **+** (Plus) and **–** (Minus) buttons.
- To change the camera's white balance, use the buttons in the White Balance section. To change the white balance automatically, click the White Balance  button. To set the white balance manually, click **Set WB**.
- To freeze the camera's display on the current frame, use the Freeze buttons. To freeze the display on the current image, click Pause. To continue showing live video from the camera, click Play.

To save a camera preset

1. Set up the camera as you want it.
2. In the Set Presets section, press 1 or 2.

   The camera's settings are saved to the selected preset.

To recall a camera preset

- In the Recall Presets section, press the number (1 or 2) for the preset.

  The saved settings are applied to the camera.

Controlling the Lutron Room Lights

If a tab for Lutron Room Lights appears on the Device Control screen, you can choose from up to four pre-programmed scenes

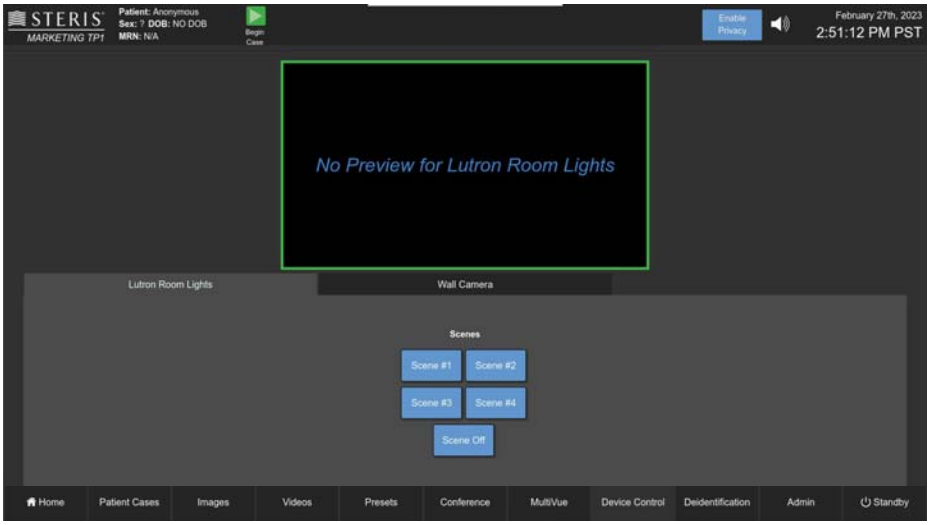

Figure 7-7. Lutron Room Lights

- To select a scene, click **Scene #1**, **Scene #2**, **Scene #3**, or **Scene #4**.
- To turn the scene off again, click **Scene Off**.

Controlling the STERIS HD Free5™ Camera Series

If a tab for a STERIS HD Free5™ Camera appears on the Device Control screen, you can position it, focus it, and control its brightness.



Figure 7-8. STERIS Free5™ Camera System

If your system has a STERIS Free5™ Camera System, use these controls to adjust it.

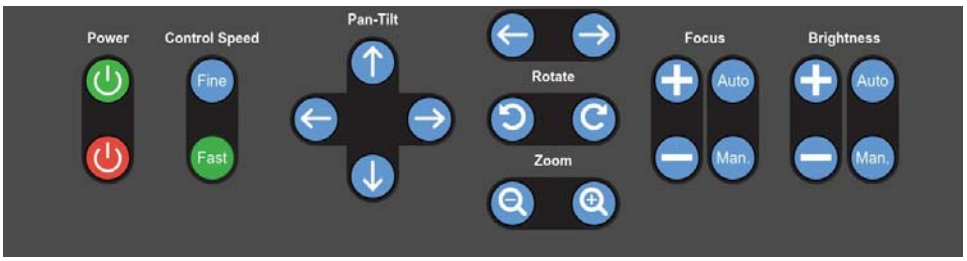

Figure 7-9. STERIS Free5™ Camera System Controls

- To turn the camera on and off, use the **Power** buttons**.**
- To choose how quickly the **Pan-Tilt** and **Pivot** buttons move the camera, use the **Control Speed** buttons, called **Fine** and **Fast**.
- To change the direction the camera is pointing, use the **Pan/Tilt** buttons. You can move the camera left, right, up, and down.
- To rotate the camera lens counter-clockwise or clockwise, use the **Rotate** controls.
- To rotate the entire camera housing left or right, use the **Pivot** controls.
- Use the **Zoom** controls to make the image bigger or smaller. To get a close-up shot, use the **+** (Plus) button. To get a distance shot, use the **–** (Minus) button.

- To make the image sharper, use the **Focus** controls.

  To focus the camera automatically, turn on **Auto**.

  To manually focus the camera, turn on **Man** and use the **+** (Plus) and **–** (Minus) buttons.

- To change the size of the camera's iris and make the image brighter or darker, use the **Brightness** controls.

  To change the brightness automatically, turn on **Auto**.

  To manually change the brightness, turn on **Man** and use the **+** (Plus) and **–** (Minus) buttons.

Controlling the Wall Camera

If a **Wall Camera** tab appears on the Device Control screen, you can position it and zoom it in and out.



Figure 7-10. Wall Camera Controls

You may not see all these controls on your Device Control screen depending on how the camera is configured.

Zooming the Wall Camera

1. Click the **Device Control** tab and then click the tab for the wall camera.
2. Use the buttons in the Zoom In section to make the image appear closer, and use the buttons in the Zoom Out section to make the make the image appear further away.

   The names of the buttons, **Fast**, **Normal**, and **Slow**, tell you how quickly they change the zoom level.

Panning and Tilting the Wall Camera

1. Click the **Device Control** tab and then click the tab for the wall camera.
2. Press the Pan/Tilt arrow buttons to pan or tilt.

   The buttons with two arrows move the camera quicker than the buttons with one arrow.

To return the camera to the original position, press the Home  button.

Saving and Recalling Camera Settings

You can save the zoom and camera pan settings to a preset so you can recall them later.

To save a camera preset

1. Click the **Device Control** tab and then click the tab for the wall camera.
2. Zoom and pan as desired.

   See “Zooming the Wall Camera” on page 68 and “Panning and Tilting the Wall Camera” on page 69.
3. In the Camera Positions Presets section, press **Set** and then press a preset button from **1** to **6**.

   The camera pan and zoom settings are saved to the selected preset.

To recall a camera preset

1. Click the **Device Control** tab and then click the tab for the wall camera.
2. In the Camera Positions Presets section, press the number (from **1** to **6**) for the preset.

   The saved pan and zoom settings are applied to the wall camera.

Turning Displays On or Off

When you put an integration system into standby mode, it turns off all supported surgical displays. And when you wake the integration system, it turns them on again. You can turn on or off all supported displays at once, but not individually.

For more information on how to place the system into standby mode, see “Wait for the Home screen to appear on the touch-panel display.Placing the Integration System Into Standby Mode” on page 16.

If you see a MultiVue tab at the bottom of the screen, you can view up to four sources on one display, and in some cases up to eight sources.

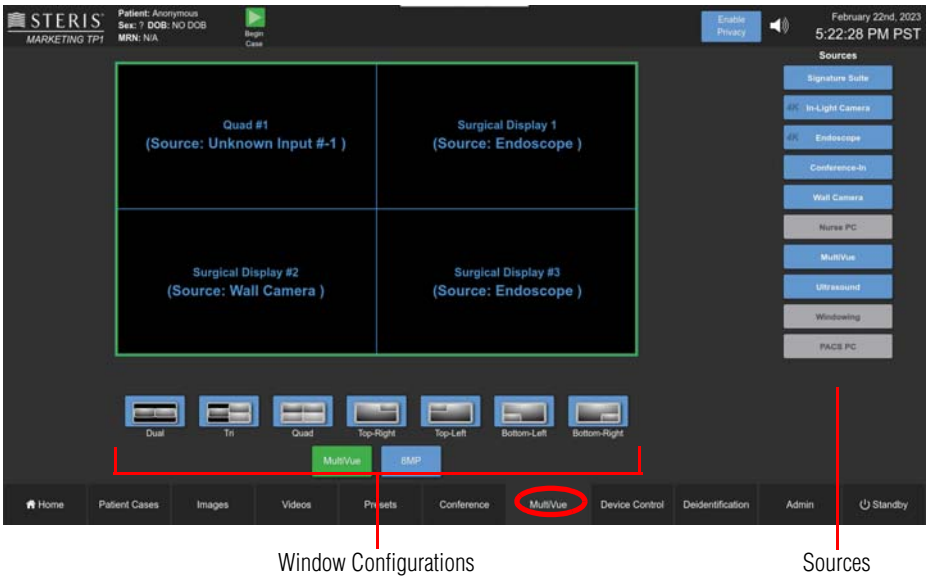

Figure 8-1. MultiVue Screen

Setting Up a MultiVue Layout

1. Click the **MultiVue** tab.
2. If you see two buttons at the bottom of the screen, choose which MultiVue layout to set up.

   One layout may let you view more sources on a display than the other.
3. Select a configuration from the list of configurations.
4. For each window in the layout, select a source:
   a. Click a source from the Source list on the right of the screen.
   b. Click one of the window panes in the preview.

      The video from that input is now displayed in that pane.

Routing a MultiVue Layout to a Destination

If the Home screen's Source list contains buttons with the same names as the buttons at the bottom of the **MultiVue** screen, you can route those MultiVue sources to destinations.

1. Click the **Home** tab.
2. Click a button in the Source list with the same name as a button at the bottom of the MultiVue screen, and then click a button in the Destinations list.

Note that layouts that can display 8 sources are automatically routed to a dedicated 8MP monitor without your needing to route it. If there's a button in the Source list for that layout, you can also route it to another monitor. When you route it to a monitor that doesn't support 8MP, the image is downscaled.

Presets

9

You can save video routing and display settings as a preset so you can recall them later.

Creating a Preset

1. Route sources to destinations and set up your displays as desired.

   To route sources, see ""Routing a Source to a Destination" on page 21".

   To set up the displays, use the controls on the display or ask your administrator to set them up as you want them.

2. Click the **Presets** tab.

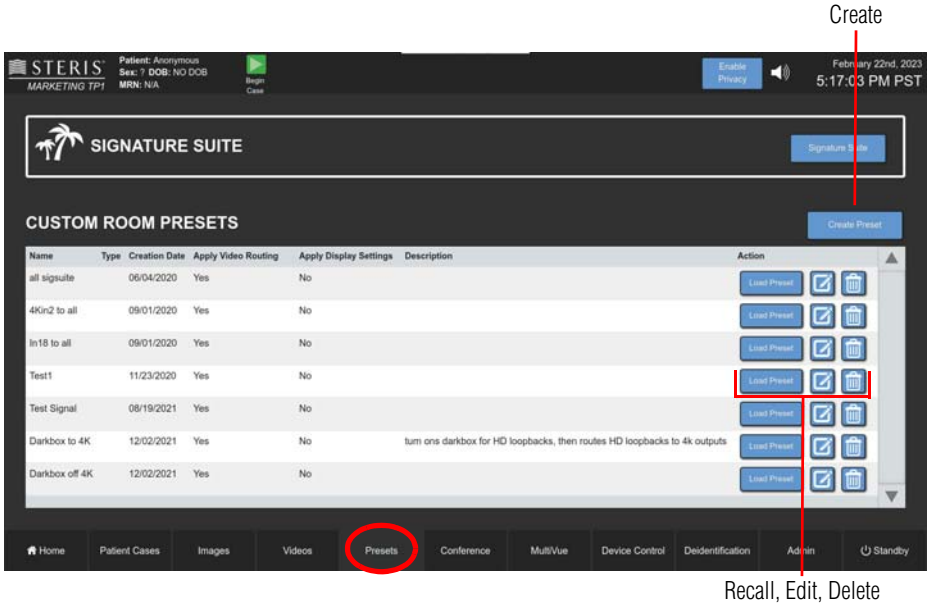

Figure 9-1. The Presets Screen

You may see buttons for Signature Suite on this screen, which lets you play soothing video and audio in the operating room before a procedure starts. For more information, see "Signature Suite" on page 53.

3. Click **Create Preset**.

   The New Preset window appears.f

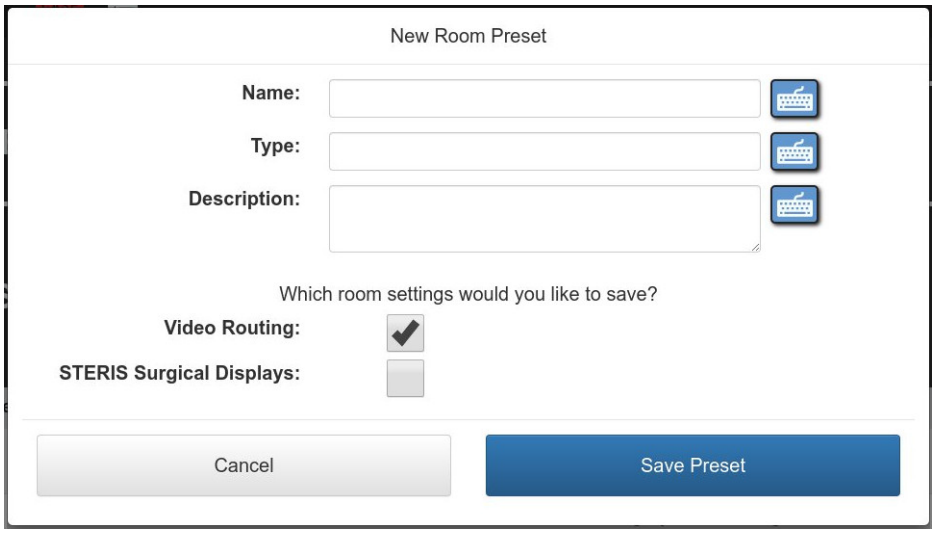

Figure 9-2. New Preset Window

4. Enter the preset's name and description,

   Click a field to select it. Click the keyboard icon to use the on-screen keyboard.

   The fields can contain any text you want. For example, **Name** could be the doctor's name, **Type** could be the type of procedure, and **Description** could be any additional information about the preset you'd like to add.

5. Choose what settings to apply when the someone loads the preset later.

   To apply the video routing settings, select **Video Routing**. To apply monitor settings, select **STERIS Surgical Displays**.

   Even if you choose not to apply a particular set of settings, the settings are saved to the preset, and you can choose to apply them later by editing the preset.

6. When you're done, click **Save Preset**.

Loading a Preset

You can load a preset to implement its video routing settings.

1. Click the **Presets** tab.

   The list of presets appears. If a preset's entry says **Yes** under **Apply Video Routing**, the preset changes the video routing settings for the integration system. If a preset's entry says **Yes** under **Apply Display Settings**, the preset changes the settings for all the displays connected to the integration system.

2. Click the **Load Preset** button next to the preset to load.

   The Recall Preset window appears.

3. Click **OK**.

Editing a Preset

You may edit the name, type, or description of a preset, and which of its settings are applied.

1. Click the **Presets** tab.
2. Click the pencil button next to the preset you would like to edit.

   The Edit Preset window appears.

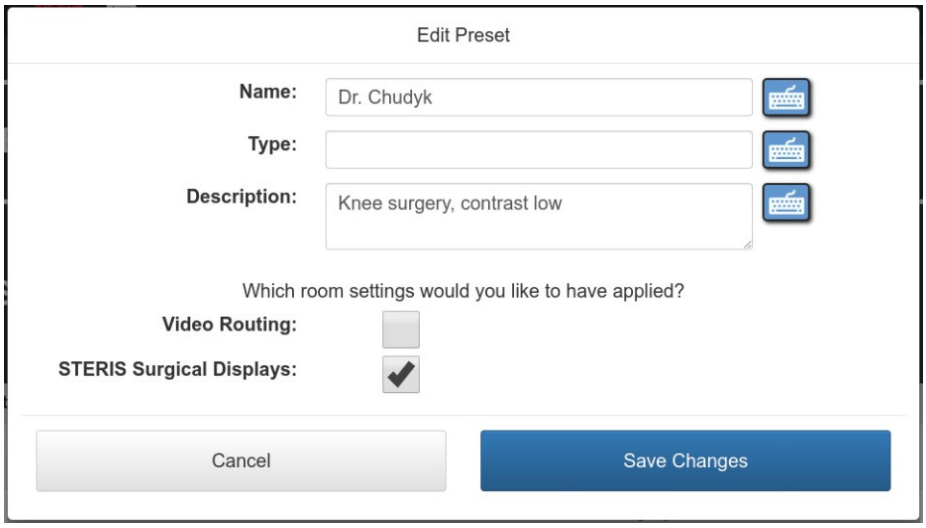

Figure 9-3. Edit Preset Window

3. Enter the preset's name and description,

   Click a field to select it. Click the keyboard icon to use the on-screen keyboard.

   The fields can contain any text you want. For example, **Name** could be the doctor's name, **Type** could be the type of procedure, and **Description** could be any additional information about the preset you'd like to add.
4. Choose what settings to apply when someone loads the preset later.

   The preset contains the video routing and display settings that were current at the time the preset was created. You can choose which of those settings to apply when someone loads the preset.

   To apply the video routing settings, select **Video Routing**. To save monitor settings, select **STERIS Surgical Displays**.
5. When you're done, click **Save Changes**.

Deleting a Preset

1. Click the **Presets** tab.
2. Click the **Trash Can** button next to the preset to delete.
3. Click **OK**.

Deidentification

10

If you see a Deidentification tab at the bottom of the screen, you can deidentify a source to hide identifying details, such as a patient's face, with a black box. Deidentification is helpful when you're sharing video with people outside the operating room with video conferencing or streaming.

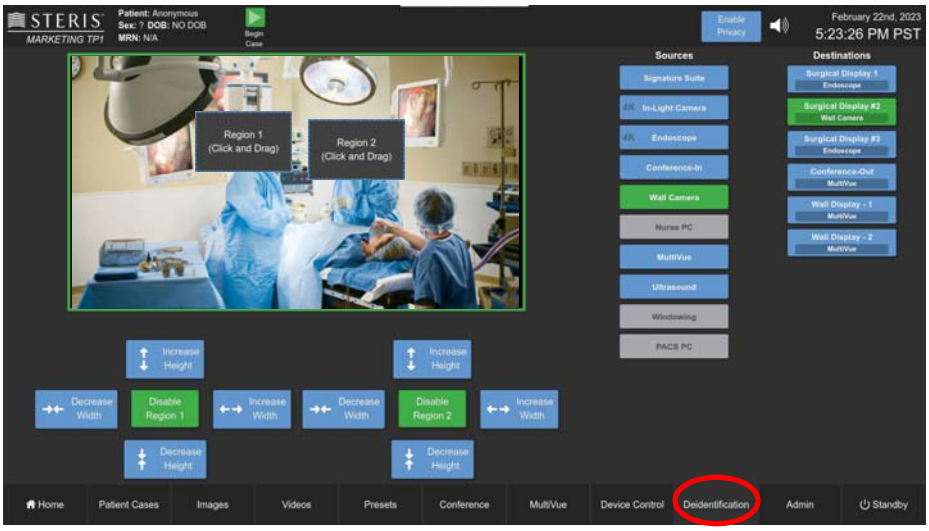

Figure 10-1. Deidentification Screen

You can deidentify only one source at a time and that source can have only two deidentifying black boxes.

Deidentifying a Source

1. Click the **Deidentification** tab.
2. In the Source column, click the Source button for the source to deidentify.
3. Deidentify up to two regions.
   a. Click the **Enable Region 1** or **Enable Region 2** button.

      A black box appears in the Source Preview.

   b. Move and resize the black box so it hides the identifying detail.
      - To move the box, drag it.
      - To change the size of the box, use the **Increase Height**, **Decrease Height**, **Increase Width**, and **Decrease Width** buttons.

Routing and Capturing a Deidentified Source

To preserve the deidentifying black boxes when routing or capturing a source, you must route the source from the Deidentification screen. If you route the source from the Home or Conference screen, the black boxes don't appear.

To route a deidentified source to a destination, such as streaming or video conferencing:

- In the Deidentification screen, click the destination's button in the Destinations list.

To capture images and video with the deidentifying black boxes:

1. In the Deidentification screen, select one of the Capture/Record buttons in the Destinations list.
2. Click **Home**, find the Video Capture Preview on the right side of the screen that shows the black boxes, and use the Camera and Video buttons that are below that preview.

Removing the Deidentification Boxes

To remove the deidentification boxes from a destination:

- In the Deidentification screen, click the **Disable Region 1** and **Disable Region 2** buttons, and then click the destination's buttons in the Destination list.

Telestration

11

If a HexaVue™ Integration System or HexaVue™ IP Integration System supports telestration, you can add annotations to a live video feed or saved images. As you're annotating the video or images, you can display them on surgical monitors and other video outputs, such as teleconferencing or streaming video.

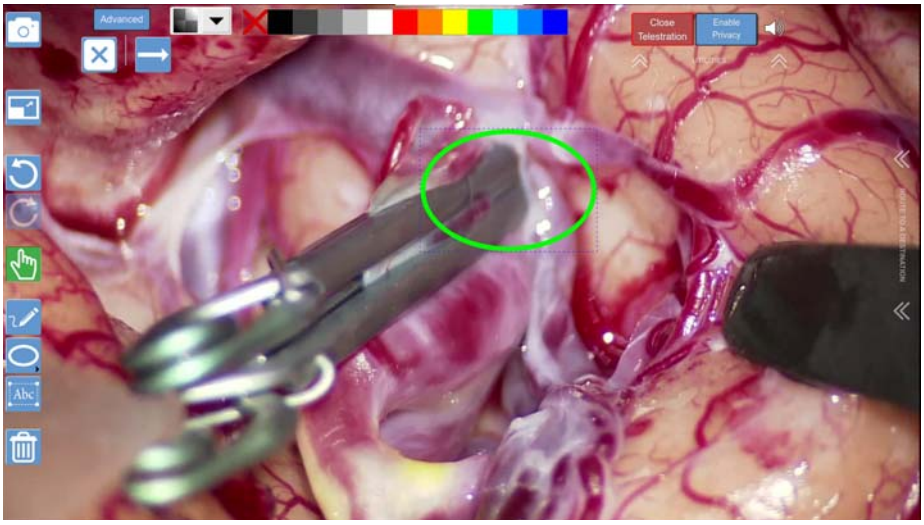

Figure 11-1. Telestration Tools

If you see an **Open Telestration** button when you're viewing an image or video in full-screen mode, you can annotate it.

Telestrating on Live Video

You can add annotations to a live video feed and display the video with its annotations on surgical monitors and other video outputs, such as teleconferencing or streaming video.

1. Click the **Home** tab.
2. Select the source in the Sources list.
3. Click the Source preview to go full-screen mode.

4. Click **Open Telestration** on the top of the screen

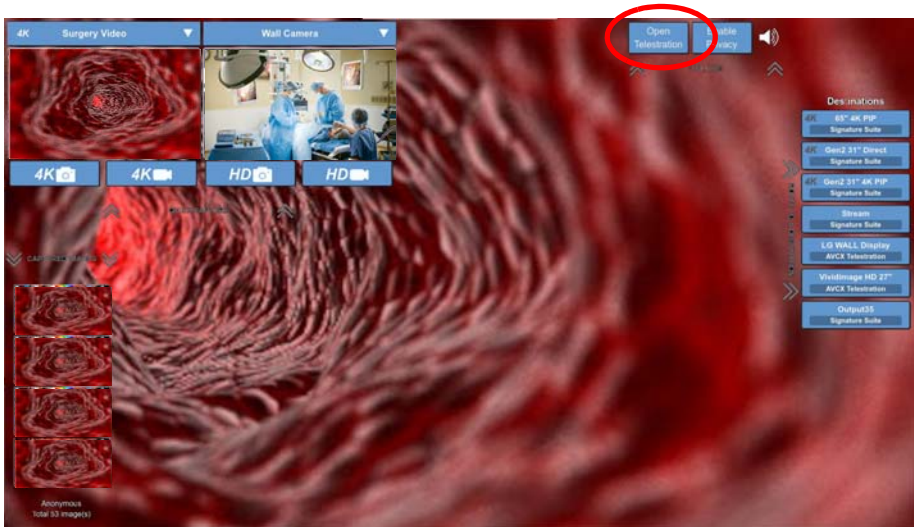

Figure 11-2. Open Telestration Button

If you don't see the **Open Telestration** button, click **Utilities** and then click **Open Telestration**.

The button is relabeled **Close Telestration**.

5. Telestrate on the video.

   See "Telestration Tools" on page 81 for more information.

6. To display the telestrated live video feed on a surgical display or other video output, click its button in the Destinations list.

   If you don't see the Destinations list, click the **Route to a Destination** arrows, which are on the right side of the screen.

   The button's source, displayed on the bottom of the button, becomes "AVCX Telestration."

7. To save a frame of the video with its annotations, click the **Camera** button .

8. When finished, click **Close Telestration**.

Telestrating on a Captured Image

You can add annotations to a saved image and display the image with its annotations on any surgical display or video output.

1. Click the **Images** tab.
2. On the image you want to telestrate, click the full screen button .
3. Click **Open Telestration**.

   If you don't see the **Open Telestration** button, click **Utilities** and then click **Open Telestration**.

4. Telestrate on the image.

   See "Telestration Tools" on page 81 for more information.

5. To display the telestrated image on a surgical display or other video output, click its button in the Destinations list.

   If you don't see the Destinations list, click the **Route to a Destination** arrows, which are on the right side of the screen.

   The button's source, displayed on the bottom of the button, becomes "AVCX Telestration."

6. To save the image with its annotations, click the **Camera** button .

7. When finished, click **Close Telestration**.

Telestration Tools

When you open telestration on full-screen image or video, buttons appear on the left that you perform actions on the video or image and create new annotations. More buttons appear on the top that let you edit annotations.

Here are the buttons appear along the left side of the screen.

-  saves a photo of the telestrated video or image to the case's images. See "Saving an Image With Annotations" on page 87.
-  pauses the video, if you're annotating a live video feed, so you can annotate it more easily. Press  to continue the live video. See "Pausing the Video" on page 86.
-  hides the telestration tools. See "Hiding the Telestration Tools" on page 87.
-  undoes the last action. See "Undoing and Redoing Actions" on page 85.
-  redoes the last undone action. See "Undoing and Redoing Actions" on page 85.
-  lets you select an illustration to move or edit it.
-  lets you create a freehand drawing. See "Adding a Freehand Drawing" on page 84.
- , ,  and  create circles, each in a different way. See "Adding Circles" on page 82.
-  adds a line of text. See "Adding Text" on page 83.
-  deletes all annotations. See "Clearing All Annotations" on page 85.

These tools appear on the top of the screen and let you change color and transparency. If no item is selected, they change the color and transparency for the next annotation. If an annotation is selected, they change the color and transparency for the selected annotation:

-  changes the color. See "Changing an Annotation's Color" on page 85.

- changes the transparency. Click the button and select a number from the menu that appears. See “Changing an Annotation’s Transparency” on page 86.

When you select an annotation, tools appear at the top of the screen that let you change its color, size, and other attributes, depending on the type of annotation.

- duplicates the current annotation, which you can then move and edit. See “Duplicating an Annotation” on page 86.
- deletes the currently selected item. See “Deleting an Annotation” on page 85.
- and moves an annotation so it appears above or below any overlapping annotation. See “Moving One Annotation on Top of Another” on page 86.
- adds an arrow to an annotation. See “Adding Arrows” on page 84.
- , , and change the line thickness for freehand drawings, circles, and ellipses. See “Changing the Line Thickness of a Circle or Ellipse” on page 83 and “Changing the Thickness of the Drawing’s Line” on page 84.
- , , or change the font size for the selected text. See “Changing the Size of the Text” on page 84.

Adding Circles

There are four different ways to create a circle or ellipse.

- creates an ellipse where you drag the cursor.
- creates a circle where you drag the cursor.
- creates a point circle, centered at a point you select.
- creates an freehand ellipse from a outline you trace.

To choose the type of circle to create:

- Press and hold the **Circle** button, and select the type of circle from the buttons that pop out.

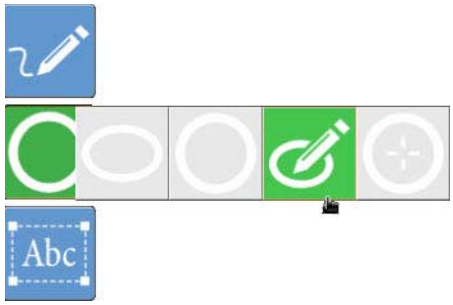

Figure 11-3. Circle Pop-Out Menu

Adding a Circle or Ellipse by Dragging

1. Click the **Ellipse** button .
2. Drag where you want the circle or ellipse to appear.

   The shape appears in the area you dragged over.

Adding a Circle by Dragging

1. Click the **Circle** button .
2. Drag where you want the circle to appear.

   The shape appears in the area you dragged over, constrained to a circle.

Adding a Circle by Clicking

1. Click the **Point Circle** button .
2. Click the location for the circle's center.

   A circle appears around that point.

To change the size of a point circle:

1. Click the **Select** button .
2. Click the outline of the circle.
3. Click **Advanced**.
4. From the buttons at the top of the screen, click **Small Point Circle** , **Medium Point Circle** , or **Large Point Circle** .

Adding a Freehand Circle or Ellipse

1. Click the **Freehand Ellipse** button .
2. Trace a rough outline of a circle or ellipse.

   The outline does not need to be smooth, and the beginning and ending points do not need to touch.

   A smooth circle or ellipse appears, approximately the size and position of the shape you traced.

Changing the Line Thickness of a Circle or Ellipse

1. Click the **Select** button .
2. Click the outline of the circle.
3. Click **Advanced**.
4. From the buttons at the top of the screen, click **Small Pen** , **Medium Pen** , or **Large Pen** .

Adding Text

1. Click the **Text** button .
2. Enter the text in the window that appears and press Enter.

The text appears in the middle of the screen. Move it wherever you want.

Changing the Size of the Text

1. Click the **Select** button .
2. Click the text.
3. From the buttons at the top of the screen, click **Small Text** , **Medium Text** , or **Large Text** .

Changing the Font or Style

1. Click the **Select** button .
2. Click the text.
3. Click **Advanced**.
4. Use the font menu, bold button, and italic button at the top of the screen.

Adding a Freehand Drawing

1. Click the **Pencil** button .
2. Click and drag the cursor.

   A line appears exactly where you drag.

Changing the Thickness of the Drawing's Line

1. Click the **Select** button .
2. Click the outline of the drawing.
3. Click **Advanced**.
4. From the buttons at the top of the screen, click **Small Pen** , **Medium Pen** , or **Large Pen** .

Adding Arrows

You can add an arrow to any annotation to point at something on the video or image.

1. Click the **Select** button .
2. Click the circle or piece of text.
3. Click the Arrow button  at the top of the screen.

4. Click the curved arrow buttons to move the arrow to a different side of the object.

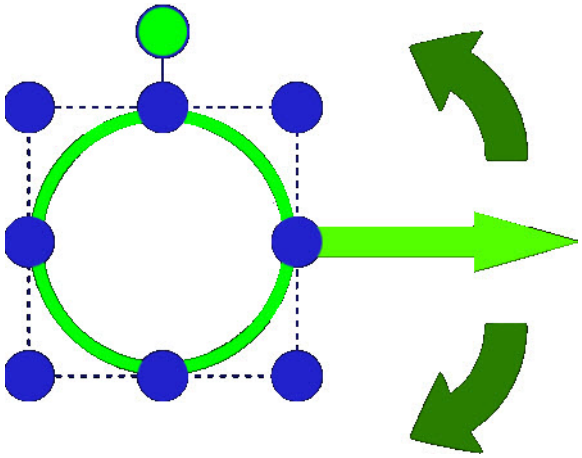

Figure 11-4. Arrow Placement Controls

Editing Annotations

Here are all the ways you can edit annotations.

Undoing and Redoing Actions

- To undo an action, click **Undo** .
- To redo the action, click **Redo** .

Deleting an Annotation

1. Click the **Select** button .
2. Click the annotation.
3. Click the **Delete** button  or press **Delete**.

Clearing All Annotations

- Click **Clear** .

Changing an Annotation's Color

1. Click the **Select** button .
2. Click the annotation.
3. To change the color of the annotation's outline, click a color from the top of the screen.



Figure 11-5. Color Bar

To change the background color of the annotation, Shift-click a color.

Click or Shift-click X  to change to make the annotation's outline or background clear.

Changing an Annotation's Transparency

1. Click the **Select** button .
2. Click the annotation.
3. Click the **Transparency** button and select a percentage.



Figure 11-6. Transparency Button

Duplicating an Annotation

1. Click the **Select** button .
2. Click the annotation.
3. Click **Advanced**
4. Click the **Clone** button .

   An identical copy of the annotation appears. You can move it to a new location and edit it.

Moving an Annotation

1. Click the **Select** button .
2. Click and drag the annotation to its new location.

Moving One Annotation on Top of Another

You move an annotation so it's on top or below another overlapping annotations. In this example, the thick green line is on top of the thin red circle.

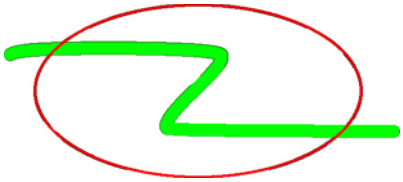

Figure 11-7. Red Circle on Top of Green Line

To move an annotation on top of or on the bottom of another, do the following:

1. Click the **Select** button .
2. Click an annotation that overlaps another one.
3. To move the annotation to the top, click **Move to Top** .

   To move the annotation to the bottom, click **Move to Bottom** .

Other Actions

Here are actions you can perform on the telestrated image or video.

Pausing the Video

If you're annotating a live video feed, you may be able to pause it, so it's easier to annotate.

- To pause the video, click **Pause** , if it's available.

  To continue playing video, click **Play** .

  The annotations remain as you pause and play the video.

If the **Pause** button isn't available, click the **Camera** button and then annotate the saved image. See "Telestrating on a Captured Image" on page 80.

Hiding the Telestration Tools

You can hide the telestration tools if they're obscuring an important area of the video.

To hide the tools, click **Full Screen**. To make the tools appear again, click the arrows at the top of the screen.

Saving an Image With Annotations

When you exit Telestration mode, all the annotations you added disappear. To save a still image with the annotations, click the **Camera** button. The image is saved to the current case's images.

To save the images to the server, see "Saving Images to the HexaVue Connect Software Suite Server" on page 46. To save the images to the server and include them in a patient's EMR, see "Sending Images to a Patient's EMR" on page 46.

If there's a Conference tab at the bottom of the screen, you can call someone at another HexaVue™ Integration System, HexaVue™ IP Integration System, or IDSS Integration System. You can also call someone connected to the facility's intranet who has the video conference software that supports H.323 and SIP, such as RealPresence Mobile from Poly (formerly Polycom) or Linphone for Microsoft Windows.

About the Video Conference Controls

To start a video conference, click the **Conference** tab at the bottom of the screen.

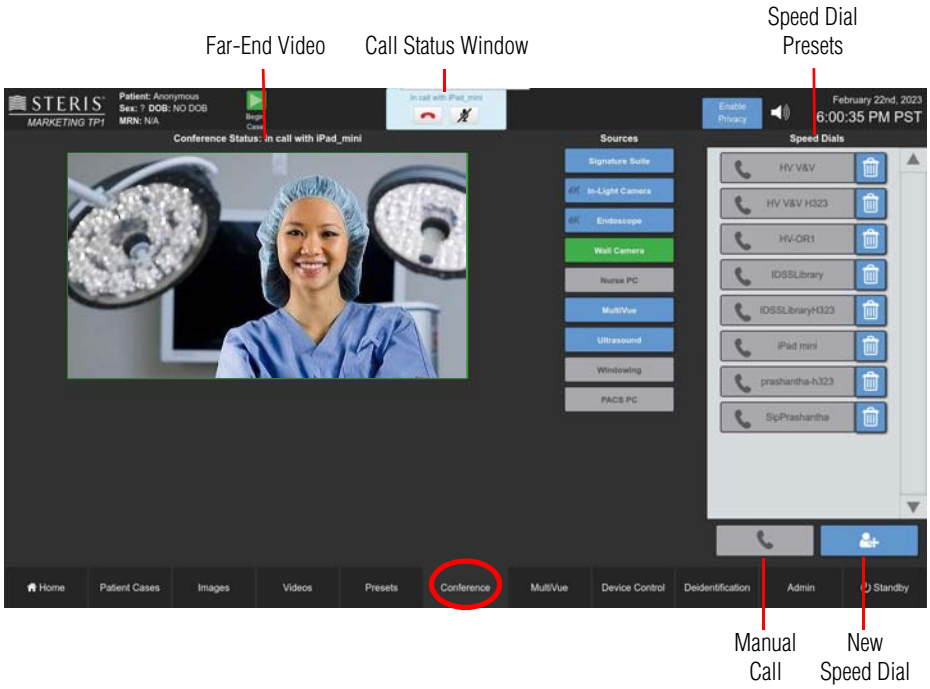

Figure 12-1. Conference Screen

Here are the controls in the Conference screen:

- **Far-End Video**: Video of the party at the other end of the conference.
- **Call Status Window**: The status of the conference, and buttons that let you end the call or mute your audio.
- **Manual Call**: Press to enter an IP or host address and call that party.
- **New Speed Dial**: Press to enter an IP or host address and create a speed dial entry.
- **Speed Dial Presets**: Press to call the party at this preset address.

Starting a Conference Call

Initiating or accepting a conference call automatically switches the video preview to the Conference source and changes the audio source to Conference Audio.

Using a Conference Speed Dial

Calling a Speed Dial

1. Click the **Conference** tab.
2. Click a button in the Speed Dials list on the right
3. When a window appears asking you to confirm the call, click **OK**.



Figure 12-2. Conference Confirmation Window

The conference call status appears at the top of the screen.



Figure 12-3. Conference Status Window

To cancel the call, click the Hangup button **.** To prevent the other party in the call from hearing your audio, click the Mute button .

When the other party answers the call, the conference call status changes.

4. When you're finished, click the Hangup button to end the call.

Creating a Speed Dial

1. Click the **Conference** tab.
2. Click the **New Speed Dial** button **.**

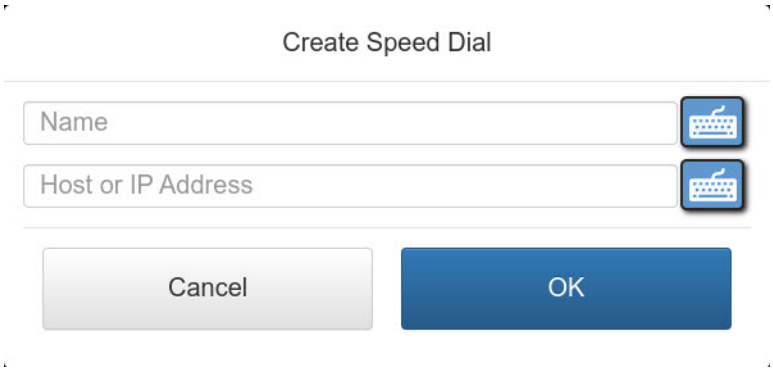

Figure 12-4. Create Speed Dial Window

3. Enter the Name and Host or IP address into the related fields and press **OK**.

   A button for the preset appears in the Speed Dial list at the right.

Using Manual Call

Starting a Call Manually

1. Click the **Conference** tab.
2. Click the Manual Call button at the bottom of the screen.

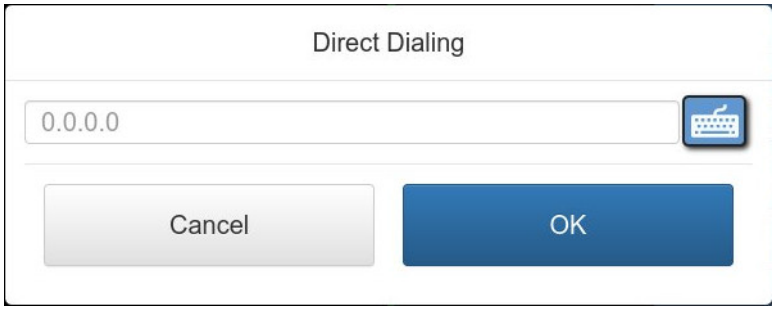

Figure 12-5. Create Speed Dial Window

3. Enter the IP or host address, and then click **OK**.

   The conference call status is displayed at the top of the Conference screen.

Receiving a Call

When a conference call comes in, a tone plays over the integration system's speakers, and a status message appears at the top of the screen with the caller's name along with buttons that let you answer or decline the call.

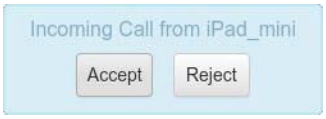

Figure 12-6. Incoming Call Window

To accept the call, click **Accept**. To decline the call, click **Reject**.

When You're in a Call

When you're in a call, the Call status window appears at the top of the screen no matter which screen you're viewing.



Figure 12-7. Call Status Window

To prevent the other room from hearing your room during a call, click the Mute button . To end the call, click the Hangup button .

Choosing the Video Source to Share

You can choose which of your video sources is shown to the other caller. If you make the selection when there's no ongoing call, the source is used for the next call. You can also change which video source is used during a call.

To change the video source from the Home screen:

1. Click the **Home** tab.
2. In the Sources list, click the button for the source to share.
3. In the Destinations list, click the **Conference** button.

To change the video source from the Conference screen:

1. Click the **Conference** tab.
2. Click the button for the source button on the left.

Temporarily Disabling Audio

To prevent the other room from hearing your room temporarily during a call, click **Mute Button** at the top of the screen.

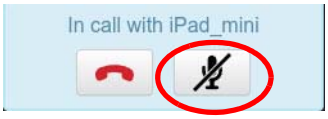

Figure 12-8. Mute Button

Temporarily Disabling Audio and Video

To prevent the other room from hearing or viewing your room temporarily during a call, click **Enable Privacy** at the top of the screen.

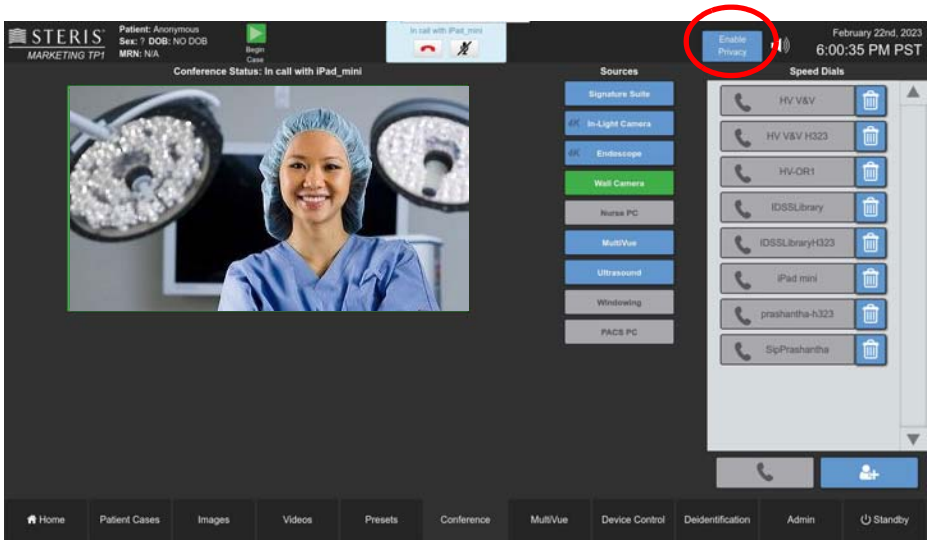

Figure 12-9. Enable Privacy Button

The button's name changes to **Disable Privacy**. The other room sees either a black screen or a gray screen containing a picture of a eye with slash through it .

To allow the other room to hear and view your room again, click **Disable Privacy**.

Ending the Call

To end the call, click the Hangup button at the top of the Conference screen.



Figure 12-10. Hangup Button

Troubleshooting

13

Common error messages and related solutions are described in this section. Please contact STERIS Technical Support at (800) 333-8828 for assistance at any time.

After the integration system comes out of sleep, the video preview on the Home screen doesn't appear

- Click any tab at the bottom of the display other than the Home tab, then click the Home tab.

The video preview on the Home screen is off-center

1. Click the video preview to display the image full-screen.
2. Click the image again.

   The video preview should now appear in its correct position on the Home screen.

Black boxes cover some of the image on a display

The last time the currently selected source was connected, parts of it were blocked with black boxes to protect someone's identity. To remove these boxes:

1. Click the **Deidentification** tab at the bottom of the screen.
2. In the Sources list, click the source with the black boxes.
3. Click the **Disable Region 1** and **Disable Region 2** buttons.
4. Click the destination's buttons in the Destination list.

The integration system won't copy media to a USB drive

- Make sure the USB drive is connected to the correct USB port.
- Connect the USB drive to a computer and check the following:
  - It has enough free space for the media. Delete some files from the drive, if needed.
  - It's formatted as FAT, FAT32, or NTFS.

Pressing a trigger doesn't capture an image

- Make sure the cables connected to the device with the trigger are firmly attached.
- If the device with the trigger is connected to a converter, make sure the cables connected to the converter are firmly attached and its status light shows that it's turned on.

Pressing a trigger captures an image from the wrong source

If you press a trigger on a input device that is not selected as a video capture source, an image is captured from one of the selected video capture sources. Make sure the device with the trigger is selected as a video capture source on the Home screen.

The touch panel, mouse, or keyboard aren't working properly

The touch panel, mouse, and keyboard are connected to the integration system with a USB converter, labeled either "USB Converter" or "USB-X." The back of the box has ports for power and Ethernet. The front of that box has USB ports for the touch panel, mouse, and keyboard.

- Make sure the USB Converter is connected to power and to Ethernet. The green light beside the Ethernet port should be flashing.
- Make sure the power light beside the lightning bolt icon on the lower right corner on the front of the USB Converter is on.
- Make sure the USB cables for the touch panel, mouse, and keyboard are connected to the front of the USB Converter. The green lights beside each port should be flashing.
- Make sure the touch panel's USB cable, video cable, and power cable are firmly attached to the touch panel, and that the touch panel is turned on.
- Disconnect the USB Converter's power cable, wait 10 seconds, then plug it in ago. The USB Converter may take 30 seconds to turn on again. Make sure the power light is on and the lights beside the USB is on and Ethernet port is flashing.
- Turn the touch panel off, wait 10 seconds, and turn it back on again.

If the printer doesn't print images

1. Make sure the printer is turned on.
2. Check that the printer's USB or Ethernet cable is connected.
3. Make sure the printer is not jammed, has enough paper, and has enough toner or ink.
4. If you see an alert at the top of the screen with a **Reset Printer** button, click the button.
5. If the printer error remains after completing these steps, contact your facility's OR integration support staff or STERIS Technical Support for assistance.

The touch panel displays a white screen with the message "Waiting for video router."

1. Verify that the CXPS is powered on.
2. Verify that the network cable between the CXPS and network switch is connected.

3. Verify that the network cable between the AVC-X and the network switch is connected.
4. If the error remains after completing these steps, contact your facility's OR integration support staff or STERIS Technical Support for assistance.

The touch panel displays a white screen with the message "Waiting for Device Service" or "Waiting for Application Server."

Call your facility's OR integration support staff or STERIS Technical Support at (800) 333-8828 for assistance.

The touch panel displays a white screen with the message "An Error Occurred."

Call your facility's OR integration support staff or STERIS Technical Support at (800) 333-8828 for assistance.

For all other issues:

Call your facility's OR integration support staff or STERIS Technical Support at (800) 333-8828 for assistance.

Specifications

A

Supply Voltage

HexaVue™ Integration System and HexaVue™ IP Integration System for 110V Outlets

Voltage	100V - 130V AC
Frequency	60 Hz
Current	Varies according to the configuration. The value for your system is in the design documents that came with it.

HexaVue™ Integration System and HexaVue™ IP Integration System for 220V Outlets

Voltage	208V - 240V AC
Frequency	50/60 Hz
Current	Varies according to the configuration. The value for your system is in the design documents that came with it.

Environment

Heat Load	Varies according to the configuration. The value for your system is in the design documents that came with it.
Operating Temperature	32˚ to 86˚ F / 0˚ to 30˚ C (for HexaVue™ Integration Systems) 41˚ to 86˚ F / 5˚ to 30˚ C (for HexaVue™ IP Integration Systems)
Storage Temperature	-4˚ to 140˚ F / -20° to 60°C
Operating Humidity	20% to 80% without condensation
Storage Humidity	5% to 95% (38.7°C/101.66°F max. wet bulb temperature)
Operating Altitude	to 9 842.52 feet (3,000m)
Storage Altitude	0 to 40 000 feet (12,192m)
Barometric Pressure	700 hPa to 1060 hPa

Compliance

Medical Equipment complies with and was tested with respect to Electrical shock, fire and mechanical hazards only in accordance with ANSI/AAMI ES60601-1:2005/(R)2012 and C1:2009/(R)2012 and, A2:2010/(R)2012, and CAN/CSA C22.2 No. 60601-1:08.

Waste Management Guidelines

When you dispose of a HexaVue™ Integration System, HexaVue™ IP Integration System, or its parts, make sure you properly dispose of hazardous and other regulated waste in compliance with national, state, and local WEEE/ RoHS regulations.

Customer Support

Serious incidents that have occurred in relation to this medical device should be reported to the manufacturer and competent authority in the country where the incident occurred.

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