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## Introduction

The Laerdal® Advanced Video System (AVS) is a video recording system which can be used with Laerdal's Patient Simulators SimMan® and SimBaby™. The AVS allows recording, playback, distribution and viewing / reviewing of simulation video and audio footage.

The AVS integrates seamlessly with the SimMan and SimBaby systems which record data from the simulated Patient Monitor and the scenario log. The combination of the video and scenario data can be presented to the user in the Laerdal DebriefViewer, which is part of the SimMan and SimBaby systems.

The AVS has two separate configurable software modules that gives teaching professionals enhanced flexibility and a cost effective solution to documenting clinical and non-clinical simulation training.

The first module of the AVS is the **Laerdal Video Server**. The Video Server computer is the main hub in the system. It compresses the input from up to four video cameras and one audio channel into a more efficient transportable signal. This video signal is distributed on the local network.

The second module of the AVS is the **Laerdal Video Client** software program. When installed on any computer on the network, it will allow real-time access and viewing to the simulation video footage and data from the Patient Monitor.

### Laerdal Recommends

When installing Laerdal software to your network, it is recommended that this service is conducted by an Information Technology Professional who has administrator rights. Read all instructions and **Cautions and Warnings** prior to setup and operation of the Laerdal Advanced Video System.

## Cautions and Warnings

- By using this product, Laerdal Medical does not condone the use of this system for violating any government, state or local laws or personal rights.
- This product contains software that may be installed to other computer systems that may allow remote visual and audio monitoring allowing access to private networks and the recording of unannounced conversations may be a violation of personal rights. It is recommended that individuals in the areas of recording equipment be made aware of the installed equipment and to the fact that their conversations and activities could be viewed and recorded without notice.
- It is not advised to use this system as a means of physical security for the protection of public or private property.
- Laerdal Medical will not be responsible for loss or stolen property due to the use or failure of operation of this equipment.
- Read, understand and follow all equipment instructions, safety warnings and guidelines before operating the Laerdal AVS and all associated equipment.
- Do not use cables or connectors with bent pins or visible damage.

## Warranty

Please refer to the enclosed printed Laerdal Global Warranty or [www.laerdal.com](http://www.laerdal.com) for terms and conditions.

## Items Included in Advanced Video System (AVS)

- (1) PC Video Server with installed software
- (1) Mouse
- (1) Keyboard
- (1) DVI to SVGA Adapter
- (1) Video card to 8 BNC connectors (4 Audio + 4 Video)
- (5) BNC to RCA Adaptors
- (1) Flat Panel LCD Monitor
- (1) Installation Video Client Software
- (1) Directions for Use

## Audio / Video System Requirements (not supplied):

- 1-4 video cameras with composite video output
- Microphones
- Audio mixer (provides "line out" signal)
- Network cables

## Subjects covered in this document:

### Video Server

- Video Server Setup and Configuration
- Video Server Operation
- Audio Connection
- Monitor Connection
- Camera Connection
- Cable Connection

### Video Client

- System Requirements
- Cable Connections
- Software Installation
- Video Client Operation

### SimMan® / SimBaby™

- Presets and configurations

## Unpack

The Laerdal® AVS is packaged to ensure that no damage is incurred during transportation to the end user. The end user should inspect the contents of all boxes for damage and report any damage to Laerdal as soon as possible. It is recommended that original packaging is not disposed of during the warranty period. Reusing the original packaging will help prevent damage that could occur in the event of equipment defect or recall to Laerdal Technical Support.

## Video Server Setup and Configuration

1. Unpack and make available all cables and adapters. (Photo 1)



Photo 1

2. Power is applied to the Video Server via a standard PC power cable. Connect the power cable to the Video Server. (Photo 2)

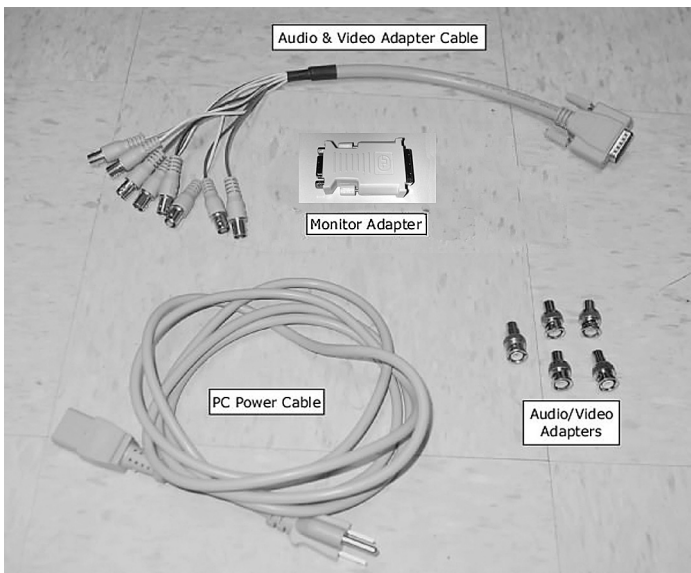


Photo 2

3. Connect the monitor and Audio/Video adapter or cables to the back of the Video Server. (Photo 3)

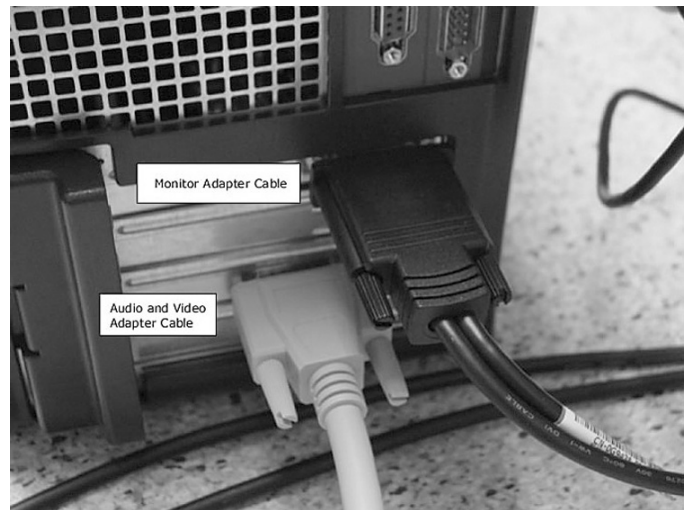


Photo 3

4. The Monitor Adapter Cable has a DVI connector on one end and a (SVGA) high density, fifteen pin connector on the other end. The DVI connector end plugs into the monitor DVI port on the video card. The other end is used for connecting the SVGA monitor. (Photo 4)



Photo 4

5. The Audio and Video Adapter Cable has eight wires with BNC connectors on one end and a dual roll fifteen pin connector on the other end. (Photo 5)

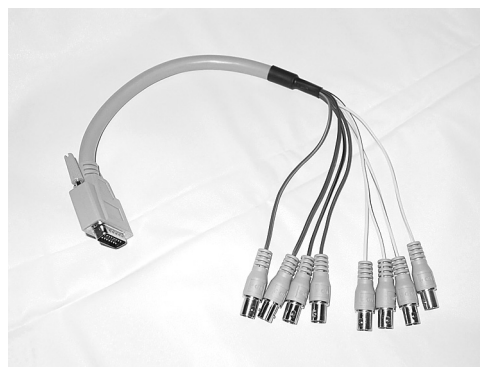


Photo 5

6. The video connectors are easily identified by the marking on the connectors VID1, VID2, VID3 and VID4. Up to four cameras may be connected to this cable. (Photo 6)

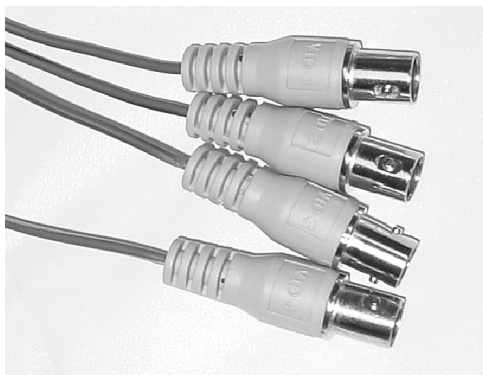


Photo 6

7. The audio connectors are identified by the marking AID1, AID2, AID3 and AID4 on the connectors. **Only AID1 can be used by the Video Server.** The input to AID1 cannot support multiple microphones. This can be accomplished by using an audio mixer with a preamplifier. An audio mixer will enable the mixed microphones to be combined as one audio signal. These mixed signals are inputted into the AVS using the AID1 connector. The audio mixer will also allow the increasing or decreasing of the microphone(s) gain to an acceptable level. When a microphone is used without an audio mixer, the input gain will be too low for the AVS and no audio will be detectable. (Photo 7)

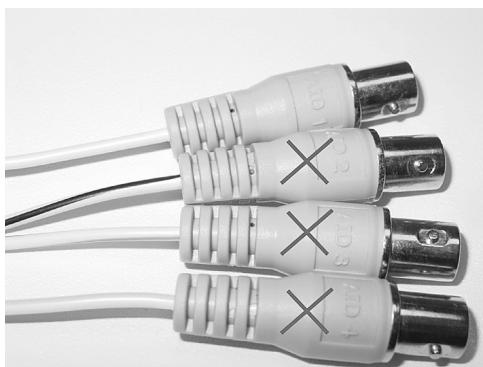


Photo 7

8. The AVS comes with five BNC to RCA adapters. They may be used with either or both the audio or video connections. Your system may have the proper BNC mate connection and not require using the BNC to RCA adapters. (Photo 8)



Photo 8

9. The USB Mouse and USB Keyboard can be connected to any one of the many USB connections. The network cable plugs directly to the network connection on the back of the Video Server. (Photo 9)

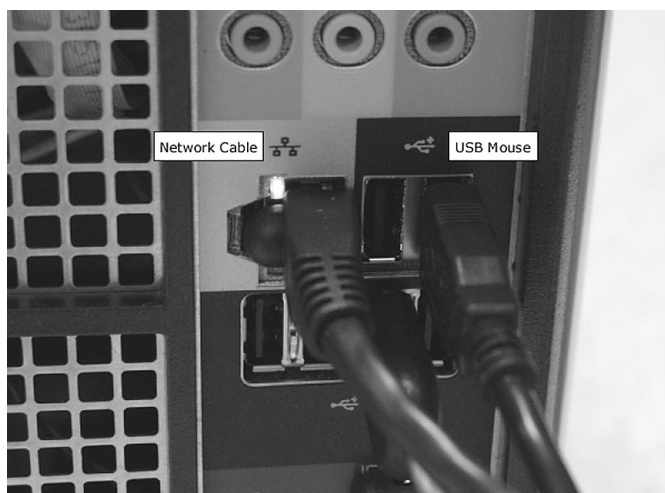


Photo 9

10. Monitoring the audio can be done by connecting speakers to the speaker receptacle on the back of the Video Server. Speakers are not provided. (Photo 10)

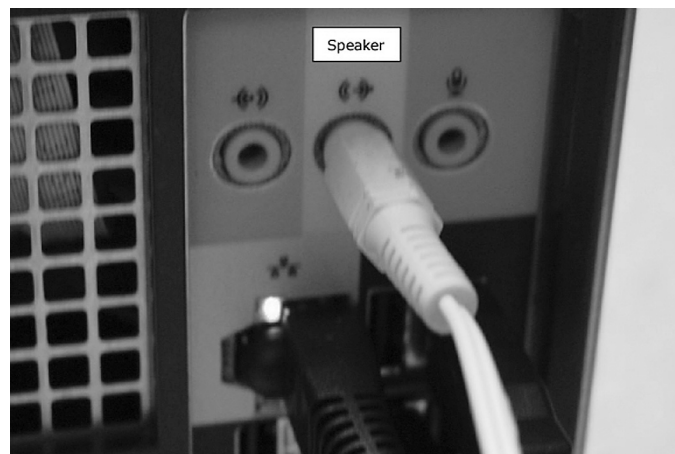


Photo 10

## Video Server Software Setup and Configuration

The Video Server software is pre-installed; however, in the event the server suffers a critical failure, contact Laerdal Technical Support and arrangements will be made to reinstall your video server software.

1. Select the Icon marked "Laerdal Video Server." This will start the program and open the main screen. (Photo 11)



Photo 11

The monitor screen will indicate that the DSP Server is starting.  
(Photo 12)

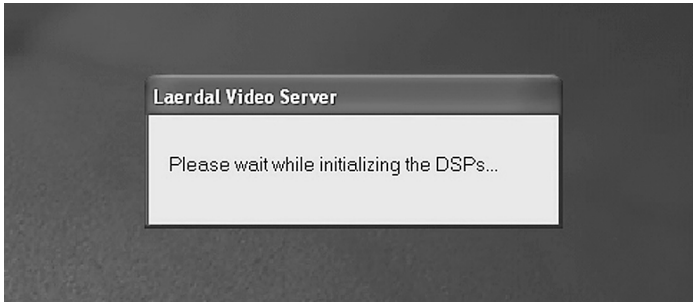


Photo 12

2. The start screen will show up to four camera views if they are connected. (Photo 13)

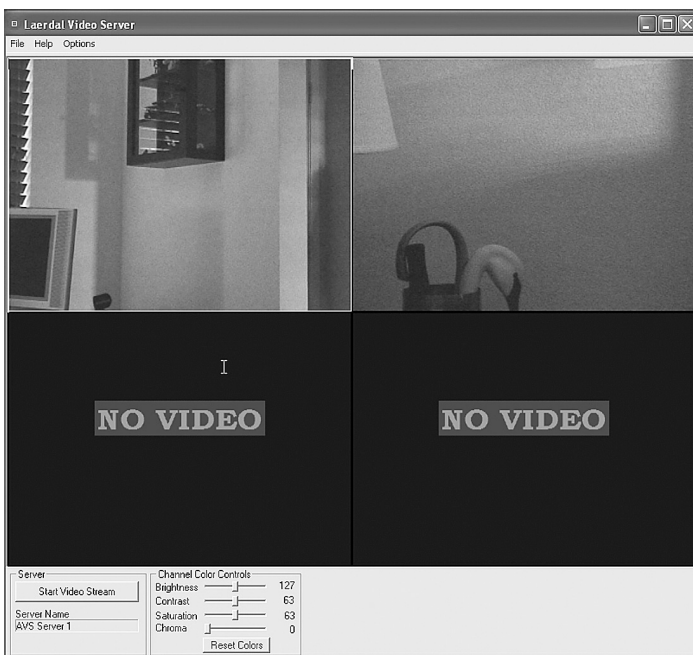


Photo 13

3. The file menu has four options:

- Open a saved file configuration file
- Save the current configuration as default
- Save As a new configuration file name and at a user specific folder location
- Exit to end the program (Photo 14)

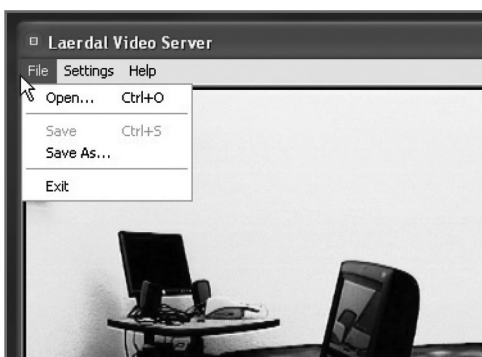


Photo 14

4. The help menu has two options:

- Show Help provides any program help available to the user.
- About will give information about the software name and version. (Photo 15)

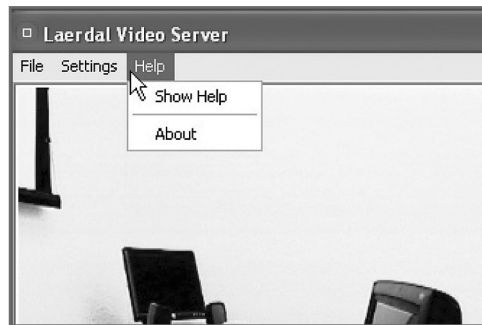


Photo 15

5. The Settings menu has three options

- Video Setup
- Server Setup
- View Statistics (Photo 16)

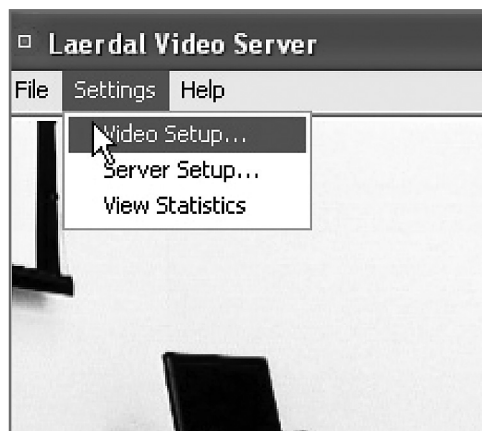


Photo 16

• Video Setup

- Quality Presets controls the quality of the video stream as it is played to the SimMan, SimBaby and the Video Client.
- "Functions," when selected, will start the streaming video at the onset of the Video Server program.
- Bit Rate Type default is VBR.
- Encoder Resolution default is CIF. (Photo 17)

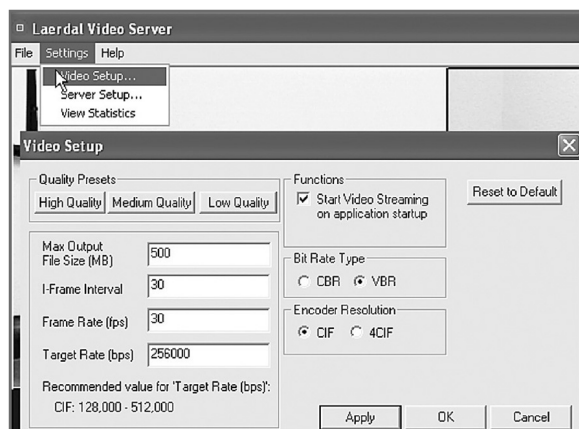


Photo 17

- Server Setup
  - o The Video Server Name is a generic name you can assign to the Video Server. It is not to be confused with your computer name. When selecting the Video Recording Configuration option of your simulation software, this will be the name of the server that is to be entered.
  - o Server Port is auto assigned, but may be manually assigned.
  - o Client Port is auto assigned, but may be manually. (Photo 18)

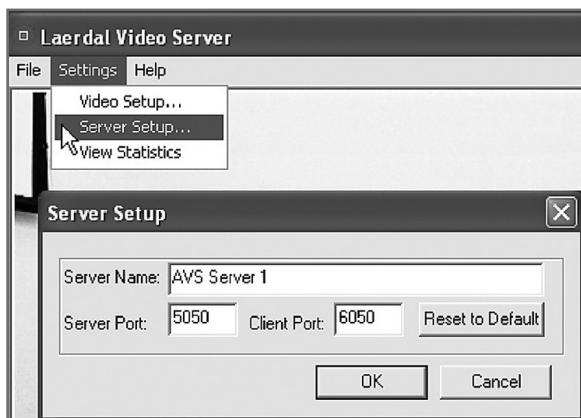


Photo 18

6. Select the "Start Video Stream" in order to send the camera video and audio to the SimMan, SimBaby and Video Client. The assigned Server Name displayed from the "Server Options." The Channel Color Controls adjustments can be adjusted for each camera view. First select camera. Next, adjust the Channel Color Controls. Then, select the next camera and repeat the process. Your configuration will be saved when the "Save" is selected under the File menu. (Photo 19)

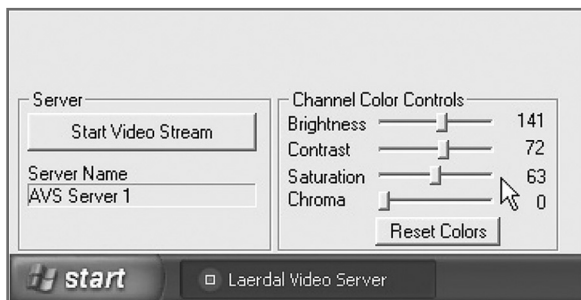


Photo 19

7. After the "Start Video Stream" is selected, the button name will change to "Stop Server." "Stop Server" must be shown in the frame in order for the Video Client and the simulators to be able to record from the server. Once the Video Stream is captured and the recording is in progress at the simulator, it will communicate back to the Video Server and the "Stop Server" will be grayed out and will no longer be a selectable option. This is to prevent any accidental stopping of the video stream during a recording session. When the recording session is completed, the simulation program will ask if the operator would like to save the recorded data to a file. Once the data is saved or discarded by the operator, the exiting of the simulation program will make the Video Server available to the network. The "Stop Server" will then be returned to a selectable option and will no longer be grayed out.

## Laerdal® Video Client Software Setup and Configuration

The Laerdal Video Client Software is installed from the installation disk that comes with your system. To install the Video Client software, first insert the installation disk into your CD/DVD drive. Close the drive door and an auto install sequence will open to a menu of the software that is available for installation. Select to install by clicking with your left mouse key only once and your software will start the installation process. After the installation is completed, there are some configurations that must be made to ensure you have the best video solutions available. Following the setup and configuration instructions will help to gain a better understanding of the Video Client operation.

### Video Client System Requirements

#### 1. Computer Minimum Requirements

- o Type: Dell Latitude
- o Processor: Pentium M, min 1.8GHz
- o HDD: 60 GB min.
- o RAM: 512 MB min.
- o System: Microsoft Windows XP
- o Screen: Dual screen with min 1280 x 1024
- o Mouse: 2 button scroll wheel mouse
- o Other: CD-RW or DVD-RW  
RS-232 (serial port)  
Microphone input  
Headphone output  
2-4 USB ports  
Internal Bluetooth  
Built-in Ethernet LAN

**Note:** The computer requirements are recommended to support the recording and transferring large amounts of data to a data disk for media storage. Failure to have a quality media storage device will limit the amount of training and recording time available to the end user.

### Cable connections

1. Connect the network cable to the network receptacle on the computer and to the network access point. This connection is not necessary to view a saved file on a CD/DVD.
2. Software Installation  
Insert CD and follow the software installation process as supplied on the installation disk.

### Video Client Software Setup and Configuration

1. Select the Icon marked as Laerdal Video Client. This will start the program and open the main screen. (Photo 20)



Photo 20

2. The option for the "Room Selection" will be available. If more settings or configurations are needed, then select "OK" and move to the "File Menu." If no changes are needed, then select "Apply." (Photo 21)

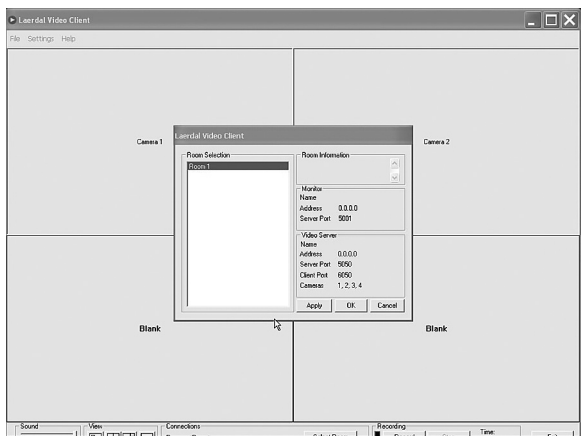


Photo 21

3. File menu has one entry “Save recorded video as...”

- o The selection cannot be listed until a recording has been created using the Video Client “Record” feature. If you have just saved a recording, you will be able to save the same views a second time as a new name. (Photo 22)

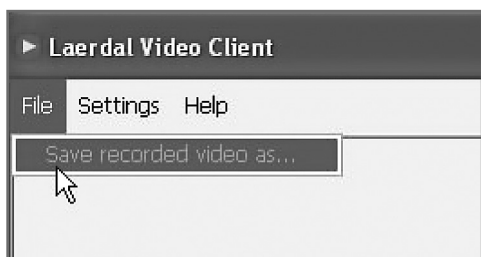


Photo 22

4. Settings Menu has two selections, “Configuration...” and “Connection Setup.” (Photo 23)



Photo 23

- o Configuration is to setup a specific saved file storage location. All the video recorded from the Video Client recording session will default to be saved into the location assigned here. (Photo 24)

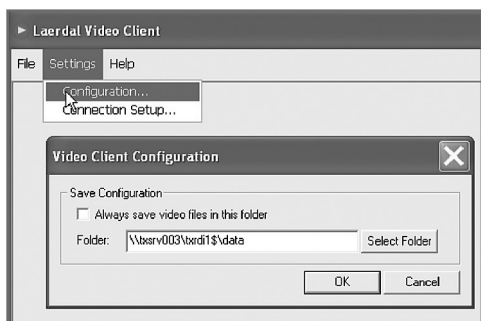


Photo 24

- o Connection Setup menu is the main screen enabling the user to select Rooms and Server available for use. The server is located by manual or automatic IP selection. (Photo 25)

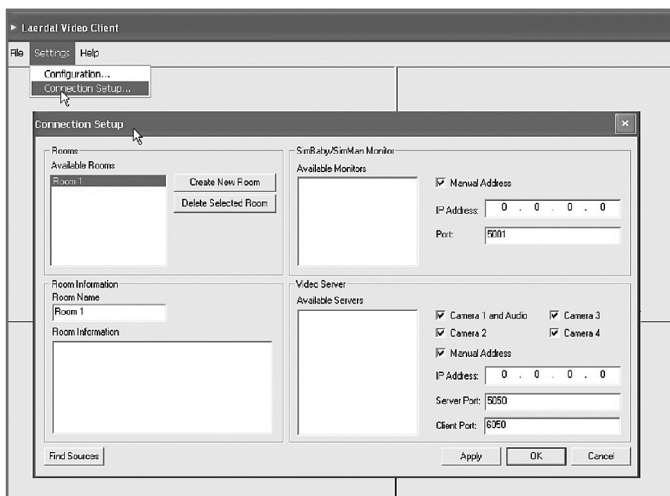


Photo 25

- o To create a new room, first select the “Room Name” box in the “Room Information” section of your display. Type in the new room name in place of the existing room name. Then select the “Create New Room” button. The just made new room is inserted into the “Available Rooms” window. Select the room name just inserted into the “Available Rooms” window. Next, define how the new room will be used. If there are more than one “Available Server,” select the server intended for use. The monitor must be selected at this time also. This is accessed from the available monitor list. Next, select the available cameras by selecting the appropriate camera numbers. Then select “Apply.” The room will be saved and will be available in the configuration created until deleted or new changes to the defined configuration.

- o After the “Find Sources” is selected, all available monitors and available servers will be displayed in their appropriate window.

- o Selecting the appropriate server will enable the view of the video stream being sent by the server. The patient monitor video is sent by the SimMan® or SimBaby™ computer that the simulation is running from. There may be a time during the training session that one or more cameras may not be needed. When this happens you can select between one and four camera views. **The audio will be available to record from only “camera 1.”**

- o The Help Menu has two drop down selections: “Show Help” and “About.” (Photo 26)

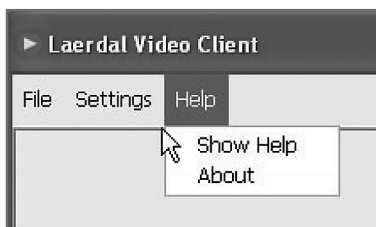


Photo 26

- o Show Help selection has numerous topics of information and features. By selecting a help topic, any information available on the topic will be displayed. This section is for general guidance. (Photo 27)

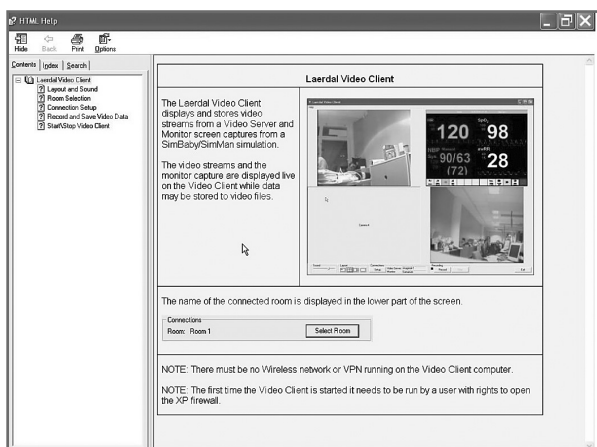


Photo 27

- o The "About" selection shows information about the software name, version, copyright and owner of the copyright. (Photo 28)

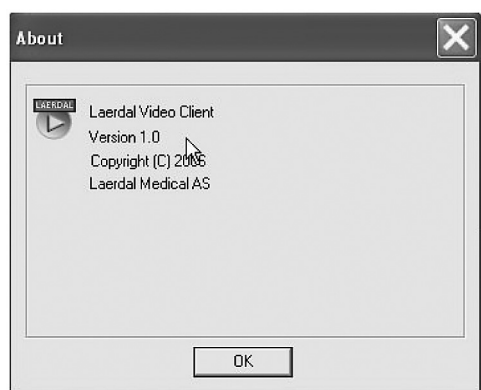


Photo 28

## 5. Layout and Sound

- o The Video Client sound volume is on the slide bar located at the bottom left of the screen. Sliding to the right increases output and to the left decreases output. (Photo 29)



Photo 29

- o Next to the sound slide bar are the display layout settings. There are four predefined layouts for the display screen. (Photo 30)

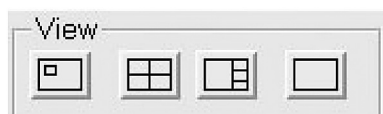


Photo 30

- o The first view will put a small screen into a large screen. The small screen can be enlarged by holding the left mouse button and dragging it to the size you want. Double clicking the left mouse button will enlarge any selected display to full screen. Double clicking once more reduces back to previous setting. (Try it!)

- o Another way to change from one view to another is to put the mouse over the screen to move. Then depress the left mouse button and hold. An icon of a small computer will appear on your screen while the mouse button is being depressed. Move the mouse to the screen area where the image is needed to be viewed. By releasing the mouse button, the icon of the computer will disappear and the screen will have been moved. (Photo 31)

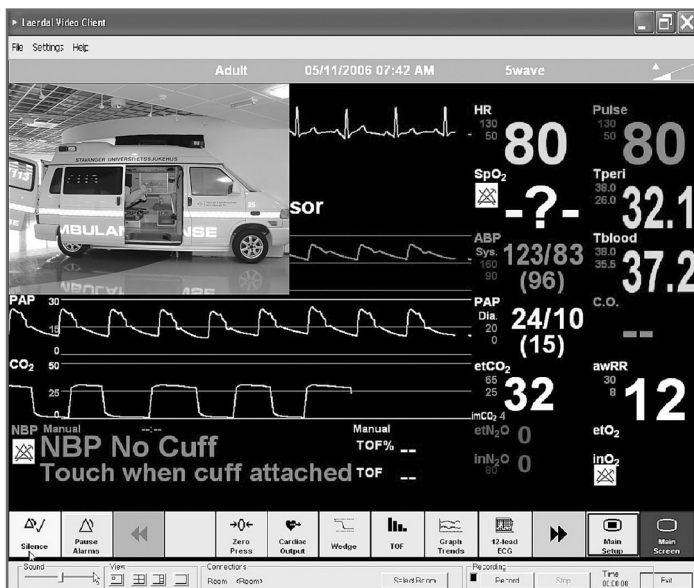


Photo 31

- o The second layout will display four equal sized screens. (Photo 32)



Photo 32

- o The third layout will display one large screen and three smaller screens on the right side. (Photo 33)



Photo 33

- o The fourth layout displays one large screen. (Photo 34)



Photo 34

## 6. Display Screen

Selecting the "Layout" screen to determine the desired view is the first of many options for screen viewing. There are six possibilities for each of the panes displayed in the "Layout" screen. To view the display screen, right click the window and the six options will be displayed.

- Monitor displays the Patient Monitor sent from the simulation software.
- Camera 1 - 4 displays the view from the selected camera.
- Blank will leave no information on the screen and will not be recorded.
- Camera (-) indicates that any camera with (-) beside it, is not the camera being viewed or selected.
- Camera (pos1-4) indicates the camera number as it is available by the order sent from the video server.
- Blank indicates no monitoring is selected by the user. (Photo 35)

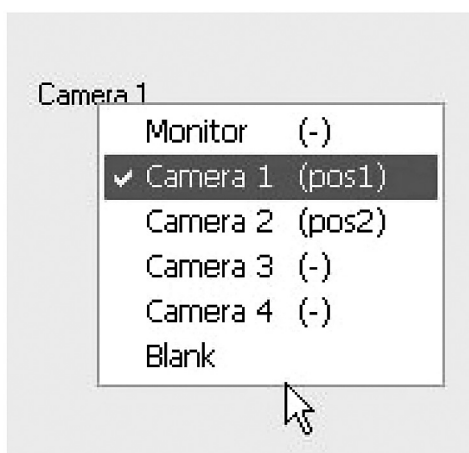


Photo 35

## 6. Select Room

This selection is used for one or multiple video servers and cameras. By assigning room numbers or room names, it is possible to switch between the various cameras connected to the various video servers. This is a good way to audit training or record meetings. If there is only one video server that has multiple cameras, it is possible to assign room numbers that select the best set of cameras to view while the training is conducted and be able to select the same view again at a later time. For example, Room 1 may use Camera 1 to view with. Room 2 may use Cameras 1, 2 and 4 to view with. Room 3 may use the monitor and cameras 1, 2, 3 and 4 to view with. If you are recording a meeting, then the room name can be changed to "Meeting Room" and use any camera needed to get the best possible view. (Photo 36)



Photo 36

- The "Start Recording" button will enable the recording feature. The default position is in the off position. This is indicated by the black square located to the left of the "Start" button. Once the recording is started; then the black box will change from a solid black to a blinking red. Once the recording is stopped, the option to save will be displayed. Choose a new file name and save the recording to the default directory. Saving the video recording will be saved to the default assigned in the "Video Client Configuration" by checking the "always save video in this folder" check box. Once selected, you will only have to name the recording session and save the Video and Monitor recordings. (Photo 37)

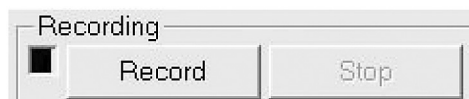


Photo 37

## 9. Time

The length of time of your recording is indicated by the clock counter to the right of the "Record" button. (Photo 38)



Photo 38

## 10. Exit

Selecting the “Exit” will terminate the program and will give the option to save any unsaved recordings. (Photo 39)



Photo 39

## Network Information

1. The Laerdal AVS is intended to be used with a pre-existing network. It is recommended that a networking professional with full administrator rights incorporate this system into your network. The Video Server, SimMan and SimBaby all use shared files and the network must be setup to allow the video and audio files to be accessed by these programs. Laerdal has included the setup of these shared files with the installation of the Laerdal SimMan and SimBaby installation software. Your IT professionals are recommended to make any and all changes to these files and will require the “administrator rights” to be enabled to make changes.
2. Information for Information Technologies Professional.
  - When the installation software (SW) for the Video Server SW is run, a local user called “SimVideo” will be created on the AVS computer. This user is **restricted** and has a password that is not possible to change. This username (SimVideo) and password will be used by the SimMan/SimBaby SW to access the shared folder on the AVS computer, where the temporary video files are located.
  - When installed, the SimMan/SimBaby SW, installation program will add two keys into the registry, which stores the username and password. However, the password for the default user (SimVideo) will not be stored explicitly. The password will have the value “default” which tells the SimBaby/SimMan program to use the SimVideo user password.
  - If the user (or administrator) would like to create a new user on the AVS computer and have the SimMan/SimBaby SW, use this account instead - the user is free to make a new account on the AVS computer; the only additional thing to do is to change the username and password in registry in the SimMan/SimBaby PC.
  - Reinstall. If the SimMan SW or the SimBaby SW is reinstalled, the corresponding user name and password in registry is reset to the default values.
- Location in registry:
  - SimMan:
    - My Computer\HKEY\_LOCAL\_MACHINE\SOFTWARE\Laerdal Medical\SimMan\
  - SimBaby:
    - My Computer\HKEY\_LOCAL\_MACHINE\SOFTWARE\Laerdal Medical\SimBaby\
- Keys:
  - Password: DSPRAccess
  - Username: DSPRAccess
- Warning:
  - Changing values in registry is not for novices. We recommend that only expert users change the values in registry.
  - Changing the values in the registry should not be necessary unless the system requires it due to special policies.
3. In the event there is no network at your facility, information is available at the Microsoft website. Searching for the information on how to setup a network using Microsoft Windows XP™ will revile information on equipment needed, installation requirements and setup instructions. If you are not familiar with sharing of files and folders, do the same type of search for information on network file sharing.

4. If the computer is not connected to a network domain, the network can be set up as a workgroup. The “Manual Address” box must then be selected. Once a “Work Group” network is established, the “Manual Address” must be selected and all IP Addresses are manually assigned. When a router is used with a network, the IP Address will be assigned automatically.
5. Network servers with a domain will assign the IP Address automatically.
6. It is not recommended to operate this system on a wireless network due to the large amount of bandwidth consumed. There could be a loss of video and audio data as the wireless system uses up the networking resources.
7. The Video Server must be sending the video stream in order for the Video Client, SimMan and SimBaby to record and playback properly.

## Start Up and Stopping Procedures

These procedures must be followed in the same order of operation. All connections and presets must be completed prior to operating the Video Server and the Video Client. Any audio and video (cameras/audio mixers) equipment connected to the Video Server requiring power must be turned on and ready for operation prior to starting these procedures.

### AVS Start Up:

- Step 1 - Turn on AVS computer LCD display
- Step 2 - Turn on Video Server Computer
- Step 3 - Select the icon labeled “Laerdal Video Server” from AVS computer desktop
- Step 4 - Select “Start Video Stream” from the bottom left side of the Laerdal Video Server display screen.

### SimMan/SimBaby

Follow instruction manual for operating the SimMan or SimBaby simulator provided with the desired simulator.

- Step 1 - Turn on simulator equipment and start simulator software.
- Step 2 - Follow simulator instruction provided with each Simulator
- Step 3 - Follow Simulator instructions for exiting Simulator at completion of operation.

### Starting Laerdal Video Client:

- Step 1 - Turn on computer and monitor with the Video Client Software installed.
- Step 2 - Select the icon labeled “Laerdal Video Client”
- Step 3 - Select “Room”
- Step 4 - Select “Apply”
- Step 5 - Select “OK”
- Step 6 - Adjust “Sound” to desired level.
- Step 7 - Select desired “View”
- Step 8 - (optional) Select “Record” to start recording of information being viewed.

### Exiting Laerdal Video Client:

Step 1 - (optional) Select "Stop" to end recording. If required, name and save data to desired location.

Step 2 - Select "Exit" on bottom right of the "Laerdal Video Client" display screen

### AVS Stopping Procedure:

These procedures are to be followed if the simulator is no longer in operation and there is no need to allow access to the "Laerdal Video Server" or rooms being viewed by the "Laerdal Video Client."

Step 1 - Select file from the upper right side of the "Laerdal Video Server" Display.

Step 2 - Select "Exit" from the "File" drop down menu.

Step 3 - Turn off equipment as needed.

### Simulations Software

1. The use of this software set is in conjunction with Laerdal patient simulators. Without the simulations software presets set, there can be no recording by the debriefing software or the Video Client. The following are descriptions of typical settings that must be made.

- o Under the Edit screen there is a drop down menu for the "Video Recording Configuration." (Photo 40)

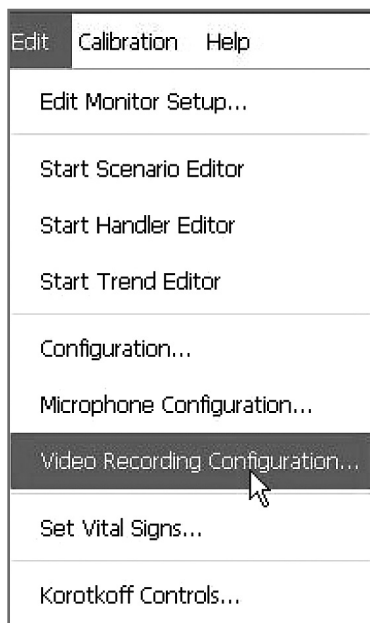


Photo 40

- o The Video Recording Configuration has the ability to use no camera, a WEB Cam, or the Video Server. In this configuration, we use the "Use video server" selection. A note of caution, this selection may give a simulation video error if the Video Server is not sending out the video stream. (Photo 41)

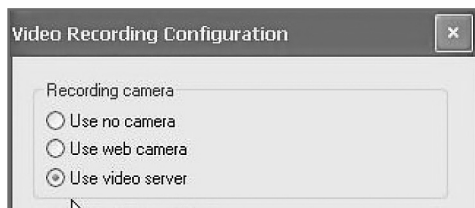


Photo 41

- o The Video Server Recording field is the location where the name that has been assigned to the Video Server is entered. The default name "Skagerak" will work just fine unless there is more than one video server. Remember this is not the PC's name. You must also select which cameras you would like to enable from the Video server to record to the "Laerdal Debrief Viewer." (Photo 42)



Photo 42

- o The Patient monitor recording is enabled by checking the empty box. If there is a need to record the patient monitor to the Laerdal "Debrief Viewer" or the Video Client, then this block must be selected. This is also where you decide the quality of the recording. (Photo 43)



Photo 43

- o The Recording time is used to help you manage your debriefing time limit. This will help you manage the amount of data that may be needed to be saved to a CD/DVD. In high or medium resolution, you could exceed the recording limit of a standard CD. (Photo 44)

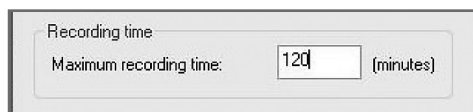


Photo 44

- o The Monitor source identification for Video Client is to enable the simulator PC to be identified by the Video Client software. This will make the port information and simulator PC accessible from the Video Client. The configuration "OK" and "Cancel" will keep your changes and exit the menu or exit without saving any changes. (Photo 45)

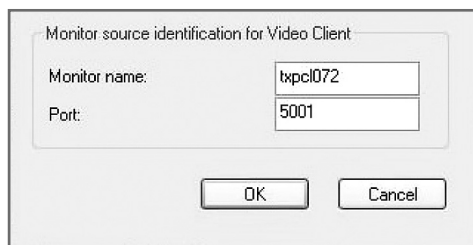


Photo 45

### Maintenance Cleaning

1. Cleaning electrical equipment and their assemblies must be done in accordance to the proper equipment manual.

## Advanced Video System (AVS) trouble shooting guide

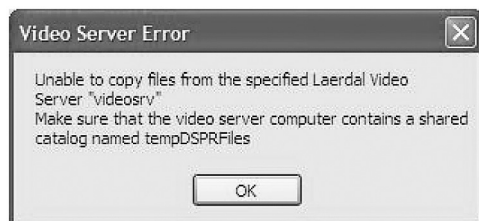
### I received an error message

The following describes the different error messages that the user might encounter during the use of the Advanced Video System.

#### SimMan®/SimBaby™ application

##### 1. Copy file problem

Error message:



Cause:

a. The connection to the server was for some reason lost during the simulation.

Fix: Check your network connections.

b. Access rights to the shared folder "tempDSRFiles" on VideoServer have been lost.

Fix: Check the access rights to the AVS PC. It should have user account called "SimVideo." This user gives the SimMan/SimBaby SW access to the shared folder. For more information on this, please read the DPU (Directions For Use).

##### 2. Server connection problem

Error message:



Cause:

a. Wrong Video Server name

Fix: From the "Edit" menu in the SimMan/SimBaby software, open the "Video recording configuration" dialog. Compare the "Video server name" with the "Server name" in the Video Server application. The server name is found in the bottom left corner of the main window of the Video Server application. Make sure that the names match.

b. Video Server is not running

Fix: Make sure that the button in the lower left corner of video server reads: "Stop Server". If it reads: "Start Video Stream", click the button.

##### 3. Server connection problem

Error Message:



Cause:

a. Video Server is not running

Fix: Make sure the Video Server application is running. If not – start it by double clicking the Video Server icon on the desktop or from the start menu.

b. The video stream has not been started

Fix: Make sure that the button in the lower left corner of video server reads: "Stop Server." If it reads: "Start Video Stream," click the button.

*Hint: To automatically start Video Streaming on Video Server startup, select the "Start Video Streaming on application startup" in the "Video options" dialog.*

##### 4. Video Server is busy

Error Message:



Cause:

This error can have two different causes

a. Video Server is already recording

Fix: The server application is already recording for another SimMan/SimBaby application. Check with all SimMan®/SimBaby™ PC's on the network to find and stop the SimMan® application which is recording.

b. The Video Server application may have been turned off

Fix: Check that the video server is running and the button in the lower left corner of video server reads: "Stop Server." If it reads: "Start Video Stream," click the button.

#### Video Client

##### 1. Server is not responding

Error Message:



Cause:

a. Wrong Video Server name / IP address

Fix: Open the "Connection Setup" dialog under "Settings." Check that the correct Video Server is selected.

b. Video Server is not running

Fix: Make sure the Video Server application is running. If not – start it by double clicking the Video Server icon.

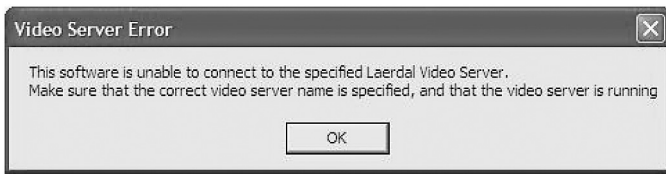
c. The video stream has not been started

Fix: Make sure the button in the lower left corner of video server reads: "Stop Server." If it reads: "Start Video Stream," click the button.

*Hint: To automatically start Video Streaming on Video Server startup, select the "Start Video Streaming on application startup" in the "Video options" dialog.*

## 2. Server connection problem

Error Message:



Cause:

a. Video Server is not running

Fix: Make sure the Video Server application is running. If not – start it by double clicking the Video Server icon.

b. The video stream has not been started

Fix: Make sure the button in the lower left corner of video server reads: “Stop Server.” If it reads: “Start Video Stream,” click the button.

*Hint: To automatically start Video Streaming on Video Server startup, select the “Start Video Streaming on application startup” in the “Video options” dialog.*

## Video Server

### 1. Card initialization problem

Error Message:



Cause:

a. The Video Server fails to initialize the video recording card

Fix: Make sure the video card is properly installed.

b. The video compression card or the AVS PC is defective

Fix: The PC should be returned to Technical Support for further investigation. Go to the end of this trouble shooting guide for more details.

### 2. Start server problem

Error Message:



Cause:

a. The Video Server fails to start properly. This is caused by an error in the video card initialization, which is most often caused by an installation error.

Fix: The Video Server must be reinstalled.

b. The video compression card or the AVS PC is defective

Fix: The PC should be returned to Technical Support for further investigation. Go to the end of this trouble shooting guide for more details.

## I can't see the video

### DebriefViewer

#### 1. Error: The DebriefViewer doesn't display any video.

Cause:

a. The video recording is not turned on. (There shall be a red “Stop Rec” and a red dot in the bottom left corner of the SimMan®/SimBaby™ application if it is recording.)



Fix: From the “Edit” menu in the SimMan/SimBaby software, open the “Video recording configuration” dialog. Make sure that “Use video server” is selected. In addition, make sure that the appropriate cameras have been selected under “Video server recording.”

b. The right video is not selected in debrief viewer.

Fix: Try to change between different views by using the buttons on the bottom right of the Debrief Viewer. Try to right click any of the video areas and change between different video sources.

c. There is a problem with the connection to the video server.

Fix: You should have received an error message. Refer to the appropriate section. If this is not the case, double check your network connections. Check that the Video Server is turned on, displays the camera views and is streaming video. To verify that it is streaming video, make sure that the button in the lower left corner of video server reads: “Stop Server.” If it reads: “Start Video Stream,” click the button.

### Video Client

#### 1. Error: The Video Client doesn't display any video.

Cause:

a. The video server is not selected.

Fix: From the “Settings” menu in the Video Client, open the “Connection Setup” dialog. Make sure that correct server is selected under “Available Server.” In addition, make sure that the appropriate cameras have been selected.

b. The right video is not selected in debrief viewer.

Fix: Try to change between different views by using the buttons on the bottom left of the Video Client. In addition, try to right click any of the video areas and change between different video sources.

c. There is a problem with the connection to the video server.

Fix: You should have received an error message. Refer to the appropriate section. If this is not the case, double check your network connections. Check that the Video Server is turned on and is streaming video. To verify that it is streaming video, make sure that the button in the lower left corner of video server reads: “Stop Server.” If it reads: “Start Video Stream,” click the button.

### Video Server

#### 1. Error: The Video Server doesn't display any video.

Cause:

a. The cameras are not connected.

Fix: Check that the cameras are connected to the correct input cable on the Video Server. The video cable should be connect to any of the cables that are marked “Vid 1”, “Vid 2”, “Vid 3” or “Vid 4”.

b. The cameras don't have power.

Fix: Check that the cameras have power connected.

c. The camera is broken.

Fix: Test the camera by connecting it to the AV input on a TV, or try another camera.

d. The video card is not properly installed.

Fix: An error message should have popped up. If it does, refer to the appropriate section for error messages. If it doesn't, there is a problem with the card or the installation of it.

e. The video compression card or the AVS PC is defective.

Fix: The PC should be returned to Technical Support for further investigation. Go to the end of this trouble shooting guide for more details.

## I can't see the patient monitor

### Debrief Viewer

1. Error: The Debrief Viewer doesn't display the patient monitor.

Cause:

a. The patient monitor recording is not enabled.

Fix: From the "Edit" menu in the SimMan®/SimBaby™ software, open the "Video recording configuration" dialog. Make sure that "Enable monitor recording" is selected.

b. The patient monitor is not selected in Debrief Viewer.

Fix: Try to right click any of the video areas and select "Monitor."

### Video Client

2. Error: The Video Client doesn't display the patient monitor

Cause:

a. The patient monitor recording is not enabled.

Fix: From the "Edit" menu in the SimMan/SimBaby software, open the "Video recording configuration" dialog. Make sure that "Enable monitor recording" is selected.

b. The patient monitor is not selected in Debrief Viewer.

Fix: Try to right click any of the video areas and select "Monitor."

## I can't hear the sound or the audio quality is poor

### Debrief Viewer

1. Error: There is no sound played in the Debrief Viewer or the quality is poor.

Cause:

a. The audio signal is connected to the wrong audio plug.

Fix: Connect the audio signal to the plug marked "Aid 1" on the back of the AVS PC.

b. There is insufficient audio input to the card

Fix: Use the Video Client while fixing this: Start the Video Client and connect it to the same Video Server as the SimMan/SimBaby application. Test the sound from the Video Client and use the trouble shooting in the next section.

c. The sound is turned off in the Debrief Viewer.

Fix: Adjust the sound with the sound control at the bottom of the Debrief Viewer.

d. The speakers are turned off or the output volume is too low.

Fix: Test that your speakers are working and try to adjust the output volume.

### Video Client

1. Error: There is no sound played in the Video Client or the quality is poor.

Cause:

a. There is insufficient audio input to the card. This is the most important part for the sound quality/volume.

Fix:

i. Check that the cabling is correct.

ii. Increase the volume of the audio input.

iii. Test that the audio input is OK.

b. The sound is turned off or is too low in the Video Client.

Fix: Turn up the audio volume control at the bottom of the Video Client.

c. The speakers are turned off or the output volume is too low.

Fix: Test that your speakers are working and try to adjust the output volume. If the sound is still of poor quality or too low, repeat the adjustment of the input volume (a), followed by adjustment of output volume (b and c).

d. The video compression card or the AVS PC is defect.

Fix: The PC should be returned to Technical Support for further investigation, go to the end of this trouble shooting guide for more details.

## The video has poor quality

### Debrief Viewer

1. Error: The video quality in the Debrief Viewer is of poor quality.

Cause:

a. The Debrief Viewer is not set up to run with high image quality to save processing power.

Fix: In the Options menu, make sure that "Image quality high" is ticked.

b. The Video Server is not set up to use the highest quality.

Fix: In the Video Server application, press the "Stop Server" application in the lower left corner. If the button reads "Start Video Stream", just leave it like this. Select "Video Setup" in the "Options" menu and press the "High Quality" button for quality presets. Press OK to use this setting and close the dialog. Start the Video Stream by pressing the "Start Video Stream" button in the lower left corner.

c. The video compression card or the AVS PC is defect.

Fix: The PC should be returned to Technical Support for further investigation, go to the end of this trouble shooting guide for more details.

### Video Client

1. Error: The video quality in the Video Client is of poor quality.

Cause:

a. The Video Server is not set up to use the highest quality.

Fix: In the Video Server application, press the "Stop Server" application in the lower left corner. If the button reads "Start Video Stream", just leave it like this. Select "Video Setup" in the "Options" menu and press the "High Quality" button for quality presets. Press OK to use this setting and close the dialog. Start the Video Stream by pressing the "Start Video Stream" button in the lower left corner.

## The AVS PC is not working and has been returned to Technical Support

1. Verify that there is a problem

a. Connect audio and video signals and test:

i. Does the Video Server display video? If No, go to 2.

ii. Can you start the Video Stream?

1. No? Try the trouble shooting above and go to 2 if you can't resolve the problem.

- iii. Can you receive the Video Stream with Video Client?
  1. No? Try the trouble shooting above and go to 2 if you can't resolve the problem.

## 2. Isolate the problem

You will need a local validated AVS system to isolate the problem.

a. Take the customer's video compression card out of the customer's AVS PC and replace the video compression card in the local validated AVS system.

- i. Use the supplier's sample server software (NetServerDemo.exe<sup>1</sup>). Does the local AVS system still work?

1. Yes?

a. Does the card work with the Video Server and the Video Client SW?

- i. Yes? There is a problem with the customer's AVS PC's hardware or software.

Fix: Try to reinstall the Video Server SW on the customer's AVS PC.

- ii. No? If the customer's system still doesn't work after the reinstall, there is probably an error with the customer's AVS PC's hardware.

2. No? There is a problem with the customer's video compression card or cable. Try with a working cable, if this doesn't help there is a problem with the video card. Contact the supplier.



This product is in compliance with the essential requirements of Council Directive 89 / 336 / EEC; EMC Directive.

## Technical Data

### General

Operating Temperature

0°C - 40°C at 90% relative humidity, non-condensing

Storage Temperature

-15°C - 50°C at 90% relative humidity, non-condensing

### Standards/Approvals

The product, when carrying the CE-mark, is in compliance with essential CE requirements and other relevant provisions of council directive 1999/5/EC.

### EMC – Immunity against – and radiation of electromagnetic fields

Compliance is claimed for the essential requirements in council directive

**1999/5/EC** regarding the harmonization of the member states' regulations

regarding **Radio and Telecommunication Terminal Equipment**.

Conformity is based on the following technical standards:

EN 301 489-1 v1.4.1:2002

EN 301 489-3 v1.4.1:2002

EN 300 220-1 v1.3.1:2000

EN 300 220-3 v1.1.1:2000

FCC CFR 47 part 15

### SD – Immunity against electrostatic discharges

Compliance is claimed for the essential requirements in council directive

**1999/5/EC** regarding the harmonization of the member states' regulations

regarding **Radio and Telecommunication Terminal Equipment**.

Conformity is based on the following technical standards:

EN 301 489-1 v1.4.1:2002

EN 301 489-3 v1.4.1:2002

EN 300 220-1 v1.3.1:2000

EN 300 220-3 v1.1.1:2000



