



AIDA HD Connect™

Model: 20205502-1 Base Unit

20205501-140 Base Unit with SmartScreen®

20205602-1 Base Unit with Blu-ray drive

20205601-140 Base Unit with SmartScreen® and Blu-ray Drive

20041406-V01 Optional DICOM Module

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Important information for users of KARL STORZ equipment

Thank you for your expression of confidence in the KARL STORZ brand name. Like all of our other products, AIDA HD Connect™ is the result of years of experience and great care in manufacture. You and your organization have decided in favor of a state-of-the-art, high-quality piece of equipment from KARL STORZ.

This instruction manual is intended to serve as an aid in the proper setup, installation, and operation of AIDA HD Connect™. All essential details of the equipment and all actions required on your part are clearly presented and explained. We ask that you read this manual carefully before proceeding to work with the equipment. Keep this manual available for ready reference in a convenient and conspicuous location near the equipment.

Indication for use

This system is a digital video, still image and audio capture device intended for documentation of surgical procedures.

General description

AIDA HD Connect™ captures both still images and streaming video, with the capability of storing the surgical images on a CD, DVD, USB flash devices and to a network.

Features of AIDA HD Connect™ include:

- User-friendly touch screen (remote or optional integrated SmartScreen®) for control of functions
- HD Digital storage capability on CD-R, DVD+R or DVD-R, USB & Network
- Capture of images/video from the Karl Storz programmable camera head buttons
- "Print during capture" for immediate still image prints
- Optional audio recording during video or still image capture
- Printed report listing patient information, captured video files, and thumbnail images of the captured still images
- For use with both NTSC and PAL video signals
- Video inputs: analog composite input, analog S-Video input, digital HD SDI video input, and DVI input
- Video outputs: analog composite output, analog S-Video output, digital HD SDI video output, and DVI output
- Audio inputs: Line level audio input
- Multi-session recording on optical media
- Password log-in to facilitate HIPAA requirements
- Optional DICOM module

Warnings and cautions

Please read this manual and follow its instructions carefully. The words **WARNING**, **CAUTION**, and **NOTE** convey special meanings. When they are used throughout this manual, they should be carefully reviewed to ensure the safe and effective operation of this product.

WARNING A **WARNING** indicates that the personal safety of the patient or physician may be involved. Disregarding a **WARNING** could result in injury to the patient or physician.

CAUTION A **CAUTION** indicates that particular service procedures or precautions must be followed to avoid possible damage to the product.

NOTE A **NOTE** indicates special information to improve the ease of maintaining the product, or to clarify important information.



The symbol of an exclamation mark within a triangle is intended to alert the user to the presence of important operating and maintenance instructions in the product's accompanying documents.

WARNING Read this instruction manual thoroughly and be familiar with its contents prior to connecting or using this equipment.

WARNING Test this equipment prior to each surgical use. Availability of a spare system is recommended.

WARNING Grounding reliability can only be achieved when the equipment is connected to "Hospital Only" or "Hospital Grade" receptacle (i.e., approved for use in an operating room environment). Routinely inspect electrical plug and cord. Do not use if inspection reveals damage.

WARNING Keep out of reach of patients.

WARNING The electrical installation of the relevant operating room must comply with the applicable IEC, CEC and NEC requirements. Use only in hospital grade receptacles.

WARNING To reduce the risk of electrical shock, do not remove cover of unit. Refer servicing to qualified personnel. Removal of cover by unauthorized personnel will void the unit's warranty.

WARNING Refer to the appropriate section of this manual for validated cleaning instructions.

WARNING This device should be connected to a hospital network system only in medical installations compliant with NFPA99, *standard for Health Care Facilities*, or equivalent national standard.

CAUTION Do not store liquids above unit.

NOTE Disposal of these system products, at the end of their useful life, must be in accordance with local regulations. **This system contains a lithium battery (Li Mn O₂).**

WARNING Accessory equipment connected to the analog and digital interfaces must be certified according to the respective IEC standards (e.g. IEC 60950 for data processing equipment and IEC 60601-1 for medical equipment). Furthermore, all configurations shall comply with the system standard IEC 60601-1-1. Any person who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore responsible for ensuring that the system complies with the requirements of the system standard IEC 60601-1. If in doubt, consult the technical service department or your local representative.

WARNING It is mandatory that one output from the video source (CCU) be connected to the AIDA HD Connect™ input while a secondary output from the source is connected to a secondary input on the surgical monitor. This allows for switching to the secondary input of the monitor should the live image through AIDA HD Connect™ fail.

WARNING To ensure safe operation, do not simultaneously touch the device output connectors and the patient

NOTE Before shipping, please disconnect ALL cables, including the SmartScreen® serial data and DVI cables. Unit should always be transported in its original packaging. When available, the SmartScreen® shipping lock should be used to secure the SmartScreen® during shipping. To do this, hold in the SmartScreen® and rotate the retention screw on the back panel until tight.

NOTE Do not discard as unsorted municipal waste.

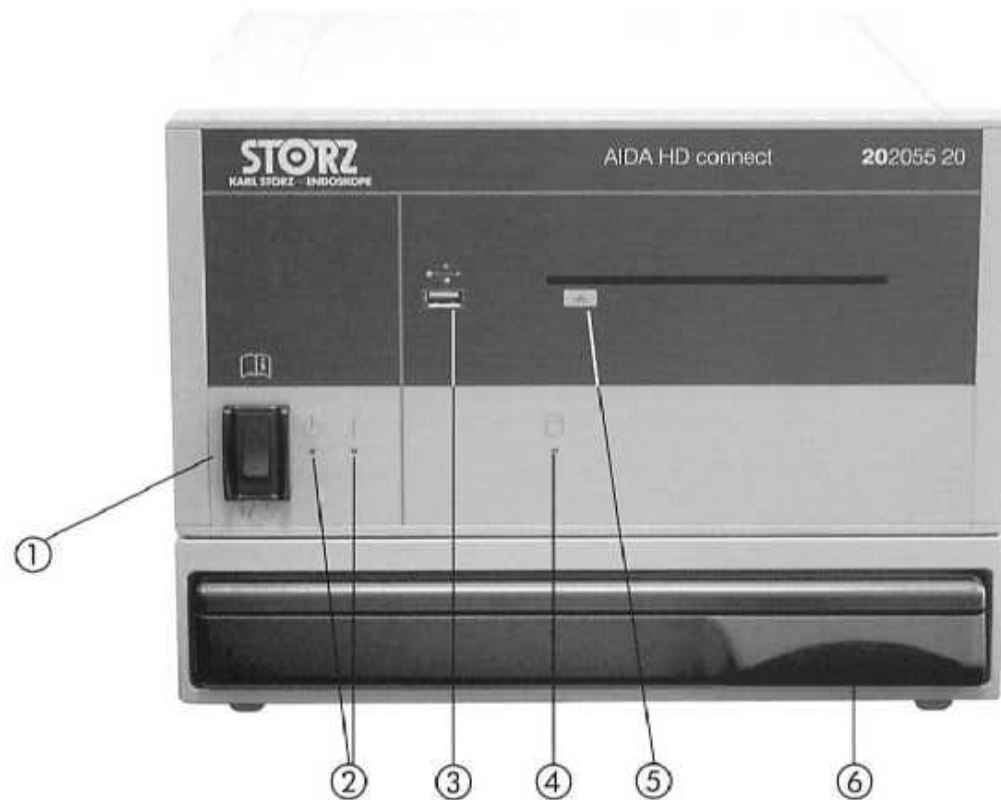
NOTE Discard as electrical/electronic waste; recycle or reuse accordingly.

NOTE Consult local authorities for reuse/recycle instructions.

NOTE The AIDA HD Connect™ should be powered down at the end of each working day.

Front panel

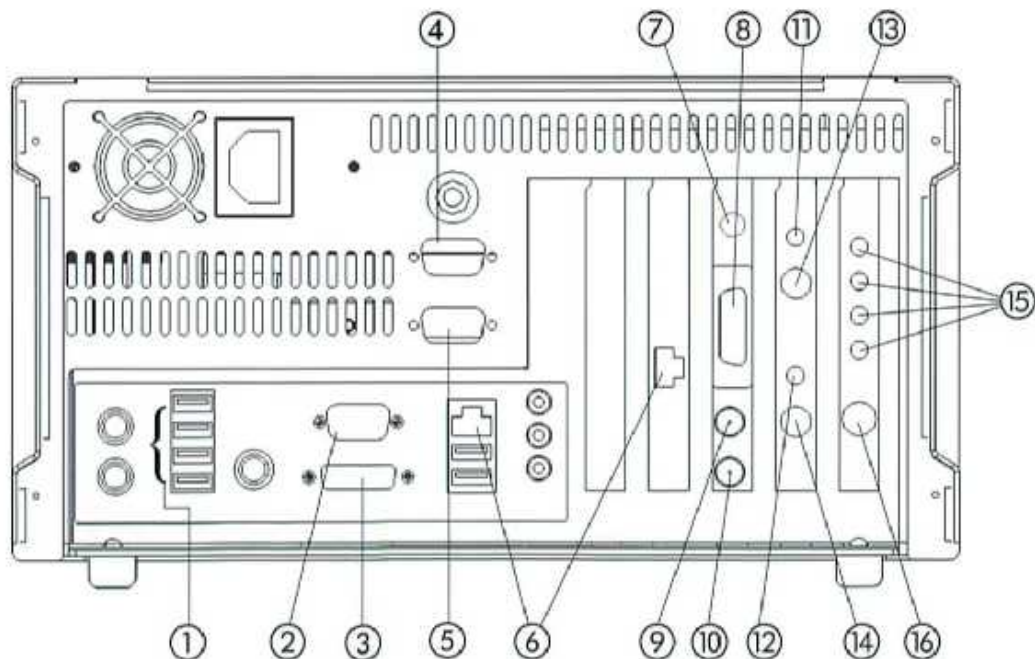
- ① Standby/On Switch
- ② Power On Indicator
- ③ USB Port
- ④ Hard Drive Activity Indicator
- ⑤ CD/DVD Eject Button
- ⑥ SmartScreen® Access Button (only on units with integrated touch screen)



Back panel

- ① **USB:** ports for various USB inputs (USB keyboard, USB mouse, USB printer)
- ② **Monitor Out:** output from AIDA HD Connect™ to any VGA input (remote touch screen)
- ③ **DVI Out:** output from AIDA HD Connect™ to SmartScreen® DVI In
- ④ **RS-232:** Serial Communication
- ⑤ **Serial Data In:** connection to SmartScreen®
- ⑥ **Ethernet:** Network Connections
- ⑦ **Audio In/Out**
- ⑧ **DVI In/Out**
- ⑨ **HD SDI (3G) Output**
- ⑩ **HD SDI (3G) Input**
- ⑪ **Composite Video Out:** (Note: Composite-to-phono adaptor is required)
- ⑫ **Composite Video In:** (Note: Composite-to-phono adaptor is required)
- ⑬ **S-Video Out**
- ⑭ **S-Video In**
- ⑮ **Accessory Ports (4)**
- ⑯ **Footswitch**

AIDA HD Connect™



Symbols employed



Read the instructions carefully before operating the equipment



Standby/On



Equipotentiality



DANGER: Risk of explosion if used in the presence of flammable anesthetics.



CAUTION: To reduce the risk of electrical shock, do not remove cover. Refer servicing to qualified service personnel.



Protective earth (ground)



Alternating current



Store AIDA HD Connect™ out of direct sunlight and excessive heat.



If AIDA HD Connect™ needs to be cleaned, wipe it down with a damp cloth or sponge. Dry thoroughly with a soft towel or gauze surgical sponge.



Fragile, handle with care



Keep dry



Storage temperature and humidity



This side up



Device is subject to the requirements of the WEEE Directive, 2002/96/EC

Safety instructions

Please read these safety instructions carefully. Before using AIDA HD Connect™ in a surgical procedure, it is imperative that you are familiar with the equipment operation and control.

Normal use

AIDA HD Connect™ is a digital image capture device intended for documentation of surgical procedures. The captured images or streaming video and associated audio may be archived to a CD, DVD, USB or computer network. Use of AIDA HD Connect™ in other applications is not allowed for safety reasons.

AIDA HD Connect™ may only be used with accessories, wearing parts, and disposable items which are designated by KARL STORZ as suitable for AIDA HD Connect™ or the safe use of which is proven. For safety reasons, do not perform unauthorized conversions or modifications to the device.

User qualification

WARNING: AIDA HD Connect™ may only be used by physicians and medical assistants who have a corresponding specialized qualification and are instructed in the use of this equipment.

Safety precautions at the site of installation

The unit may only be used in medical rooms installed according to applicable national standards.

It is not intended for use in hazardous zones. This means, for example, that when using easily combustible and explosive inhalation anesthetics or mixtures thereof, AIDA HD Connect™ must not be operated inside the demarcated hazard zone. Examples of such substances are: anesthetic ether (diethyl ether, cyclopropane) as well as combustible, volatile skin cleansers and skin disinfectants which may create an explosive atmosphere (e.g. detergent ether, petroleum ether).

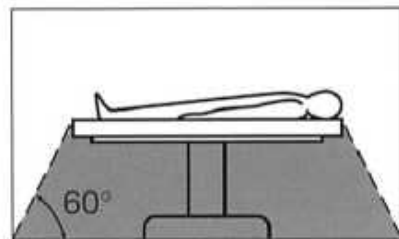
AIDA HD Connect™ is equipped with a connector for attaching a ground line. It should be connected according to applicable national standards.

Safety precautions when operating the equipment (electromagnetic compatibility)

It is the user's responsibility to make sure the equipment is safe and operates properly before use.

CE marked equipment has been tested and found to comply with the EMC limits for the Medical Device Directive 93/42/EEC (EN 55011 Class A and EN 60601-1-2). These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. The equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device
- Increase the separation between the equipment
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) is connected
- Consult the manufacturer or field service technician for help.



Unpacking AIDA HD Connect™

Carefully unpack AIDA HD Connect™ and its accessories, avoiding extreme impacts to the device. If there are missing items, call the manufacturer or supplier immediately with any problems. If there is evidence of shipping damage, please refer to "shipping damage" section of this manual. Please retain the original packing materials for future transporting. **Note: For units with a SmartScreen® shipping lock on the back panel, unscrew the shipping lock counter clockwise to release the screen. Prior to shipping the device, lock the SmartScreen® by pushing in on the front of the screen while turning the shipping lock clockwise.**

Product Part Number

AIDA HD Connect™ with SmartScreen® and DVD Drive - 20205501-140

AIDA HD Connect™ without SmartScreen® and DVD Drive - 20205502-1

AIDA HD Connect™ with SmartScreen® and Blu-Ray Drive - 20205601-140

AIDA HD Connect™ without SmartScreen® and Blu-Ray Drive - 20205602-1

Product Contents:**Catalog Part #**

S-Video Cable, 6'	547S
Composite Cable, 6'	536MK
Composite-to-Phono Adaptor (qty. 2)	20040083
SDI Cable, 6'	536MK
DVI Cable, 10'	20040089
Power Cord	400B (110V~) U.S. 400A (240V~) Intl
Instruction Manual, AIDA HD Connect™	IM-AIDA HD CNCT-00XX
Administrator's Instruction Manual	IM-AIDA HDC ADMIN-00XX
SmartScreen® Cable (Serial/DVI)	20200174
DVI Y-Cable (In/Out)	20200173
Audio Y-Cable (In/Out)	20200175

Current Software Installation Disc

Optional accessories: Contact: KARL STORZ Representative for Information

Remote touch screen

Footswitch*

*Connect only a footswitch compliant with IEC 60601-1,
2nd Edition Clause #56.11 (IPX8) rated.

Microphone

CD's & DVD's

Printer*

*An isolation transformer may be required for printer.

Installing AIDA HD Connect™

WARNING: AIDA HD Connect™ may be used only in medical facilities having electrical installations conforming to applicable national, state, and local electrical codes.

AIDA HD Connect™ is not intended for use in hazardous zones. Do not operate AIDA HD Connect™ within demarcated hazard zones while explosive anesthetic gases are in use.

AIDA HD Connect™ is equipped with a connector for attaching an equipotential wire (redundant grounding wire) line. AIDA HD Connect™ equipotential line should be installed by a qualified electrician.

NOTE: It is important to install the AIDA HD Connect™ in a location that provides ample air flow around the device. This includes locating the AIDA HD Connect™ away from other heat-producing devices.

1. Connecting power

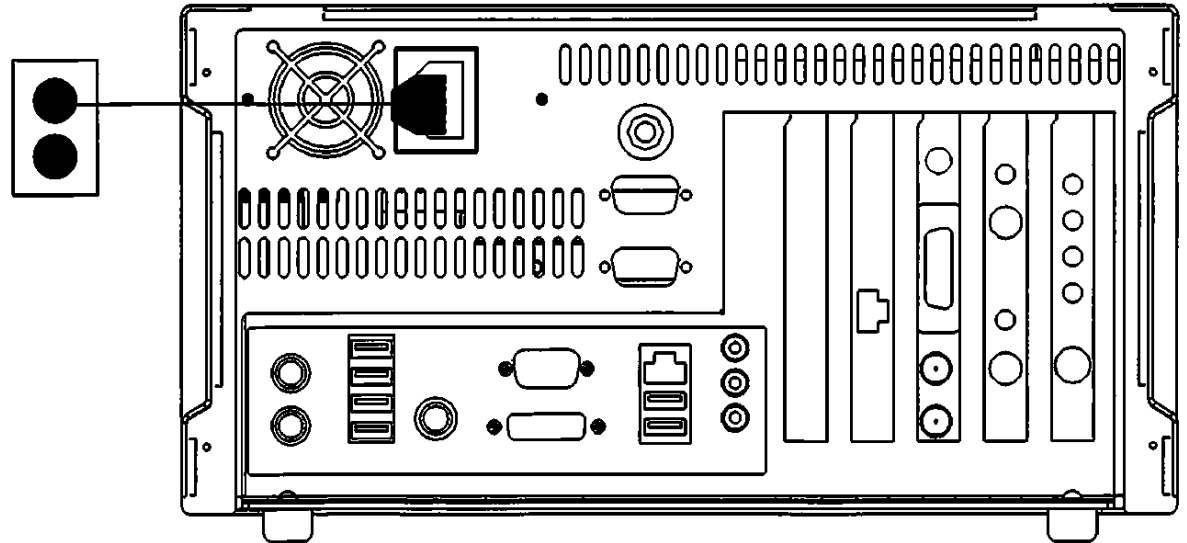
Set AIDA HD Connect™ on a flat surface. Make sure there is sufficient distance on all sides to other equipment (especially radio frequency surgical equipment) and objects.

Before plugging in AIDA HD Connect™, ensure that the voltage on the nameplate corresponds to the voltage of the local power line.



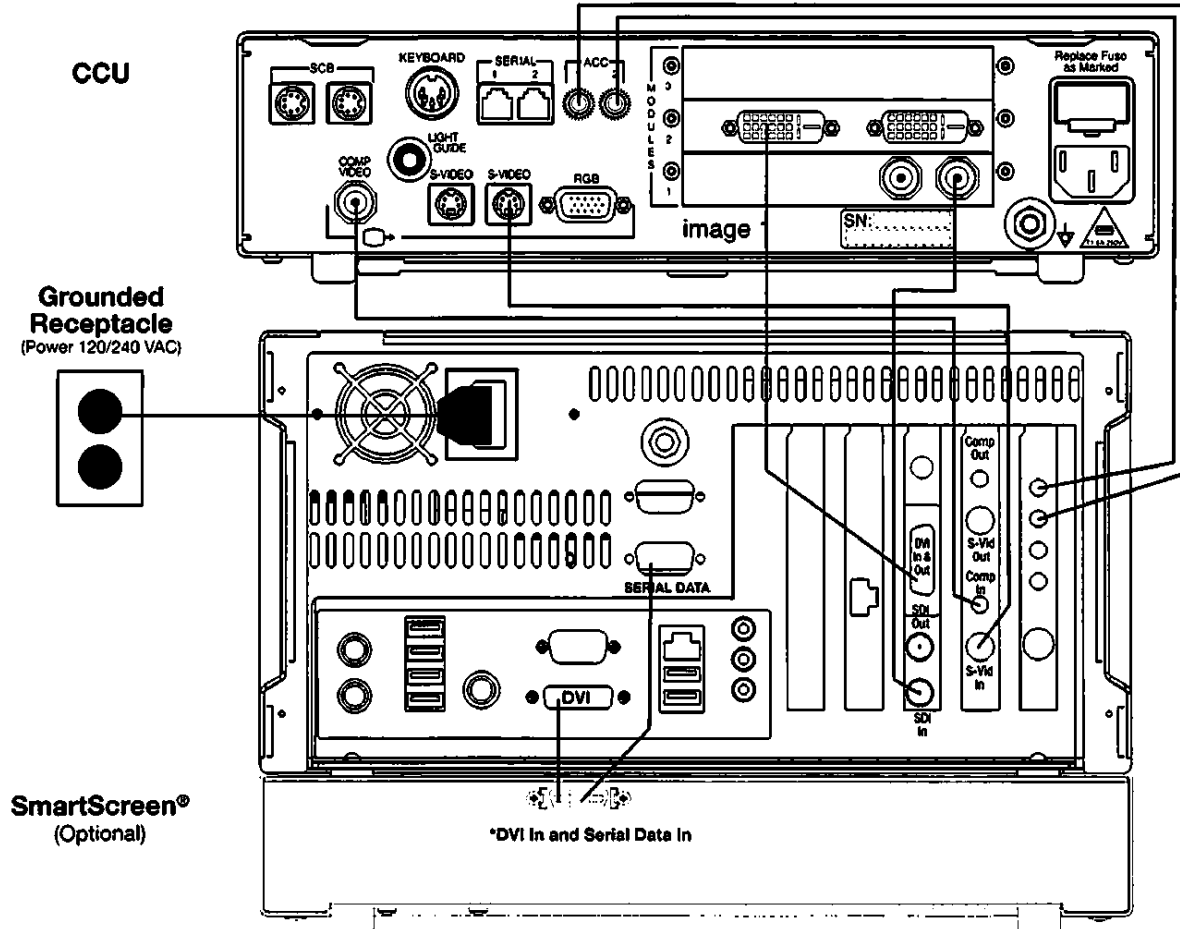
Connect power cord. Insert power cord into power cord receptacle as far as it will go. (This should only be done outside potentially explosive locations.)

WARNING: Always use a hospital grade power cord with AIDA HD Connect™.



Installation

2. Connecting AIDA HD Connect™ to the Karl Storz Image 1™ CCU

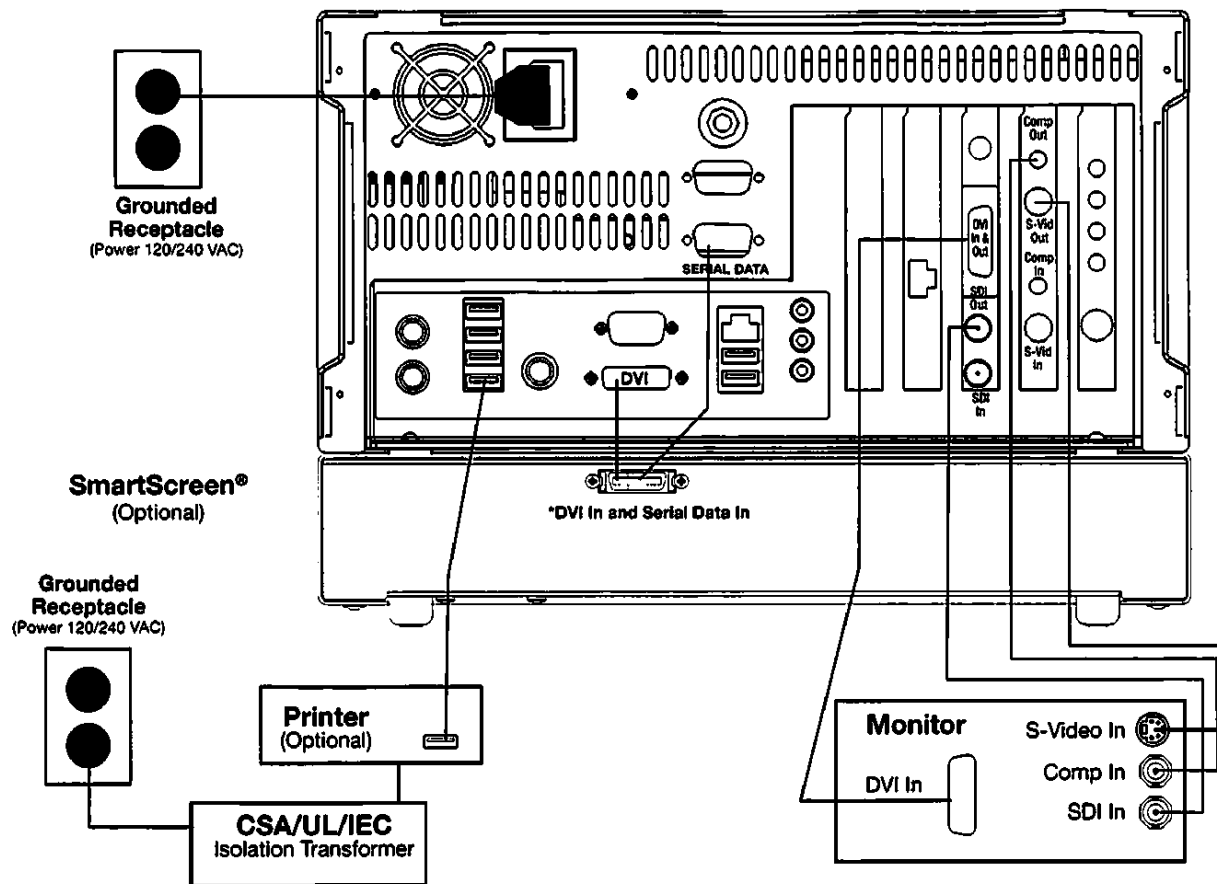


*It is necessary to use the supplied DVI/Serial Data Cable when wiring the SmartScreen® to the AIDA HD Connect™

For composite cable connection: If using a composite video signal, you must use the enclosed composite-to-phono adaptor to connect the composite cable to the AIDA HD Connect™ on the back panel. This connection design was necessary due to space limitations on the back panel of the device.

WARNING: It is mandatory that one output from the video source (CCU) be connected to the AIDA HD Connect™ input while a secondary output from the source is connected to a secondary input on the surgical monitor. Either S-video or Composite should be used as the secondary output. This allows for switching to the secondary input of the monitor should the live image through AIDA HD Connect™ fail.

3. Connecting AIDA HD Connect™ to a printer, monitor, and SmartScreen®



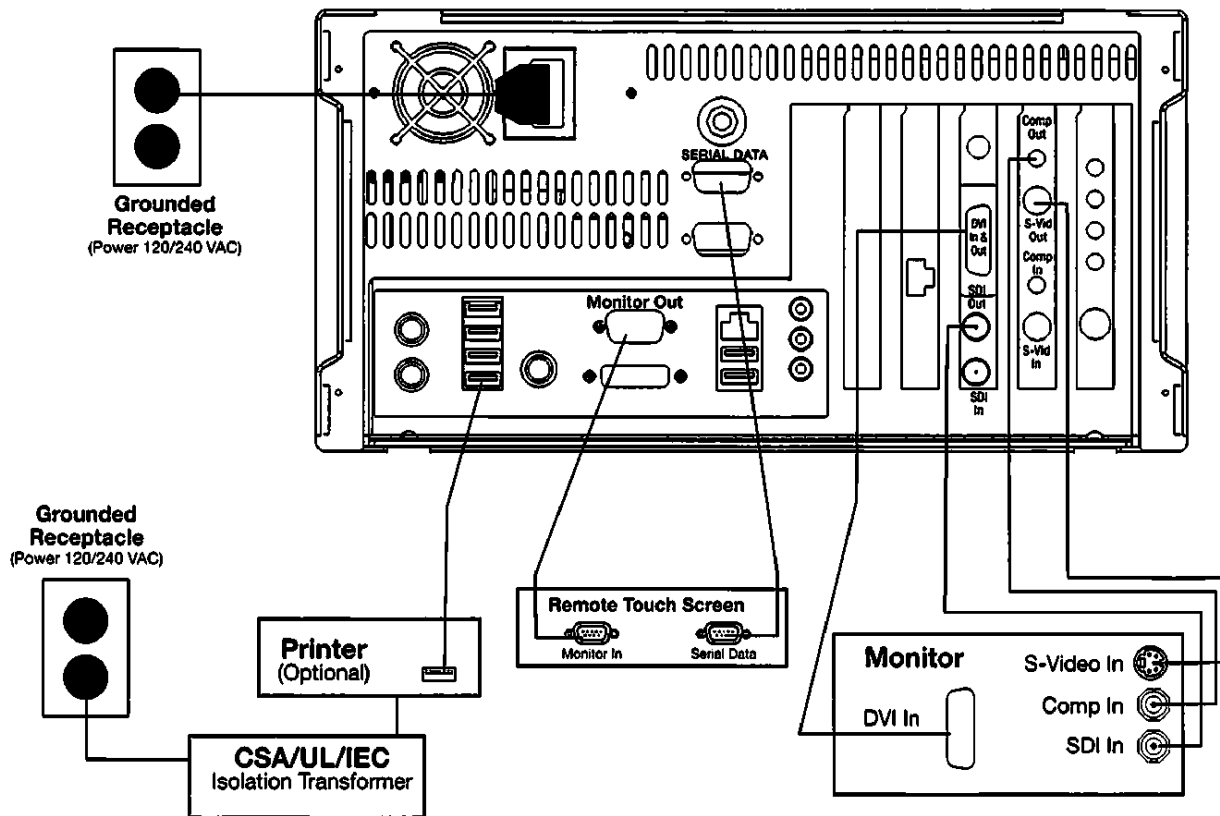
*It is necessary to use the supplied DVI/Serial Data Cable when wiring the SmartScreen® to the AIDA HD Connect™

NOTE: Only one touch screen may be used at one time. Multiple touch screen connections are not supported.

For composite cable connection: If using a composite video signal, you must use the enclosed composite-to-phono adaptor to connect the composite cable to the AIDA HD Connect™ on the back panel. This connection design was necessary due to space limitations on the back panel of the device.

WARNING: It is mandatory that one output from the video source (CCU) be connected to the AIDA HD Connect™ input while a second-ary output from the source is connected to a secondary input on the surgical monitor. Either S-video or Composite should be used as the secondary output. This allows for switching to the secondary input of the monitor should the live image through AIDA HD Connect™ fail.

4. Connecting AIDA HD Connect™ to a printer, monitor, and remote touch screen



NOTE: Only one touch screen may be used at one time. Multiple touch screen connections are not supported.

For composite cable connection: If using a composite video signal, you must use the enclosed composite-to-phono adaptor to connect the composite cable to the AIDA HD Connect™ on the back panel. This connection design was necessary due to space limitations on the back panel of the device.

WARNING: It is mandatory that one output from the video source (CCU) be connected to the AIDA HD Connect™ input while a secondary output from the source is connected to a secondary input on the surgical monitor. Either S-video or Composite should be used as the secondary output. This allows for switching to the secondary input of the monitor should the live image through AIDA HD Connect™ fail.

Installation

Connecting a microphone

If audio recording is desired, attach the microphone plug into the audio input on AIDA HD Connect™ back panel.

NOTE: The microphone is optional. For ordering information, contact your Karl Storz sales representative.

NOTE: The audio input is a line-level input.

Connecting a mouse

If a computer mouse will be used to control the AIDA HD Connect™ functions, plug a USB mouse into any USB input on the AIDA HD Connect™ back panel. The mouse must be plugged in before turning on the AIDA HD Connect™ in order to function.

NOTE: Only USB-style mouse/keyboard is supported.

WARNING: Important Video Wiring Instructions:

It is mandatory that one output from the video source (surgical camera) is connected to the AIDA HD Connect™ input while a secondary output for the video source (surgical camera) is connected to a secondary input on the main surgical monitor. This is necessary in order to maintain a live surgical image if the AIDA HD Connect™ is shut down. There is no power-off bypass for the DVI and SDI signals through the AIDA HD Connect™ device. What this means is when the AIDA HD Connect™ is shut down, the live surgical view on the surgical monitor will not be visible. The s-video and composite inputs and outputs of the AIDA HD Connect™ do have power-off bypass. Therefore, it is recommended to use either the s-video or composite signals as the secondary input/output from the surgical camera through the AIDA HD Connect™ to the surgical monitor. This would allow switching of the input signal on the surgical monitor to continue to view the live feed should the AIDA HD Connect™ lose power or is shut down.

NOTE: The SmartScreen® and supplemental RS-232 connection is NOT intended to be a 'hot swap' connection.

System Software Updates

Periodically, software revisions and updates will be made available for the system. It is recommended to install new software revisions during hospital operating room off-hours to prevent any possible delays in scheduled surgical procedures.



SmartScreen® Access

Getting Started

Touch Screen Operation

If your AIDA HD Connect™ includes the SmartScreen® integrated touch screen, press in on the touch screen to release it, and pull out the SmartScreen®. Move the bottom of the screen up or down for the desired viewing angle.

The touch screen is used to access all functions of AIDA HD Connect™, including:

- Setting system preferences
- Capturing still images, streaming video, and audio
- Reviewing, printing, and exporting captured files

To select a function, touch the screen with your finger. (Do not use a pencil or pen to touch the screen, as this may cause damage.) If a computer mouse will be used to control the AIDA HD Connect™, an on-screen pointer is available to point to the desired function. Press with mouse button to select.



Standby/On Button

System Start Up



WARNING: Test AIDA HD Connect™ before each procedure. Ensure that the proper video image appears on all video monitors before beginning each procedure.

Press the Standby / On button on the front panel. If a printer will be used during the session, turn the printer on. Do not turn off the printer until the session has ended.

When powering up for the first time, a series of screens may appear asking the user to press specific areas of the screen. With this response, the system will automatically calibrate the touch screen in use. This calibration may occur when AIDA HD Connect™ is turned on for the first time, when new software is installed, or when a different touch screen is used.

It is good practice to always power off the AIDA HD Connect™ using the Standby / On button on the front panel of the device itself. Powering off by any other method, such as using the power buttons on the operating room cart power switch, may result in file corruption. It is also good practice to power down the AIDA HD Connect™ at the end of each work day.



Logging On to the System and Passwords

Each time the system is started, you will need to log on to the AIDA HD Connect™ (unless Auto Login option is enabled by system administrator). In order to log in, touch the appropriate field areas with the mini-keyboard (User, Password). Upon touching the field area, a larger on-screen keyboard will appear to allow entry into the fields. Field entry can also be done with an attached keyboard and mouse.

The default User Name and Password with a new system is:

User: admin
Password: admin

Individual user accounts are recommended. The 'Default User' account (noted above) should be changed by the administrator after device installation.

The administrator account is provided to allow the facility's administrator to make configuration changes to the device.

If your user name does not appear on the list, please contact your system administrator. Users can be added via the administrator mode.

Log in, and press OK to start a session. The Capture screen will immediately come up after logging onto the system.

Changing System Password

The system password can be changed only by the system administrator via the set up screen (accessed by touching the WRENCH icon in upper right area of touch screen).

Select Login option from list on left side of touch screen.

Once the login has been changed on a system from admin to a user name (re-assigned), it can only be changed again (re-assigned) by the administrator via their log-in.

Auto Login

There is also the ability in the Login option screen for the administrator to select Auto Login for users (an update to their profile). When this Auto Login option is selected, the Login Screen will be by-passed upon power up of the system.

Disc and USB Insertion

Disc Insertion

A disc may be inserted into AIDA HD Connect™ at any time during a procedure. Please take note of the system drive when choosing compatible disc types (DVD drive or Blu-Ray drive). AIDA HD Connect™ compatible disc media includes the following:

DVD Drive (20205520)

CD-R
DVD-R
DVD+R
DVD+R DL

Blu-Ray Drive (20205620)

CD-R
DVD-R
DVD+R DL
BD-R
BD-R DL

Insert the disc into the appropriate disc slot. If the inserted disc is an incompatible format, a message will appear on the touch screen with further information. To remove the disc, press the eject button on the front panel of the device. Do not attempt to remove the disc when recorded data is being written to the disc as this may corrupt the file.

NOTE: Use only clean, dry discs in the AIDA HD Connect™. Do not touch, soil, or scratch the recording surface (underside). If necessary, clean recording side with a soft, dry cloth. Store discs in a disc holder or sleeve for protection. When labeling the disc, use a permanent, soft-tipped felt marker or a commercial disc adhesive label on the non-recording side (top). Use of other pens or labels may damage the disc, causing information loss.

NOTE: If unable to successfully export information, do not attempt to finalize on the same disc. Instead, insert a new disc and retry the export.

USB Insertion

A USB device intended for recording purposes (i.e. flash stick, USB hard drive) may be directly inserted into the USB input on the front of the AIDA HD Connect™ at any time during a procedure. USB devices that are USB 1.1 and 2.0 are compatible.

NOTE: If unable to successfully export to a USB device, it is recommended to try another USB device.

NOTE: There are multiple USB inputs on the back of the device as well. However, it is recommended to connect one USB memory device at a time



General Description of User Interface

The AIDA HD Connect™ user interface was designed with consideration of a typical surgical procedure workflow. To accomplish this, various screens of the user interface can be accessed by the four major workflow icons located in the lower right of the main user interface:

- Patient Info (Pre-surgery)
- Capture (Surgery)
- Review (Review and Print)
- Finish (Post-surgery)

Selecting any one of these workflow icons will access specific user interface screens required for a specific part of the surgical procedure. For example,

- Patient Info icon will access a user interface for entry or retrieval of patient data.
- Capture icon will access a user interface for capturing still images, recording video and/or audio from the surgical procedure.
- Review icon allows user to review, edit, and print information from the surgical procedure.
- Finish icon will access a user interface to export recorded information from the surgical procedure to specified destinations.

NOTE: In some cases, the workflow icon may take on another role than the ones mentioned above (i.e. the Patient Info icon is also used to create worklists).



System Settings Options

Before beginning a capture session, check the system settings to insure that AIDA HD Connect™ is set to desired user preferences. To access the settings options, touch the WRENCH icon on the upper right of the AIDA HD Connect™ touch screen. The available system settings options are listed on the left side of the touch screen. Upon opening the settings options, the screen of the last opened settings tab will appear. Touch the desired tab to access the specific setting you wish to change or confirm. To exit the settings screen touch the WRENCH icon again.

NOTE: Not all system settings are available to users. System administrators have access to all user settings. If some settings need to change, but not accessible to user, contact your system administrator.



Standard User Setting Options

Still Images

File Format: File formats for storing still images (tiff; jpeg; jpeg2000; bitmap; DICOM (+jpeg))

Port #/Foot Pedal: Allows assignment of the following functions to either camera head control buttons or foot pedal (None, Still Capture, Video Start/Stop, Audio Start/Stop)

HD Watermark: Incorporate an Image 1 HD Watermark into captured HD still image files (and prints) (On/Off)



Video/Audio

Video Quality: Quality levels for stored videos (Medium; High)

Video File Format: File formats for storing videos (MPEG2, MPEG4, MOV)

Retroactive Capture: Minutes available to retroactively record video (Off; 1-9 minutes)

Enable Audio: Record audio (On/Off)

If Audio is enabled: **Capture Audio with Stills:** (On/Off) – allows 5 seconds of audio recording after still capture
Audio File Format: File formats for storing audio files (WAV; MOV)

NOTE: Selection between MPEG4 and MOV video file formats is user's choice. However, if planning to edit videos on a MAC, consider recording with MOV video file format. If planning to edit videos on a PC, consider recording with MPEG4 video file format.



Print

Select Printer: Attached printer should appear to select

Page Layout: Printed page formats (No Text; Text; Advanced)

Images Per Page: (1; 2; 4; 6; 8)

Copies: Number of copies per printed page (1-5)

Paper Size: Paper size selection for prints (Letter; A4; A4 binder)

Print During Capture: Allow printing to occur during procedure rather than waiting until the end (Yes/No)

Print Report: Print report containing thumbnails of all stills, videos, and comments (Yes/No)



System

Language: List of available languages for system use (cannot be changed once a session has been started)

Time Format: (24 hour/12 hour)

Time Zone: List of available time zones for system use (cannot be changed once a session has been started)

Date: Calendar to select appropriate date for system use

Hour: Set system time

Minute: Set system time

Seconds: Set system time

On-Screen Indicator: Provide feedback on surgical monitor when capturing stills/recording video/audio (On/Off)

Calibrate Touchscreen: Calibrate screen when required

Network

Network users, passwords, and settings should be configured by the hospital's IT department. Administrator may reconfigure the default network access at any time.

Information

Provides device information (i.e. software version, drives version, etc.).

Log

Provides log history of application details during run time

Patient Information

Registering new patient

Upon powering up (and logging on to) the AIDA HD Connect™, the Capture screen will appear. A procedure may be started with or without first entering patient information. However, certain required patient information (fields highlighted in yellow on patient information screen), MUST be entered prior to completion of the procedure. The system will prompt user to enter required patient information fields at end of a procedure if this task has not yet been completed.

NOTE: If it is desirable to have patient information on the printed copies of still images, it is mandatory to enter the patient information into the system prior to starting the procedure.

To enter patient information, touch the workflow icon labeled 'Patient Info' on the lower right of touch screen. Again, fields highlighted in yellow require entries. Touching the field will bring up a keyboard allowing data entry in that specific field.

Once individual patient information has been entered, press the SAVE button on lower right of screen to save patient data.

Patient information workflow icon – Worklists, Import Stills, etc.

Other features and functions can be accessed and performed from the 'Patient Info' workflow icon. These areas can be accessed via the buttons on the lower part of the Patient Information screen: Worklist, Add to Worklist, Import Stills.

PATIENT DATA

Patient Information

* Yellow Fields Are Mandatory

Last Name: [] Specialty: []

First Name: [] Procedure: []

Date of Birth: [] Procedure ID: []

Patient ID: [] Accession Number: []

Sex: [Unspecified] Date of Treatment: []

STORZ

Patient Info, Worklist, Add to Worklist, Import Stills



Worklist

When the worklist is populated, this provides easy access to previously entered patient information (either from DICOM server if enabled or from manual entries).

If not connected to a DICOM server, the worklist can be manually populated by entering in the appropriate patient information in the Patient Information screen.

NOTE: If connected to DICOM server, and if DICOM is enabled, previously entered patient information can be accessed via Patient Query and / or Broad Query icons located on the lower part of the Worklist screen. If necessary, contact your administrator for further DICOM instructions.

Add to Worklist

This feature provides users the ability to manually pre-load patient information for several patients prior to their surgical procedures. At the Patient Information screen, enter the required information for a particular patient. Upon entering the first entry, the 'Add to Worklist' icon will become active. Once all data has been entered for that patient, press the 'Add to Worklist' button. Continue to do this for additional patient entries.

In order to use the worklist later, go to the Patient Information screen, touch the 'Worklist' icon and that will bring up the list of pre-entered patients. Touch on the patient name and click OK button on lower right corner of screen to pull up the page for that individual. Next, press the 'Capture' workflow icon to begin the session for that patient.

NOTE: Always check to make sure the correct patient information has been accessed when in the Capture screen. This information is located in the upper left corner on the Capture screen.

NOTE: If the manual entry into worklist does not accept pre-loading of patient data, it may be that DICOM option has been enabled on the device. That must be disabled by administrator in order for this feature to work properly. Contact your administrator for assistance.



Import Stills

This feature provides user the ability to import (copy) still images from other sources that are compatible with the still image formats on the AIDA HD Connect™ (tiff; jpeg; jpeg2000; bitmap). The sources that still images can be imported from include optical media (CD,DVD, etc.), USB, and network drives. Touching the 'Import Stills' button will bring up a new screen from which you can access the location of the still image(s) to be imported.

Select the still image to be imported. At this point you can also change the name of the file and/or add remarks to be associated with that imported still. Next, press the OK button in lower left of screen. That will then take you back to the Patient Information Screen (since that is the screen from where you started this 'Import Stills' process). Then Press the Capture workflow icon to copy the imported still into the current surgical procedure.

NOTE: Please insert USB device in order to make importing from USB active and visible on the touch screen.

NOTE: The original still image being imported is not changed in any way as a result of this importing process.



Capture

The screenshot to the left displays the Capture screen after logging into the system and entering or retrieving the appropriate patient data for the surgical procedure.

Below is a general description of the Capture page layout:

Header bar information: Patient name, Date of Birth, Patient ID #

Source: Allows user to switch between connected video input sources

IMPORTANT NOTE: If user is planning to use the Source button on the touch screen to switch video inputs during surgical procedure, make sure all proper video connections are in place prior to starting the surgical procedure. In addition, it is mandatory that one output from the video source (CCU) be connected to the AIDA HD Connect™ while a secondary output from the source is connected directly to an input on the surgical monitor.

When switching between video inputs, user should expect several seconds of delay before live image returns to surgical monitor.

NOTE: If the source name needs to be changed, contact administrator for assistance.

Current Time: Displays appropriate time. This can be re-set as needed from the system settings

Printer icon: Shows when printer is actively printing

History File Cabinet: Contains previously recorded procedures.

Wrench icon: Provides access to change system settings

Help button: Provides access to the Instruction Manual

Live Window area: Displays live surgical procedure on left side of screen

Capture icons:

- Still: Capture still images
- Video: Start / Stop recording videos
- Audio: Start / Stop audio recording
When enabled in set-up, audio will be recorded and embedded within video recordings; if enabled in set-up, 5 seconds of audio will be recorded as a separate file with associated captured still image.
- Narration: Allows for a separate, uncompressed WAV or MOV audio narration / dictation file which is not embedded in any video

Procedure Contents area: Displays thumbnails of captured stills and videos on right side of screen

Print Preview icon: When Print Preview icon (under Procedure Contents area) is pressed, a sample page layout of selected prints will be displayed on touch screen. This will be displayed in the Capture live window area of screen. Press the icon again to go back to the live preview.

Current session information: The number of still images, videos (and time), audio/narrations recorded are displayed at bottom of Procedure Contents area. In addition, the % of used space on the hard drive (or allocated session size) is indicated in this area.



Capturing Still Images

Via Touch screen: When the desired image is on the surgical monitor, touch the still image (camera) icon on the touch screen to capture that still image. The captured image will freeze momentarily on the touch screen and on the surgical monitor to confirm the capture.

Via Camera Head Buttons: To capture an image using the camera head buttons, an ACCESSORY cable from the camera ACC1 output must be connect to one of the Accessory ports on the AIDA HD Connect™ (see Installing AIDA HD Connect™ section of manual). In addition a camera head button must be programmed to capture still images. When the desired image is on the surgical monitor, press the programmed camera head button to capture that still image. The captured image will freeze momentarily on the touch screen and on the surgical monitor to confirm the capture.

NOTE: If 'On-Screen Indicator' and 'Print During Capture' features have been enabled in the 'Still Image' and 'Print' set-up menus, then upon capturing a still image, the surgical monitor will replicate the printed page along with a numerical count in lower left corner of monitor (i.e. still 1 / 4, still 2 / 4, etc.). The 'Print During Capture' feature provides user the ability to have captured images automatically printed once a page is full. A full page is based upon the selection of 1,2,4, 6, or 8 images per page from the 'Print' set-up menu.

NOTE: Still images can be captured while recording video.

NOTE: The optional footswitch can also be used to capture still images and video when wired to the AIDA HD Connect. Reference the Still Image option set up screen (Port # / Foot Pedal) for proper accessory port assignment.

Audio Recording During Still Capture

To record audio during still capture, a line-level microphone must be connected to the AIDA HD Connect™ (Audio In-Out connection on back panel). Both the 'Enable Audio' and the 'Capture Audio with Stills' must also be selected in the Video/Audio settings. If these features are enabled, five seconds of audio will automatically be recorded with each still capture. When a still image is captured, an on-screen message 'still/ audio' will appear on the surgical monitor and will be replaced with the message 'audio' during the five seconds of recording. On the touch screen, a small microphone will appear within the Still capture icon for five seconds to confirm audio recording.

NOTE: The audio input is a line-level input.



Recording Video

Via Touch Screen: Touch the video recording icon to begin recording video. The video icon will be highlighted during recording, and an on-screen message 'rec video' will be displayed on the surgical monitor. After a few seconds, the message will be replaced with a small steady green square icon to indicate that video is being recorded. To stop recording, press the video recording icon again. The surgical monitor will display the message 'rec stop'.

Via Camera Head Buttons: To record video using the camera head buttons, an ACCESSORY cable from the camera ACC2 output must be connect to one of the Accessory ports on the AIDA HD Connect™ (see Installing AIDA HD Connect™ section of manual). In addition a camera head button must be programmed to record video. To begin recording, press the programmed camera head button. Press the programmed camera head button again to stop recording. Messages confirming the beginning and ending of recording will appear on the surgical monitor as described above in the 'Via Touch Screen' section.

NOTE: The green recording icon can be turned ON or OFF from being displayed on the surgical monitor by selecting YES or NO from the On-Screen Indicator setting in the Still screen settings page. The system default is set to ON.

NOTE: The optional footswitch can also be used to capture still images and video when wired to the AIDA HD Connect. Reference the Still Image option set up screen (Port # / Foot Pedal) for proper accessory port assignment.

Video Chaptering

In order to manage and view video recordings more easily, the system administrator has the option of selecting chapter sizes for videos. If that option has been selected, and the first video recording falls within the allotted chapter time, the first file name for a video recording will be named and stored as VID001. However, if the video recording exceeds the allotted system chapter size, the video will be divided into chapters and named and stored as VID001A, VID001B, VID001C, etc. to indicate the segmenting into chapters. The second video recording will be named and stored as VID002A, VID002B, etc. if that second video recording also exceeds the allotted chapter size.

NOTE: If user wants the video chapter size allotment to change, contact the system administrator.



Audio Recording During Video Capture

To record audio during video recording, a line-level microphone must be connected to the AIDA HD Connect™ (Audio In-Out connection on back panel). The 'Enable Audio' setting must also be selected in the Video/Audio settings page. When video recording begins, the microphone icon on the touch screen will become highlighted, and audio recording will begin at the start of the video recording. In addition, an on-screen message 'rec video/audio' will be displayed on the surgical monitor. After a few seconds, the message will be replaced with a small steady green square (indicates video) and a yellow square (indicates audio) icon to indicate that both video and audio are being recorded. Audio recording can be stopped independently from the video recording and started again by touching the microphone icon on the touch screen. In addition, audio recording will automatically be stopped when video recording is stopped. The surgical monitor will display the message 'rec stop'.

NOTE: The green and yellow video and audio recording icons can be turned ON or OFF from being displayed on the surgical monitor by selecting YES or NO from the On-Screen Indicator setting in the Still screen settings page. The system default is set to ON.



Narration

The Narration feature on the Capture screen provides user the ability to narrate comments independently during the surgical procedure. The narration comments are separate files and not embedded within the video recording. In order to enable this feature, a microphone must be connected to the AIDA HD Connect™ (Audio In-Out connection on back panel), and the 'Enable Audio' setting must be selected in the Video/Audio settings page.

To start a narration audio file, press the Narration icon on the touch screen. To stop the narration audio file, press the Narration icon again. There will be messages displayed on the surgical monitor indicating when a narration audio is started and when it is stopped. These narration files will appear as thumbnails in the Procedure Contents area on the touch screen along with the still images and video files that have been recorded, and can also be played back from the Review screen.

NOTE: In order for the Narration feature to work properly, the AIDA HD Connect™ must remain connected to the video source (i.e. camera), and the video source must be turned on and active.



Retroactive Video Capture

The retroactive video capture feature records video 'in the background' and allows the surgeon to capture an event that recently passed. The system can be set to capture the buffered video for a specified amount of minutes. This feature could be used when the surgeon does not want to actively record the entire case, but may want to capture certain events that are notable during the surgical procedure.

The retroactive capture feature is set to OFF by default. Activate the feature by selecting desired time limit from the 'Retroactive Capture' option located on the Video/Audio settings page. The time limits to choose from include from 1 to 9 minutes of retroactive capture. When this feature is enabled, a Retro icon button will become visible on the touch screen next to the Video recording icon.

During the procedure, when a significant event occurs that has already passed and the surgeon wants to record it, press the retro capture icon to retrieve that event. A thumbnail with a retro icon will appear in the Procedure Contents area indicating that retroactive capture was successful.

When the Retro capture icon is activated and a retroactive capture has occurred, live video recording is also initiated at the same time. When the surgeon no longer wants to record live video, press the Retro icon again to stop the live recording. Once video recording has stopped, video thumbnails of the live recording will appear in the Procedure Contents area.

The Procedure Contents will contain the captured retroactive video file and the live video recording. The first thumbnail of this video sequence is the Retro video file (retro icon on thumbnail) and the other(s) will be the 'live' video file (video icon on thumbnail(s) – named VID001A and VID001B respectively).

NOTE: The 'live' video capture icon is disabled when retroactive capture icon is active.

NOTE: If audio is enabled in the Video/Audio settings page and Retroactive Capture is also enabled, the Audio icon will always be active in the Capture screen indicating that audio recording is occurring in the background in case retroactive video capture is activated. This is designed in order to capture audio as part of the video if the retroactive feature is initiated during a procedure. If audio is not desired, either disable audio in the settings page or disable audio at the start of the Retro capture by pressing the microphone icon on the Capture screen to toggle audio off.

Procedure Size Limits

In order to manage recorded information more easily for exporting to optical media or networks, the system administrator has the option of setting size limits for each procedure. If that option has been selected, as the user approaches the end of the allotted size limit, a message will appear on the surgical monitor (Procedure Full) indicating procedure limit is approaching. At this point, the user should either prepare to end the procedure soon or be aware that once the limit is reached, recording for that session will end. The user will be notified again at that point with a message on the surgical monitor (Procedure Limit).

NOTE: If user wants the procedure size allotment to change, contact the system administrator.

NOTE: If no procedure size limit is set by the administrator, and if the system hard drive gets filled up, a message will appear on the surgical monitor (Disc Low) indicating the hard drive is almost full. At this point, the user should either prepare to end the procedure soon or be aware that once the hard drive is full, recording for that session will end. The user will be notified again at that point with a message on the surgical monitor (Disc Full).

NOTE: The AIDA HD Connect™ should not be considered an archival device but rather a documentation system which provides temporary storage of recorded information. It is good practice to export recorded information off the device to optical media, USB, or a network location to preserve hard drive space.



Review

The Review screen can be accessed by either touching the Review workflow icon, or if in the Capture screen, by touching a still image or video thumbnail in the Procedure Contents area. The Review workflow icon allows user to perform various options with the captured stills and video / audio recordings.

These options include:

- reviewing the actual recorded data on the touch screen;
- printing captured still images;
- renaming the files and adding remarks;
- capturing still images from previously recorded video;
- deleting still images and videos.

Reviewing Still Images

From the Review screen, touch any still image thumbnail to view the image in the preview window on the touch screen. If there are more thumbnails than will fit in the Procedure Contents area, a scroll bar will become available in order to scroll up or down through all the thumbnails.

Printing Still Images

Images may be printed as they are captured by selecting the 'Print During Capture' option from the Print settings page. However, if that option is not selected, images may be printed anytime during or after a procedure from the Review screen.

To send still images to the print queue, touch the desired thumbnail image to display in the preview window on the touch screen. Then press the 'Print' icon button located in the lower left of the Review screen. Repeat these steps to send additional images to the print queue. The images will be added to the print queue based on the page layout selected in the Print settings page (i.e. 1, 2, 4, 6, 8 images per page).

NOTE: If it is desirable to have patient information on the printed copies of still images, it is mandatory to enter the patient information into the system prior to starting the procedure.

NOTE: Make sure the connected printer model has been selected in the Print settings page otherwise printing will not occur.



Print Preview Feature

If still images have been sent to the print queue, the Print Preview feature allows user to review the images based on the page layout and images per page previously selected in the Print settings page. To access the print Preview screen, press the 'Print Preview' icon button located at the bottom of the thumbnails in the Procedure Contents area on the touch screen. After filling up one page in the print queue, a scroll bar will become available next to the print preview pages to scroll through all the pages to be printed.

Images can be deleted from the print queue when in the Print Preview screen. To delete from the print queue, touch the desired image to highlight (a border will appear around the selected image on the page), and then touch the 'Remove' icon button located under the sample printed page.

To insert a new image in the vacant location on a print preview page, touch the empty location to highlight that area, and then touch the desired thumbnail image. The selected thumbnail image will be placed in the highlighted location.

To send the pages to the printer, touch either the 'Print One' icon or the 'Print All' icon in the lower left of Print Preview screen. Selecting the 'Print One' icon will send the page currently being viewed in the Print Preview screen to the printer. Selecting the 'Print All' icon will send all pages in the print queue to the printer.

NOTE: Make sure the connected printer model has been selected in the Print settings page otherwise the Print Preview icon will not appear and printing will not occur.

NOTE: In order to leave the Print Preview screen at any time, touch the Print Preview icon (toggles feature on / off). In addition, touching any other workflow icon will exit out of the Print Preview screen.

NOTE: Do not turn off the system while printing is in progress. Doing so will cancel the print job.

Printer Icon Reference

When still images are sent to the printer, the printer icon located in the top right area of the Capture and Review screen will become active indicating printing is in progress.

Reviewing Captured Video

From the Review screen, touch any video thumbnail to view the recording in the preview window on the touch screen. If there are more thumbnails than will fit in the Procedure Contents area, a scroll bar will become available in order to scroll up or down through all the thumbnails.

When the desired video is in the preview window on the touch screen, video playback control buttons will be displayed within the video to start, pause, stop the video. There are also video playback control buttons allowing user to either go back to the beginning of the video or to the end of the recording as well as a button to playback video in controlled short intervals.



Continuous Video Playback

In addition to the above noted video playback control buttons, there is a 'Continuous Video Playback' button (denoted by a round circle with an arrow in the video playback control button area). When pressed and then the video start button is activated, the video clip will play over and over continuously until the 'Continuous Video Playback' button is pressed again. The continuous playback button will be highlighted when it is active.

Capturing Still Images From Recorded Video

Prior to ending/finishing the procedure session, additional still images can be captured and added to the procedure from previously recorded videos. When a video is being played back on the Review screen, press the Capture icon button to capture a new still image. Still images can be captured whether the video is paused first or while the video is actively being played back. These captured stills will be added to the Procedure Contents area on the Review screen.

Renaming Files – Adding File Remarks / Keywords

To rename a captured still or video file, touch the thumbnail of the desired file from the Procedure Contents area on the Review screen. Next, press the 'Change Text' icon button located under the preview window. Touching any of the fields will access an on-screen keyboard for inputting information. Newly entered file names, file remarks, and keywords will be displayed next to the 'Change Text' icon on the relevant file being reviewed.

The 'Keywords' field will allow entries that will be stored in the system and accessible from a drop down list for other files.

Deleting Captured Stills and Videos

In the Review screen, touch the still or video thumbnail to be deleted. Then touch the 'Delete' icon button located below the preview window to complete the deletion. This will also delete that still image from the print queue.



Finish

When the surgical procedure has ended, the user finishes up the session by touching the 'Finish' workflow icon in lower right on touch screen. Upon pressing the 'Finish' workflow icon, the screen that will appear is titled 'Finish'. The options include:

- Export Procedure(s)
- Start A New Procedure
- Log Off the Current User
- Shut Down

NOTE: If the patient information was not previously entered before the start of the procedure, the user will be prompted at this point to enter the appropriate patient information via the Patient Information screen. Once the patient information has been entered, press the 'Finish' workflow icon again to resume finishing process.

NOTE: It is also possible from the 'Finish' screen to return to either the 'Patient Info' or the 'Review' workflow areas. The 'Capture' workflow icon is not accessible since the session has been ended at this point.



Exporting Procedure(s)

Upon pressing the 'Export Procedure(s) icon, an 'Export Procedure' screen will appear displaying various export destination options.

These include:

- Optical media (CDs, DVDs, etc.)
- USB
- Network (must be enabled)
- DICOM (must be enabled)

Insert valid media (disc and/or USB device), or select appropriate network or DICOM locations, and wait until the system recognizes the selection. A message will be displayed indicating recognition has occurred. At that point, press the box to the left of the desired destination(s) which will then display a checkmark confirming your selection. If you checked the wrong destination option, just press the check-marked box again to de-select.

Confirm you are exporting the current procedure by checking the patient's name located in top left header bar of touch screen. Press the 'Start Export' button on the lower right side of the screen to initiate the export. A message will be displayed indicating successful completion of the export.

NOTE: Multiple procedures may be copied to a single disc (depending upon available disc space) or to a single USB device or Network by selecting the 'Modify Batch' icon on the bottom right area of the screen. Refer to a following section of the manual titled 'Exporting and Batching Procedures From System Hard Drive'.

NOTE: If multiple destinations have been selected, export will occur to one destination at a time. For example if a disc and a USB destination have been selected and both have been inserted in the system, the disc will be copied to first, then the USB destination.

NOTE: While exporting to disc, do not eject the disc or turn the system off. Doing so may cause loss of recorded information.

NOTE: It is necessary to press the eject button on the system's front panel to eject optical discs.

When the exporting process is completed, press the 'Exit' icon on the lower right of the Export Procedure screen or the Finish Workflow icon. This will bring up the 'Finish' screen again. User can either choose to export more procedures if necessary or one of the other following options:

- Start A New Procedure: A new procedure may be started without exporting the previous procedure to external destination. If this option is selected, user will be brought directly to the Capture screen.
- Log Off the Current User: If system is used by multiple users, it is up to the system administrator to determine if 'Log Off Current User' is the protocol for that hospital depending upon how the log-in and passwords have been set up by the administrator.
- Shut Down: This option will shut the system off.



History File Cabinet



The History File Cabinet is the storage location of previously recorded procedures. It will contain procedures that were properly completed. In addition, it will contain procedures that may not have been properly completed (i.e. possibly due to power failure, etc.), which will be noted in the History section as 'Incomplete'.

Procedures in the History file are accessed by pressing the History file cabinet icon located in the top right area of the header bar (to the left of the wrench icon). Upon pressing the History file cabinet icon, a list of previously recorded procedures will be displayed. There is a scroll bar at the bottom of History screen allowing user to scroll right and left to see various pertinent information with each procedure (Date, Surgeon, Patient ID, etc.). On the left side of the History screen, user can select the location from where they want to pull up the history (hard drive disk, DVD/CD, USB, Network).

To review an individual procedure, touch the line of information containing the procedure of interest. A larger information bar will be presented with thumbnails of the procedure. If desired, the user can delete that selected procedure from the history cabinet by pressing the Delete button located on the bottom of this screen.

However, if user desires to view that procedure in more detail, touch the 'View' button located at the bottom of the History page. This will bring up the procedure in Review mode (noted by sepia tone shading to the review screen).

After pressing the 'View' button, user can perform the following functions:

- Print still images by pressing the Print button on lower left of this review screen and selecting still images to be printed;
- Capture images from previously recorded videos for printing only.

In order to exit out of the selected patient Review screen, press either the History file cabinet icon at top of screen or the Finish workflow icon at the lower right of screen. Either action will go back to the main History screen listing all procedures. To exit from here, press either the History file cabinet icon to return to screen that was present prior to entering the history location (i.e. Capture screen) or press the Finish workflow icon.

Upon pressing the Finish workflow icon, the screen that will appear is titled 'Finish'. The options include:

- Export Procedure
- Start a New Procedure
- Log Off the Current User
- Shut Down

NOTE: If user wants to export any procedures from the History location, refer to the section in this manual titled 'Batching and Exporting Procedures from History'.

NOTE: It is also possible from the 'Finish' screen to return to any of the other workflow icons located at the bottom left of the touch screen (Patient Info, Capture, Review).

Sorting / Searching

A sort/search function for finished procedures can be accessed via the History File Cabinet. Procedures in the History file are accessed by pressing the History file cabinet icon located in the top right area of the header bar (to the left of the wrench icon).

Once in the history screen, note that there is an orange down (or up) arrow in one of the title fields (Date, Surgeon, Patient ID, Patient, etc.). Sorting can be done on any field by touching on the desired title field to sort. Touching the title field again will change the direction of the orange arrow (up / down) and will toggle the sort in either ascending or descending alphabetical or numerical order depending upon the field selected.

File Recovery

File Recovery of an Incomplete Procedure

Any procedure(s) not properly ended (i.e. procedure was ended without entering patient information) is marked 'INCOMPLETE' and stored in the History location. Incomplete procedures can result from improper finalization of a procedure, improper power shut off, or power failure. Patient information in incomplete procedures may be accessed and edited. However, still images, videos, or any other type of recording may not be added or removed from the incomplete procedure. It is treated by the system as if the procedure had been ended.

To recover an incomplete procedure, touch on the History File Cabinet icon located in the upper right area of the screen. Touch on the noted INCOMPLETE file to select it, and then press the 'View' button located at the bottom left area of the screen. This will bring up the procedure in Review mode (noted by sepia tone shading to the review screen).

Next, press the Patient Info workflow icon at the bottom of the touch screen. Enter in the appropriate patient information, press the Save button to store the information, and then press the Finish workflow icon on lower right of touch screen. Follow the on-screen message boxes to end the procedure. The procedure should now be listed in the History location with the appropriate patient information as a completed procedure.





Batching and Exporting Procedures From History

Files from the device's history location may be exported one at a time, or two or more at a time (batching), to the same media. This function may be useful in exporting multiple procedures from the hard drive at the end of the day versus each one separately.

To export files from the AIDA HD Connect™ hard drive:

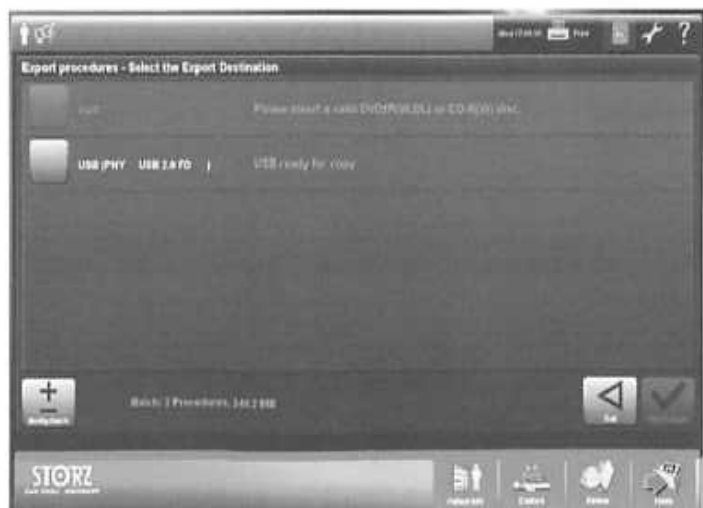
- Confirm that there is not a current procedure open. If there is, finish that procedure properly.
- Next, press the History File Cabinet icon located in top right of screen. This will bring up the files stored in History.
- Touch on the square(s) under the Batch column to select the file(s) to be exported. A check mark will appear in the box indicating the file has been selected for batch exporting. To de-select a file from the export process, touch the square again to remove the check mark (or press the 'Reset' button located at the bottom of the batch column to remove all files from the batch).
- Once all desired files are selected, touch the 'Export Procedure(s)' button on the lower right of this screen which will bring you to the 'Export' screen.
- Insert valid media (disc and/or USB device), or select appropriate network or DICOM locations, and wait until the system recognizes the selection. A message will be displayed on the respective destination field indicating media recognition has occurred. At that point, press the box to the left of the desired destination(s) which will then display a checkmark confirming your selection. If you checked the wrong destination option, just press the check-marked box again to de-select.
- At the bottom of the 'Export' screen, there will be information indicating how many procedures are batched to export and the size of the export (Batch: # Procedures, ___MB).
- Press the 'Start Export' button on the lower right side of the screen to initiate the export. A message will be displayed indicating successful completion of the export.
- When the exporting process is completed, press 'Exit' icon on the lower right of the Export screen (which returns to the History screen). Or press the Finish workflow icon and proceed with the options listed on the Finish screen (Start new procedure, etc.)

NOTE: The only files that can be exported to external media from the History location are files stored in the AIDA HD Connect™ hard drive. Files stored on disc, USB or the network displayed in the History location cannot be copied to any external media.

NOTE: If multiple destinations have been selected, export will occur to one destination at a time. For example if a disc and a USB destination have been selected and both have been inserted in the system, the disc will be copied to first, then the USB destination.

NOTE: While exporting to disc, do not eject the disc or turn the system off. Doing so may cause loss of recorded information.

NOTE: It is necessary to press the eject button on the system's front panel to eject optical discs.



Errors, Alarms, and Warnings

When necessary, the AIDA HD Connect™ will display errors, alarms, and warning messages on the device's user interface. An alarm is used to convey a message or warning to the user. There are various levels of alarms: High Priority, Medium Priority, Low Priority, and Information Message.

It has been determined that the AIDA HD Connect™ does not generate any issues that would warrant a High, Medium, or Low Priority Alarm. However, there are some circumstances that do warrant an Information Message to be displayed. The Information Message is used for system error information. Following are the specific alarms (Information Messages) that the system will display under certain conditions:

- Network State: disconnected or failed to initialize;
- System Memory: out of memory;
- Procedure Review: corrupt file;
- Print Status: failed to print.

When an alarm occurs, the top header bar will switch to an 'Alarm Message Line' displaying the three interactive icons shown to the left:

- Mute (press to turn off any audible alarm sound); Not active for Information Messages.
- Acknowledge (press to dismiss the alarm);
- Information (press to access additional information about the alarm condition).



Using AIDA HD Connect™ and SCB

The overlay messages which AIDA HD Connect™ displays on the surgical monitor (i.e Still, Recording Video) are located on the surgical screen in what is referred to by SCB Control as 'Position 7'. Please ensure that when configuring SCB messages to be displayed on the surgical monitor, those SCB message locations are selected so as not to conflict or overlap Position 7 when using the AIDA HD Connect™.

Please refer to the SCB User's Manual for complete SCB information.

Viewing a Recorded Procedure on a Computer

To view a saved procedure on a computer, insert the recorded AIDA HD Connect™ media (disc or ISB) into the computer's appropriate drive. An index screen will appear to allow access to recorded files – still images, videos, and audio.

Care and handling



Handle the system with care, avoiding extreme impacts to device. When transporting, use the original shipping box to prevent damage to the device.



Store unit out of direct sunlight and excessive heat.



CAUTION: Always disconnect the power cord before cleaning.



If system needs to be cleaned, wipe it down with a damp cloth or sponge.



Maintenance operations

Performance of preventive maintenance is not essential. Regular maintenance can, however, contribute to identifying potential problems before they become serious, thus enhancing AIDA HD Connect™'s reliability and extending its useful operating life. Maintenance services and information on maintenance contracts can be obtained from your local representative or from the manufacturer.



WARNING: To ensure safe operation of AIDA® HD Connect™, you should perform the following procedures every 12 months:

1. Check leakage current from chassis < 100µA, single fault condition.
2. Check ground impedance < 0.1 ohms.
3. Check power consumption \leq rated power.

Return Policy

Note: The unit should be returned in its original packaging to prevent further damage. If original packaging is not available, please contact your distributor or local sales representative (contact information is on the last page of this manual) to obtain new packaging. When available, the SmartScreen® shipping lock should be used to secured the SmartScreen® during shipping. To do this, hold in SmartScreen® and rotate locking screw on back panel until tight. In addition, please remove ALL cables, including the SmartScreen® serial data and DVI cables, before shipping.

A return merchandise authorization, in the form of a Sales Order number ("SO #"), or a Return Delivery number ("RD #") or a Return Merchandise Authorization number (RMA #) must be obtained from Karl Storz Endoscopy America's (KSEA) Customer Service Department prior to returning any products. When phoning or writing for such a return merchandise authorization, the Customer Service Representative must be provided with: (1) Customer name and number, as it appears on the invoice; (2) the telephone number and the person to contact; (3) the applicable P.O. number; (4) the Karl Storz catalog number and, if applicable, the serial number for each product; and, (5) the reason for the return. KSEA reserves the right to refuse or return (collect) any products sent back to KSEA without prior authorization of its Customer Service Department. Returns must be shipped pre-paid to KSEA, ATTN: SO number, RD number, or RMA number. KSEA's Customer Service Department will provide the return address and a SO#, RD#, or RMA#. Shipping charges will be reimbursed if the return was due to an error on the part of KSEA. When returning products, Customer should include a copy of the original invoice or packing slip to ensure prompt issuing of credit. Full credit will only be issued for products that are returned within 30 days of invoice date, and so long as such items are unused, in resaleable condition, and in the original, as well as undamaged, packaging. All products returned after 30 days from the date of invoice are subject to a 15% restocking fee. If the returned product requires refurbishing or repacking, and is accepted for credit, a service charge will be deducted from the amount of credit. The following products may not be returned for credit or exchanged: (1) products held longer than 90 days from invoice date; (2) sterile packaged products; (3) discontinued products; (4) instruments that are etched or engraved by Customer; (5) used instruments not in their original packaging; (6) products damaged by the Customer; and, (7) products purchased "as is" or as demo products.



WARNING: In order to prevent the transmission of disease to both hospital and Karl Storz personnel, when returning product for repair, the user must ensure the equipment being returned is clean and free from biohazards, including, but not limited to: human or animal blood, tissue or tissue fluids, or components thereof. Product must be disinfected/sterilized when appropriate.

KSEA reserves the right to return contaminated products to the Customer or to charge a "cleaning fee" to handle such products. Additionally, if any product becomes damaged and is not immediately returned, KSEA assumes no responsibility or liability for Customer's continued use of that damaged product. KSEA does not guarantee the performance, and may decline to repair or accept for repair/exchange, any product that has been repaired, modified and/or altered by any person or entity other than KSEA or an authorized repair facility of KSEA.

Repairs

Note: If the repair involves installing new software or re-installing current software on the AIDA HD Connect™, please save any images (from the File Recovery screen) to a disc prior to installing the software. **Installing software will delete all stored sessions.**

If repairs become necessary, for other than damages incurred during initial shipment (see "Shipping Damage" below), Customer must contact Karl Storz Endoscopy America (KSEA) to identify the reason for returning the product, and then carefully repack and ship the damaged product (freight prepaid) to KSEA, in accordance with KSEA's Return Policy, set forth above.

Customer should describe, in writing, the damage and the apparent problem, along with the name of the person(s), who KSEA should contact to discuss the problem, and the address and telephone number of the facility. Warranty repairs will be made without charge (see "Warranty Policy" for covered repairs). All other repairs are subject to KSEA's standard repair charges. If requested, Customer will be advised of the estimated cost of the repair work before it is undertaken.

Karl Storz reserves the right to make engineering modifications in the interest of promoting technological progress and generating performance improvements without obligation on our part to submit prior notice thereof. Please contact your Karl Storz sales representative for information on engineering modifications performed.

Shipping damage

Although all Karl Storz products are carefully packed to minimize in-transit damage, all shipments should be carefully examined upon receipt. If a product is damaged, Customer must promptly document the nature and extent of the damage and contact the carrier. If concealed loss or damage is discovered, Customer must retain all packing materials and immediately notify the carrier, requesting an inspection. This is essential and must be done within seven (7) days of delivery. If shipments are received short, Customer must contact the carrier and Karl Storz Endoscopy America's (KSEA) Customer Service Department at once. KSEA reserves the right to make partial shipments on any Order. Invoice(s) for partial shipments are payable upon receipt.

Warranty policy

Except as otherwise provided herein and/or by the applicable warranty information for a specific product or type of product, all Karl Storz branded products are generally warranted to be free from defects in workmanship and materials for one (1) year from date of sale. However, since some products carry a longer or shorter warranty period, Customer should check all product specific literature for the exact warranty period. Any such products with a defect, occurring during the applicable warranty period, will be promptly replaced, or at the discretion of Karl Storz Endoscopy America (KSEA), repaired, at no charge to the Customer. KSEA is not liable, directly or by way of indemnity, either expressly or impliedly, for (1) any damages which might arise or be caused, whether by the Customer or by any users of the products, as a result of, connected with, to the extent of or otherwise attributable to: (a) misuse, mishandling and/or improper operation; (b) repairs, servicing, modifications or alterations performed by any person or entity, other than KSEA or an authorized repair facility of KSEA; (c) use in combination with adaptors and/or equipment from other manufacturers or, (d) use in any manner or in a medical procedure, other than those for which such product is labeled, designed and is otherwise intended to be used; and, (2) any special, incidental, consequential, punitive, exemplary or other damages, including but not limited to alleged damages for delayed shipment, product failure, product design or production, loss of future business, or from any other cause, whatsoever, whether based on breach of contract, warranty, tort, strict or products liability, infringement of patents, trade secrets, trademarks, copyrights, or other proprietary rights or legal theory, in connection with or arising from the purchase, sale, lease, rental, installation or use of such Karl Storz products or with respect to the within terms and conditions. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED AND/OR STATUTORY, INCLUDING, BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY, FITNESS AND/OR OF SUITABILITY FOR A PARTICULAR PURPOSE, WITH RESPECT TO ALL KARL STORZ PRODUCTS OR SERVICES, INCLUDING ANY PATENTS OR TECHNOLOGY RELATIVE THERETO. ANY AND ALL OTHER WARRANTIES, REPRESENTATIONS AND/OR GUARANTEES, OF ANY TYPE, NATURE OR EXTENT, BE IT IMPLIED, EXPRESS AND/OR WHETHER ARISING UNDER OR AS A RESULT OF ANY STATUTE, LAW, COMMERCIAL USAGE, CUSTOM, TRADE OR OTHERWISE, ARE HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.** KSEA neither assumes, nor authorizes any person to assume for it, any other liabilities in conjunction with and/or related to the sale and/or use of its products. To ensure proper use, handling and care of Karl Storz products, Customer should consult the applicable catalog, brochure, instruction manual, teaching [demonstration] film and other product literature which is included with the product or otherwise available from KSEA at no charge, upon request. Repairs, modifications or alterations of Karl Storz products, performed by any person or entity other than by KSEA or an authorized repair facility of KSEA, nullifies and otherwise voids all applicable Karl Storz warranties. This "Warranty Policy" is only for the benefit of the original Customer and is not transferable or assignable by Customer.

Technical phone assistance

For Karl Storz Technical Assistance, call 800-421-0837 in the U.S., or contact your Karl Storz Sales Representative.

Troubleshooting

Symptom

AIDA® HD Connect™ 'locks-up'; touch screen keys/camera head buttons will not respond and touch screen freezes.

Possible causes

The AIDA HD Connect™ operates similar to a computer. Just as with any computer, there may be an occasional 'lock up' of the system, due to no fault of the user.

Remedy

Turn the AIDA HD Connect™ Off and On to re-start the system.

To resume a session in-progress, access the AIDA HD Connect™'s History and select the session to recover.

Still images will not print.

Printer not completely connected or connected incorrectly.

Check connections.

Printer is not selected in *Settings* screen.

Select Printer in *Settings* screen.

In "Print during capture" mode, print page is not full (images sent to printer are being held until page is full).

Select additional prints to fill print page.

Change the number of prints per page in "*Settings*".

Note: Any prints remaining in the queue will print once the user ends the Procedure Manager.

USB is not recognized by AIDA® HD Connect™

USB device not completely connected or connected incorrectly.

Check USB and/or USB extension cable connection.

USB is invalid.

Insert a different USB device.

Ensure one USB memory device is attached at one time.

"Invalid Media" message appears when trying to copy to USB.

USB is write protected.

Ensure USB is not write protected or remove write protection.

Disc Not Recognized

Disc damaged or poor quality

Insert a different disc.

System Configurations

System Sales Level Number	20205502-1	20205501-140
SmartScreen®	No	Yes
System Name	System, AIDA® HD Connect™, with DVD drive <i>without</i> SmartScreen®	System, AIDA® HD Connect™, with DVD drive <i>with</i> SmartScreen™
Chassis Front Panel Marking	20205520	20205520
System Sales Level Number	20205602-1	20205601-140
SmartScreen® Included?	No	Yes
System Name	System, AIDA® HD Connect™, with Blu-Ray drive <i>without</i> SmartScreen®	System, AIDA® HD Connect™, with Blu-Ray drive <i>with</i> SmartScreen®
Chassis Front Panel Marking	20205620	20205620

Power Requirements

Power Requirements	Voltage: 100–240V~ Frequency: 50/60Hz Maximum Power: 600VA Maximum Current: 6-3A	Voltage: 100–240V~ Frequency: 50/60Hz Maximum Power: 600VA Maximum Current: 6-3A
Fuse Type	N/A, no user serviceable fuses. Fuses contained in power supply.	

Video Signal System

Video Signal System	<p>NTSC inputs/outputs:</p> <ul style="list-style-type: none"> - EIA RS-170A Standards, NTSC color system - 2:1 Interlaced, 525 Lines, 30 Frames/sec. - 15,734Hz Horizontal scan rate - 59.94Hz Vertical scan rate <p>PAL inputs/outputs:</p> <ul style="list-style-type: none"> - CCIR Standards, PAL color system - 2:1 Interlaced, 625 Lines, 25 Frames/second - 15,625Hz Horizontal scan rate - 50.00Hz Vertical scan rate <p>HD DVI-I Single Link inputs/outputs:</p> <ul style="list-style-type: none"> - DVI1.0 Standard <p>SDI:</p> <ul style="list-style-type: none"> - 3 Gbits SMPTE 424M and 425M Level A - HD SMPTE 292 - SD SMPTE 259M Level C
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Environmental Conditions

Environmental Conditions	Operating Temperature: 32°F to 95°F (0°C to 35°C) Storage Temperature: 14°F to 140°F (-10°C to 60°C) Humidity: 10 to 90%, non-condensing Shipping and Packaging: Ship test in accordance with ISTA guidelines
Cleaning	Cleanable by wiping with a damp cloth or sponge
Sterilization	No requirements for device sterilization
Biocompatibility	No components of this system are designed to penetrate inside the body of a human patient, either through a body orifice or through the surface of the body. As such, biocompatibility is not an issue.

Regulatory

System Classification	Degree of protection against electrical shocks: N/A, no applied part Type of Protection against electrical shocks: Class I Protection of ENCLOSURE in respect to harmful ingress of fluids: Ordinary (none) Mode of Operation: Continuous Construction: Portable
Safety Certifications	CSA 22.2 No 601.1.1-94, CB Report to IEC EN 60601-1
EMC Certifications	Type Certified to EN 55011 Class B Type Certified to EN60601-1-2
EJ Markings	CE for 93/42/EEC, Medical Device Directive
CSA Label	CSA per 22.2 No.601

Mechanical Specifications

Mechanical Specifications for AIDA® HD Connect <i>without</i> SmartScreen™	Dimensions (W x H x L): 305mm x 163.5mm x 354mm Weight: Approximately 15.5 lbs
Mechanical Specifications for AIDA® HD Connect <i>with</i> SmartScreen™	Dimensions (W x H x L): 305mm x 225mm x 354mm Weight: Approximately 26 lbs

Computer System Components

Power Supply	Custom medical grade power supply
Main Computer Board	Micro ATX motherboard
Hard Drive	500GB
DVD Drive	2.4X write or better / 6X read (minimum)
RAM	4GB RAM
Microprocessor	Intel Core 2 Duo Processor minimum
Operating System	Microsoft Windows XP® Embedded
Software Version	Displayed in unit's 'Information' location in Settings screen

Video archive Specifications

Hard Drive Capacity	500GB
Recording Media	DVD Drive (20205520): CD-R, DVD-R, DVD+R, DVD+R DL Blu-Ray Drive (20205620): CD-R, DVD-R, DVD+R DL, BD-R, BD-R DL
Write/Read Speed	CD: 12X or greater write, 32X read DVD: 2.4X or greater write, 6X read
Video Format	MPEG2; MPEG4; MOV
Motion Video Resolution	Depends upon video input
Motion Video Rate	Depends upon video input
Recording Capacity (Transporting Media)	Depends upon disc capacity

Audio Specifications

Audio Input	Line Level In/Out
Audio Overlay	Still Images: 5 seconds Video: Unlimited

NOTE: Manufacturer will make available circuit diagrams and component part lists upon request.

Technical description

Equipment classification

Type of protection against moisture: Ordinary

Type of protection against electric shocks: Protection Class 1

Mode of operation: Continuous

Degree of safety in the presence of flammable anesthetics: Equipment not suitable for use in the presence of flammable anesthetic mixture with air, with oxygen, or with nitrous oxide.

Equipment test certificates

Type 20205501-140 / 20205502-1 / 20205601-140 / 20205602-1 equipment is certified and manufactured in accordance with EN 60601-1, EN 60601-1-1, UL 2601-1, CSA 22.2 No. 601.

CE marked equipment has been tested and found to comply with the EMC limits for Medical Devices for the Medical Device Directive 93/42/EEC (EN 60601-1-2: 2001 Class A).

CE marked for MDD 93/42/EEC.

Technical documentation

On request, the manufacturer will provide those circuit diagrams, itemized parts listings, descriptions, sets of adjustment instructions, and other items of available documentation to suitably qualified user personnel duly authorized by the manufacturer for their use in repairing those components of the equipment that have been designated by their respective manufacturers as repairable.

Supply of such technical documentation relating to AIDA HD Connect™ shall not be construed as constituting manufacturer's authorization of user's personnel, regardless of their levels of technical training, to open or repair AIDA HD Connect™. Explicitly exempted here from are those maintenance and repair operations described in this manual.

Software ownership and licensing

With respect to Karl Storz products containing software components, Customer has a non-exclusive, limited, non-transferable license to use the programmed logic, computer programs and/or software supplied by Karl Storz, in connection with, and incorporated into, Karl Storz Products System ("Software") internally, only in the form in which delivered to Customer and for the sole purpose of operating in accordance with Karl Storz's written instructions for such products sold to Customer (and for no other product). The Software, and all modifications, enhancements and upgrades thereto, will, at all times, remain the property of KSEA. Customer may not duplicate, copy, reverse-engineer, de-compile, or disassemble the Software or in any way modify the Software. Customer has no right to, and may not, create derivatives of the software, and Customer may not attempt to copy, create or re-create the source code of the Software. Any and all such modifications or enhancements to the Software by Customer, in contravention of this license, will immediately become the sole property of KSEA. Customer hereby acknowledges and agrees (i) that the purchase of Karl Storz products does not constitute a sale of the Software, (ii) that the Software is the property of Karl Storz, (iii) that Customer neither owns nor acquires any claim or intellectual property right in or to the Software, and (iv) Karl Storz retains all right, title, and interest in and to the Software, at all times, regardless of the form or media in or on which the original or other copies of the Software may exist. In the event of a failure of Customer, or its agents, employees or representatives, to comply with any terms and conditions of the License herein granted, the License will, without any further action by Karl Storz or any other party, immediately terminate.

Electromagnetic Compatibility User Information for AIDA HD Connect™ for models 20205502-1 / 20205501-140 / 20205602-1 / 20205601-140

WARNING: Medical Electrical Equipment needs special precautions regarding EMC and needs to be installed and put into service according to the Electromagnetic Compatibility [EMC] information provided in this Instruction Manual.

WARNING: It is prudent to separate all electrical equipment that is very close in distance to the AIDA HD Connect™ models noted above. If it is essential to use the AIDA HD Connect™ very close to other electrical equipment, it is prudent to determine, by observation, if the performance of either product is affected by unintended electromagnetic coupling.

WARNING: The AIDA HD Connect™ is intended for use by healthcare professionals only. This is a CISPR Class A medical [equipment / system]. In a domestic environment the AIDA HD Connect™ may cause radio interference, in which case it may be necessary to take adequate mitigation measures, such as re-orienting, relocating, or shielding the AIDA HD Connect™ or filtering the connection to the public mains network.

NOTE: The EMC tables and other guidelines that are included in the Instruction Manual provide information to the customer or user that is essential in determining the suitability of the Equipment or System for the Electromagnetic Environment of use, and in managing the Electromagnetic Environment of use to permit the Equipment or System to perform its intended use without disturbing other Equipment and Systems or non-medical electrical equipment.

NOTE: CE marked equipment has been tested and found to comply with the EMC limits for the Medical Device Directive 93/32/EEC [EN 55011 Class A and EN 60601-1-2:2001].

These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. The equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device
- Increase the separation between the equipment
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) is connected
- Consult the manufacturer or field service technician for help.

WARNING: The use of portable and mobile RF equipment may have impact on this and other pieces of medical equipment.

WARNING: The use of an accessory or cable with the AIDA HD Connect™ other than those specified in this manual may result in increased emissions or decreased immunity of the AIDA HD Connect™. Also, by using an accessory or cable with AIDA HD Connect™ other than those specified in this manual it becomes the responsibility of the user of the AIDA HD Connect™ to determine compliance with EN 60601-1-2:2001 when using this item.

Technical description

Table 200				
System Cables and Maximum Lengths used for EMC Compliance				
Cable Type	Shielded	Max Length [m]	Ferrite	Used For
Y/C [S-video]	Yes	1.8	No	Interconnection of S-video signals
BNC to BNC	Yes	1.8	No	Interconnection of Composite signals
SDI	Yes	3	No	Interconnection of SDI signals
DVI	Yes	2.9	No	Interconnection of DVI signals
AC Power Cord	No	1.8	No	Connection of Device to AC mains
Stereo Mini Phone	Yes	1.8	No	Interconnection of AIDA® HD Connect™ to CCU via accessory ports of CCU
Footswitch	Yes	5.9	No	Footswitch

Table 201		
Guidance and Manufacturer's Declaration – Electromagnetic Emissions		
The AIDA HD Connect™ models 20205502-1 / 20205501-140 / 20205602-1 / 20205601-140 are intended for use in the electromagnetic environment specified below. The customer or user of the AIDA HD Connect™ model 20205502-1 / 20205501-140 / 20205602-1 / 20205601-140 should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic enforcement – guidance
RF Emissions CISPR 11	Group 1	The AIDA HD Connect™ models noted above use RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause interference in nearby electronic equipment.
RF Emissions CISPR 11	Class A	
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Table 202
Guidance and manufacturer's declaration—electromagnetic immunity

The AIDA HD Connect™ models 20205502-1 / 20205501-140 / 20205602-1 / 20205601-140 are intended for use in the electromagnetic environment specified below.
 The customer or user of the AIDA HD Connect™ should assure that it is used in such an environment.


Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Electrostatic Discharge (ESD) IEC 61000-4-2	±6kV contact ±8kV air	±6kV contact ±8kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%. CAUTION: To prevent possible loss of image due to ESD, do not touch the input or output connections on the rear of the AIDA HD Connect™ during use.
Electrical Fast Transient/burst IEC 61000-4-4	±2kV for power supply lines ±1kV for input/output lines	±2kV for power supply lines ±1kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1kV differential mode ±2kV common mode	±1kV differential mode ±2kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles 5% U_T (>95% dip in U_T) for 5 sec	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles 5% U_T (>95% dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the AIDA HD Connect™ requires continued operation during power mains interruptions, it is recommended that the AIDA HD Connect™ be powered from an uninterruptible power supply or a battery. If image distortion or resetting of the device occurs, it may be necessary to further filter the power to the AIDA HD Connect™ by using an AC line filter.
Power Frequency (50/60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE: U_T is the a.c. mains voltage prior to application of the test level.

Table 204

Guidance and manufacturer's declaration – electromagnetic immunity

The AIDA HD Connect™ models 20205502-1 / 20205501-140 / 20205602-1 / 20205601-140 are intended for use in the electromagnetic environment specified below.
The customer or user of the AIDA HD Connect™ models noted above should assure that it is used in such an environment.

Immunity Test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Volt	<p>Portable and mobile RF communications equipment should be used no closer to any part of the AIDA HD Connect™, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p>Recommended separation distance</p> $d = 1.17 \sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.17 \sqrt{P}$ 80 MHz to 800 MHz $d = 2.33 \sqrt{P}$ 800 MHz to 2.5GHz <p>Where P is the maximum output power rating of the transmitter in watts [W] according to the transmitter manufacturer and d is the recommended separation in meters [m].</p> <p>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b</p> <p>Interference may occur in the vicinity of equipment marked with the following symbol:</p> 

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection by structures, objects and people.

^a Field strengths from fixed transmitters, such as base stations for radio [cellular/cordless] telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To access the electromagnetic environment due to fixed RF transmitters, and electromagnetic site survey should be considered. If the measured field strength in the location in which the AIDA HD Connect™ is used exceeds the applicable RF compliance level, above, the AIDA HD Connect™ should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the AIDA HD Connect™.

^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than [V1] V/m.

Table 206

Recommended separation distances between portable and mobile RF communications equipment and the AIDA HD Connect™ models 20205502-1 / 20205501-140 / 20205602-1 / 20205601-140

The AIDA HD Connect™ models noted above are intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the AIDA HD Connect™ can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the AIDA HD Connect™ as recommended below, according to the maximum output power of the communications equipment.

Separation distance according to frequency of transmitter
(meters)

Rated maximum output power of transmitter
(Watts)

150 kHz to 80 MHz

80 MHz to 800 MHz

800 MHz to 2.5 GHz

$$d = 1.17 \sqrt{P}$$

$$d = 1.17 \sqrt{P}$$

$$d = 2.33 \sqrt{P}$$

0.01	0.12	0.12	0.23
0.1	0.37	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

