Index

System description KARL STORZ AIDA® WD300 / WD350
Software description KARL STORZ AIDA® Release 1.5.1
Instruction manual KARL STORZ AIDA® WD300 / WD350
Welcome
Thank you for your expression of confidence in the KARL STORZ brand. Like all of our other products, this product is the result of years of experience and great care in manufacture. You and your organization have decided in favor of a modern, high-quality product from KARL STORZ.
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1 Information concerning this document

This system description describes the KARL STORZ AIDA® WD300 system with the software release 1.5.1 and is aimed at the user driver, the user and the IT personnel in hospitals and doctors’ practices in which the device is used. The document is designed to assist you in the correct operation of the KARL STORZ AIDA® and in making full use of all of its capabilities. All necessary inputs and commands are clearly explained in this instruction manual.

Read this system description thoroughly before operating the system. Read the chapter on safety instructions particularly carefully to avoid putting your patients, personnel or yourself at risk.

The system description is a component of the product and must therefore be kept at a location in the immediate vicinity of the system in order to enable reference to safety instructions and important information regarding its use at any time.

This system description is valid following an initial commissioning procedure which has been properly carried out.

1.1 Other applicable documents

The following documents are additional components of the product’s instruction manual and must be observed:

• Product description KARL STORZ AIDA® WD300
• Software description KARL STORZ AIDA®, Release 1.5.1

The following documents are not part of the instruction manual but could still be of interest:

• Hospital Network Integration Requirements
• Admin Guide Supplemental – System Hardening
• DICOM
• HL7

1.2 Conventions in this document

1.2.1 Definition of terms

In the following, the KARL STORZ AIDA® WD300 outlined here with the software release 1.5.1 is described as the system.

1.2.2 Explanation of Warnings and Cautions

The words Warning, Caution and Note convey special meanings. Wherever they are used in this manual, they should be carefully reviewed to ensure the safe and effective operation of this system. To make the signal words stand out more clearly, they are accompanied by a pictogram.

**WARNING:** A Warning indicates that the personal safety of the patient or user may be involved. Failure to observe a warning may result in injury to the patient, user or a third party.

**CAUTION:** A Caution indicates that particular service procedures or safety precautions must be followed to avoid any damage to the system.

**NOTE:** A Note indicates special information about operating the system, or clarifies important issues.
1.2.3 Images
The patient names in the screenshots are entirely fictional. Any resemblance to actual persons is purely coincidental.

1.3 General information on use
This system is produced in accordance with state-of-the-art technology and is safe to operate. Nonetheless, the system may still be a source of risk, especially if it is operated by personnel who are not adequately trained or if it is used incorrectly and for a purpose other than its intended use.

The system may be operated, cleaned and disinfected by the specialist personnel only. The specialist personnel must be briefed on the actions required for these steps.

The system is configured for operation via connected touchscreen monitors, and is equally well-suited to use with any such input device.

A sterile cover is available should you wish to operate the program in the sterile area. Please contact KARL STORZ, your local KARL STORZ subsidiary or your authorized dealer if you require this item.

For safety reasons, actions or interventions which extend beyond normal use must be carried out only by KARL STORZ or a company authorized by KARL STORZ. Before a company can receive this authorization, an employee of the company in question must successfully participate in a technical training course conducted by KARL STORZ. Authorization is then granted for a fixed period of time.

National laws and regulations must be observed.

1.3.1 User groups
The following three groups of people are named in this instruction manual.

Operators
The term operator applies to all individuals or legal entities:

• Who use the system themselves or allow a third party to use it in a doctor’s practice, hospital etc. and exercise actual physical authority over the system during operation.
• It is incumbent upon the operator to provide a safe system and properly instruct the user in the operation and intended use of the system.

Users
The term user applies to persons:

• Who, due to their training and the appropriate instruction provided by the persons delegated by the operator, are authorized to operate the system and work with it.
• Users are fully responsible for using the system safely and in accordance with its intended use.

Specialist personnel
The term specialist personnel applies to persons:

• Who have acquired their knowledge through professional training in the medical or medical-technical fields.
• Who are able to assess their work on the basis of professional experience and instruction in the safety-related regulations and recognize potential dangers whilst carrying out their work.
• In countries in which the performance of an activity in the medical or medical-technical fields is certified, the classification of individuals as specialist personnel assumes the corresponding accreditation.
1.3.2 Training in the operation of the system
Before using the system, all persons must be instructed directly at the system. This must be conducted by a person delegated by the operator, KARL STORZ, or a company authorized by KARL STORZ.

When the briefing has been completed, the user’s understanding of the special actions required to operate the device in accordance with its intended use must be documented.

1.3.3 Obligation to check and inform
The user must inspect the system to ensure that it is in proper condition and functioning correctly before every use or before handing it over for use by a third party.

If particular problems arise which are not addressed in sufficient detail for you in this instruction manual, please consult KARL STORZ or a company authorized by KARL STORZ for your own safety.

1.3.4 Warranty
KARL STORZ guarantees the safe and proper functioning of the system only subject to the following conditions:

- The system is used only as designated and operated in accordance with the information provided in this instruction manual.
- Only original replacement parts or accessories which are defined and approved by KARL STORZ are used. The use of other parts poses unknown risks and must be avoided at all times.
- Initial commissioning has been performed and documented.
- No structural modifications may be made to the system. Unauthorized modifications or alterations to the system or the software are not permitted for safety reasons and void the guarantee.
- Inspection and maintenance work must be conducted by KARL STORZ or a company authorized by KARL STORZ at the specified intervals.

1.4 Abbreviations

<table>
<thead>
<tr>
<th>General abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDA</td>
</tr>
<tr>
<td>DICOM</td>
</tr>
<tr>
<td>HIS</td>
</tr>
<tr>
<td>HL7</td>
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<tr>
<td>PACS</td>
</tr>
</tbody>
</table>
2 Safety instructions

Read the safety instructions carefully to avoid putting your patients, personnel or yourself at risk.

2.1 Risk of infection

The use of incorrectly prepared medical devices poses a risk of infection for patients, users and third parties.

► When carrying out any work on contaminated medical devices, the guidelines of the Employers’ Liability Insurance Association and equivalent organizations striving to ensure personal safety must be observed.
► National laws and regulations must be observed.
► Take suitable personal protection measures.
► Prior to using devices for the first time and after each further use, clean the devices in accordance with the instruction manual.
► In the case of any varying procedure, ensure the effectiveness of the cleaning.
► In the case of any varying procedure, exclude any possible harmful consequences.

2.2 Potentially explosive atmospheres

Electrical sparks in the device can result in explosions or fire.

► Do not operate the system in an oxygen-enriched environment.
► Do not use the system in an environment with flammable gases (for example, inhalation anesthetics or other flammable or explosive chemicals). Note the danger zone shown in the graphic.

► Connect or disconnect the power plug to or from the power supply only when outside potentially explosive atmospheres.

2.3 Power supply

An improper power supply may cause an electric shock and injure patients, users or third parties.

► The electrical installations in the operating room in which the device is installed and operated must comply with the applicable IEC standards.
► Only operate the device with the voltage stated on the identification plates.
► The device must be connected to the power grid only using the power cord supplied by KARL STORZ or a comparable power cord with a national test seal.
► The cable connections must not be disconnected or connected during operation.
In the case of devices which are operated with electricity, individual components or the device itself may be live. Reaching into the device can lead to electric shock and severe injury.

► Do not open the device.
► Have servicing carried out by KARL STORZ or personnel authorized by KARL STORZ only. The removal of covers by unauthorized personnel voids the warranty.
► Connect the device to a perfectly installed grounded outlet. Routinely inspect the electrical plug and cables. Do not use them if the inspection reveals damage.
► To reduce leakage currents, connect the device via the equipotential bonding plug to the connection socket for equipotential bonding.
► Do not touch the output jacks of the device and the patient at the same time during use.
► It is essential to ensure that no liquids can penetrate the housing.
► Do not store any liquids in the vicinity of the system.
► If liquid has penetrated into the device despite the precaution, switch off the device and pull the power cord. The evaporation must be allowed sufficient time.

2.4 Technical state

Combinations of medical devices are only assured to be safe if:

► they are identified as such in the respective manuals or
► the intended use and interface specifications of the products used in combination permit this.

A damaged device can injure patients, users and third parties or lead to severe injury.

► Before each use of the system or any device connected to it, make sure that the system and devices are safe and operating properly.
► The device should not be used if any damage is evident.
► If any of the system’s devices are defective, have them checked by an authorized service technician provided by KARL STORZ or a company authorized by KARL STORZ.
► Arrange for regular safety inspections to be conducted by an authorized service technician provided by KARL STORZ or a company authorized by KARL STORZ.

Sudden failures or malfunctions can critically impair the surgeon’s view of the site. This could result in injury to the patient.

► In case of a system failure or malfunction, cease work immediately and switch to a backup system (‘direct line’).
► Prior to each intervention, make sure that the personnel are familiar with the procedure for switching over to the backup system (‘direct line’).
► Contact an authorized service technician provided by KARL STORZ or a company authorized by KARL STORZ to check the system.

Devices which emit excessively high interference radiation due to a defect can impair the monitors or other devices.

► Switch off the defective device.
2.5 Notes on image display and transmission

The video signals and recordings shown may display artifacts as a result of compression and/or scaling.

The image preview on the touchscreen is not intended to be used for diagnostic or therapeutic purposes.

Signals in 3D are only correctly displayed on suitable display devices.

The visualization of image signals which do not originate from a KARL STORZ device may only be used for information purposes. Visualization must be marked accordingly.

The data recorded with the system may only be used for documentation purposes, in particular
• Image information in printed form
• Image information which was compressed or recorded in non-native resolution
• Image information which originates from or was recorded by a device which was not manufactured by KARL STORZ

Shutting down the system whilst processing patient data results in the loss of image data:
► Only switch off the device using the ON/OFF switch.

Connecting non-compatible signal types to the connection panel in the OR can cause image interference and malfunctioning of the KARL STORZ AIDA®.
► Only connect permitted signal types.
► Perform device tests before use.
3  Operation

This chapter focuses exclusively on operation of the KARL STORZ AIDA® WD300 system with software release 1.5.1. For more information on how to handle the connected devices, please consult the corresponding instruction manuals.

The application has a variety of possible configurations which can be implemented as part of the installation and commissioning processes in cooperation with KARL STORZ technicians. The scope of documentation, for example, can be restricted or expanded in this way. The full functional scope of the application is described in this system description. However, it is possible that not all areas and functions will be available in your facility.

Further specific settings for operation can be adapted for day-to-day use. To this end, read the ‘Configuration’ section in the software description.

It is recommended that the distribution of the roles in the team for the operation of the system be defined. For example, you should define who is responsible for the entry of the patient data and for the subsequent data storage.

Whenever possible, compile the patient data prior to the procedure and specify whether you wish to work with one or two sources.

3.1  User access

You may be unable to see or execute some functions described in this instruction manual due to a lack of user rights. These might include some configuration options and viewing the Filing Cabinet, for example.

Contact your administrator if you require further rights.

More information on user rights and configuration options can be found in the software description.

3.2  Switching on and off

3.2.1  Switching the system on

1. Switch on the connected peripherals (cameras, monitors, etc).
2. Turn the system on using the ON/OFF switch.

3.2.2  Switching the system off

**WARNING:** Shutting down the system whilst processing patient data results in the loss of image data. Only switch the device off using the switch-off button on the user interface.

1. Tap the switch-off button ☑️ in the top right-hand corner of the user interface.
2. The system shuts down and switches off.
3. Switch the connected peripheral devices off.
3.3 **Start screen and navigation**

Depending on the configuration in your facility, either the Home screen or the startup module set on your computer is shown straight after the application is launched.

The user interface follows the same structure in every application.

- Header
- Title line
- Area of application
- Navigation bar

### 3.3.1 Header and title line

![Header and title line](image)

The information bar (a) is located in the header at the top. Information and warnings are displayed here. The number of currently open tasks is shown here during data storage, for example. If there are system messages and currently open tasks, these are displayed alternately.

**Patient data (b)**

The patient data appears on the left below the information bar and is shown as soon as there is patient data. The following patient data is shown in the title bar.

- Gender
- Last Name
- First Name
- Date of Birth
- Age (in brackets)
- Patient ID

A double click on this line takes you to the ‘**Patient**’ module. You can enter or view details here.

**Function buttons (c)**

There are various function buttons available on the right of the header.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="User button" /></td>
<td>Tapping on the <strong>User button</strong> takes you to the Login window. The logged-in user is displayed on the right next to the user icon following login.</td>
</tr>
<tr>
<td><img src="image" alt="Filing Cabinet" /></td>
<td>Button to open the <strong>Filing Cabinet</strong> module, in which all the documentation already created is displayed. The button is only displayed if the Home screen was deactivated by the administrator. If the Home screen is activated, you will also find the filing cabinet in the footer of the application. Further information on operating the filing cabinet can be found in the chapter 3.9.1 ‘Filing Cabinet’ module, page 3-21.</td>
</tr>
</tbody>
</table>
### Operation

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Speaker](image) | Using the Speaker button, you can adjust and, if necessary, mute the output volume of the optional loudspeaker (or headphones).  
**WARNING:** If the volume of the loudspeaker or headset is too high, an unexpected audio signal could startle the attending physician. Check the volume control before each procedure. |
| ![Microphone](image) | Using the Microphone button, you can adjust the microphone volume of the optional microphone.  
**NOTE:** The microphone is always switched off on the system side. To record audio or to use the voice control, the microphone must firstly be switched on. |
| ![Tool](image) | Tapping on the Tool button takes you to the password-protected area for configuration of the system. Configuration is carried out by administrators.  
Some settings for which individual adjustment may be necessary can, however, also be made by configuration users.  
Configuration users must be explicitly specified by the administrator. You must therefore contact your administrator to find out about the access authorization in your facility. |
| ![Question](image) | The product data and licenses are displayed when you tap the question mark. Authorized users also have the possibility of storing the System and Audit Logs on a USB stick.  
Authorized users are:  
- Application administrators: System Log  
- Auditors: Safety Log  
The system can be shut down using the switch-off button. |

### 3.3.2 Navigation bar and workflow

You will find the navigation bar at the bottom edge of the monitor. Depending on the configuration, the following buttons are found here:

- Home button
- Filing Cabinet
- Workflow modules:  
  - Patient  
  - Checklist  
  - Capture  
  - Edit  
  - Finish

**Workflow modules**

The modules are structured according to the logic of a workflow for the 'documentation of surgical interventions'. KARL STORZ AIDA® offers an optimized and ergonomic workflow for the documentation of this data. The application runs along this workflow whereby patient data must firstly be entered before the operating environment is prepared for the intervention (checks via checklists). The ‘Capture’ module only starts then. The user can then edit recordings or conclude the intervention by saving the data.
The complete documentation of surgical procedures is indispensable for patient safety and quality assurance. As such, restrictions can be saved here on the system side to ensure that complete documentation is possible. The system allows you to jump between modules if this is permitted by the configuration.

3.3.3 ‘Home screen’

If the Home screen is activated in your facility, you will see the Home button in the navigation bar along the bottom edge of the monitor. Clicking here takes you to the Home screen where you can see all modules that belong to the functional scope of your system.

<table>
<thead>
<tr>
<th>Area of application</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current procedure</td>
<td>Here, you will find all the modules for administrating and processing current patient data and for documenting the current procedure.</td>
</tr>
<tr>
<td>Previous procedures</td>
<td>Here, you have the possibility of displaying previously created patient documentation and completing the documentation of previous procedures.</td>
</tr>
<tr>
<td>Control</td>
<td>Here, you will find optional modules for the monitoring and control of other KARL STORZ control units. These devices do not have any influence on previous or ongoing procedures. The ‘Control’ application area can only be opened via the Home screen. If the Home button is not displayed, this function is not available.</td>
</tr>
<tr>
<td>Communication</td>
<td>Here, you are offered access to the optional communication modules. The ‘Communication’ application area can only be opened via the Home screen. If the Home button is not displayed, this function is not available.</td>
</tr>
</tbody>
</table>
3.3.4 ‘Patient module’ start Screen

If the Home screen is deactivated, the Patient module is generally displayed following the application launch. This is also the default visualization.

Every intervention starts with the Patient module. The patient data can be loaded from the hospital information system here or entered manually.

3.4 ‘Patient’ module – entering outline data for the procedure

In the Patient module, you compile the outline data for the surgical procedure. This always includes the patient data, the performing physician and the nature of the procedure.

Entry of the performing physician can assume a special role. Depending on how the system is preconfigured, a group profile can be linked to his name. Specialist settings (procedure description, checklists, instruments trays) as well as settings on import and export destinations and settings for capture (video sources, voice control etc.) can be predefined by the administrator or PACS system. The settings for the current intervention are not loaded until the performing physician is selected. And only the performing physician can view the documentation in the Filing Cabinet.

The default profile is active if no performing physician is selected. Data on interventions which were not assigned to a physician can only then be viewed by a user with the role of Super User if access control is activated.

The patient data can be recorded manually as well as loaded from the hospital information system or from a worklist saved in the system.

Not all the data must be entered at the start. Yet, the system requires that you enter all details in the mandatory fields at the latest when saving data. The system does not allow you to save incomplete data.
Different input screens may be available depending on what scope of documentation was configured in your facility. All three variants are explained briefly below.

**Minimum input of patient data**

**Standard input of patient data**

If extended patient input is configured, on the right of the input mask for outline data you will find a navigation bar.

The extended patient screen can be configured. It is possible that all three input areas – ‘Team’, ‘Procedure’ and ‘Instruments’ – or only individual ones will be available in the navigation bar.
3.4.1 Entering patient data

1. Open the **Patient** module by clicking on **Patient** should this not appear automatically.
   ➤ The relevant patient screen appears depending on the configuration.
2. Select the **performing physician**.
   ➤ The profile with all the settings for the physician is loaded.
3. Complete the requested data and check your entries. Note the following instructions:
   - The date of birth is entered according to the DD:MM:YYYY format.
   - Fields with ... enable terms to be searched for in a separate context window.
   - Fields with ... allow terms to be selected upon clicking on this drop-down symbol.
   - Free format text can be entered in fields without a button.
   ➤ Your entries are saved automatically.

3.4.2 Changing patient data

**WARNING:** The mandatory fields are blocked as soon as you have recorded images and/or videos. Please do not then make changes to the patient data. Should changes nevertheless be made, the already recorded captures will be assigned to the new entries.

1. Tap on the **Change** button.
   ➤ The mandatory fields are unblocked.
2. Make your changes.
3.4.3 Loading patient and order data from the worklist

If the system is connected to a DICOM server, patient data can be selected and loaded from the DICOM worklist created there. In the Patient module, the WORKLIST button is located at the bottom left.

**NOTE:** The loaded data set is write-protected as standard and cannot be edited. However, you have the option of discarding the data (see chapter 3.4.5 ‘Discarding loaded patient data/accession data’, page 3-9).

1. Tap on the WORKLIST button in the bottom left-hand corner.
   - The DICOM worklist is displayed.

2. Select a search criterion, e.g., ‘Last Name’, from the Parameter drop-down list.
3. Enter the word you would like to search for.
4. Tap on the magnifying glass button.
   - The list of results is displayed.
5. Select the desired data set.
6. Tap on Select Patient.
   - The selected data set is loaded and displayed in the Patient module.

3.4.4 Loading patient data from the HIS (hospital information system)

If the patient has already been created in the HIS (hospital information system) and the system is connected to this system, you can load their data by inputting the patient ID or accession/admission number. The HIS button is located at the bottom left of the Patient module.

**NOTE:** The loaded data set is write-protected as standard and cannot be edited. However, you have the option of discarding the data (see chapter 3.4.5 ‘Discarding loaded patient data/accession data’, page 3-9).

1. Enter the patient ID or admission ID.
2. Tap the HIS button.
   - The patient data is loaded and displayed in the Patient module.
3.4.5 Discarding loaded patient data/accession data

If you have loaded the patient data/accession data from the worklist or the HIS, you have the option of discarding the data set again.

**WARNING:** If you have already recorded image and/or video footage for the patient, it will be assigned to the new patient.

1. Tap on the **Change** button.
   - An inquiry appears.

2. Confirm by pressing **OK**.
   - The data set is discarded, and you can load a new data set or input data manually.
3.5 ‘Checklist’ module – performing a safety check

In this module, you edit a safety checklist for surgical procedures. In day-to-day surgery this can help you to think of all the points which need to be remembered and to check them off.

The system offers a selection of different checklists. These are structured into the individual processing phases and are displayed in the checklist window on the bottom edge.

The processing phases can also be divided into several steps. An orange triangle indicates the state within the current processing phase.

The transitions between the processing phases are marked by what are known as ‘gates’. A gate is used to check a processing phase’s documentation. If a processing phase was not documented as planned, a window opens with a report on the missing documentation.

Working with the checklist is described in greater detail below.

1. Tap the Checklist button.

The Checklist module is opened.
2. Select the desired checklist and press **OK** to confirm.

- The selected checklist starts.

**NOTE:** If you realize you have selected the wrong checklist, you can close this checklist with the **Exit** button and return to the checklist selection window.

- Patient data, if already entered, is shown.

**NOTE:** Without entering the patient’s last name, the checklist cannot be finished.

3. Tap on **Next** on the right-hand edge.

4. Work through all of the checklist’s steps.
   a. Confirm that the tasks have been completed and all open questions have been answered by placing the required checkmark.
   b. Answer closed questions by marking an answer available for selection.

5. If you have skipped over the documentation of individual steps and the dialog window **Missing checkmarks in a step** appears as a result, select one of the following actions:
• Select **Complete** if you would like to jump directly back to the location of the missing documentation to fill it out.

• Select **Cancel** if you would like to close the window and navigate manually to the step with the missing documentation using the arrow keys.

• Select **Skip** if you want to skip over the documentation and finish it at a later point in time.

**NOTE:** Checkpoints that have not been documented are indicated in the progress indicator with a warning symbol.

6. Work through all of the checklist’s steps as described above.

7. To finish the checklist, tap on **Finish**.
3.6 ‘Capture’ module – capturing images and recording videos

In this module, you capture videos and stills during a procedure. Images and videos can be captured using buttons on the user interface, via voice command or via remote control (foot pedal or camera head buttons). You have the possibility of checking, labeling or deleting your captures and recordings here.

**WARNING:** If watermark fields were activated and selected during configuration of the system, the selected data is inserted into the still and cannot be changed. In this case, before capturing the first still, please ensure under all circumstances that all of the relevant data, such as the patient data, is entered correctly.

**WARNING:** Compressed image and video files may contain artifacts and must therefore not be used for diagnostics and therapy purposes.

Opening the ‘Capture’ module

1. Tap the Capture button.

The Capture module is opened.

<table>
<thead>
<tr>
<th>Display/Operating element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input 1</td>
<td>Camera 1’s image is displayed in the area on the left. The designation for Input 1 can be configured and may therefore be different in your facility.</td>
</tr>
<tr>
<td>Input 2</td>
<td>Camera 2’s image is displayed in the area on the right. The designation for Input 2 can be configured and may therefore be different in your facility.</td>
</tr>
<tr>
<td>Dual</td>
<td>If the checkbox is activated, captures or recordings can be created synchronously from both sources.</td>
</tr>
<tr>
<td>Capture still</td>
<td>Capture still.</td>
</tr>
</tbody>
</table>
### Display/Operating element

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture video.</td>
</tr>
</tbody>
</table>

**2D/3D**

These buttons are only displayed if a 3D source is configured and connected. Upon tapping on the **2D** button with a 3D capture, the 3D data is converted into 2D data and stored.

Along the right edge of the monitor is the preview area for created stills and videos with the following information:

- The number of stills or video sequences created is displayed before the camera or camcorder icon.
- The total length of all the video sequences is displayed below the video icon.
- The still capture time or the length of the video is displayed below the thumbnails.
3.6.1 Capturing stills

Via buttons on the user interface
1. Tap on the camera icon for Input 1 or Input 2.

The image is created and displayed on the right in the preview area.

NOTE: The most recently created image is displayed first in the preview area.

Via voice command
The voice control must be activated in your facility and an activation word and the voice command must be specified so that you can capture images and record videos using a voice command.

NOTE: Voice commands can only be issued for as long as the microphone icon is orange. Firstly switch the microphone on.

NOTE: Under certain circumstances the response to the voice command may be delayed.

Image capture is always synchronous. This means that, at times, a black image is also recorded which the system captures from the non-active source.

Program presets:
• Activation word: AIDA
• Voice command for capturing a still: Picture
1. Say the activation word.

The microphone icon is now displayed in orange.
2. Say Picture.

An image is created from each video source (Input 1 and Input 2) and displayed on the right in the preview area.

Recording video sequences using the footswitch or the camera head buttons
You can capture stills using the footswitch and also using the camera head buttons, if necessary. The assignment and functioning of the remote control is initially specified by an administrator. However, a configuration user can configure his own assignment.

The following operating options described below are available in principle. To find out which action each option triggers, please ask your administrator or the configuration user, provided that they have made their own settings.

• Left pressed all the way down
• Left pressed half the way down
• Right pressed all the way down
• Right pressed half the way down

NOTE: Remote control at the footswitch or at the camera head is possible at any time, even if the Capture module is not opened at that time. Remote control does not work if data storage was just started in the Finish module.
3.6.2 Recording video sequences

**NOTE:** If the storage space on the hard disk is less than 250 GB, a warning to this effect with the remaining recording time is displayed in the information bar. Video recording is canceled when there is just 100 GB remaining. Videos can no longer be recorded then. Stills can still be captured until the required storage space on the hard disk is created by the administrator.

**NOTE:** The most recently created image is displayed first in the preview area.

**Via buttons on the user interface**

1. Tap the camcorder icon for **Input 1** or **Input 2**.
   - Recording is started.
   - The recording start time is displayed on the right in the preview area.
2. Tap on the camcorder icon again to stop recording.

**Via voice command**

The voice control must be activated in your facility and an activation word and the voice command must be specified so that you can capture images and record videos using a voice command.

**NOTE:** Voice commands can only be issued for as long as the microphone icon is orange. Firstly switch the microphone on.

**NOTE:** Under certain circumstances the response to the voice command may be delayed.

Video recording is always synchronous. This means that, at times, a black image is also recorded which the system captures from the non-active source.

Program presets:
- Activation word: **AIDA**
- Voice command for starting recording: **Record**
- Voice command for stopping recording: **Stop**

1. Say the activation word.
   - The microphone icon is now displayed in orange.
2. Say **Record**.
   - Recording of both video sources (Input 1 and Input 2) is started. The button is displayed in orange.
3. If you would like to stop recording, say **Stop**.
   - The video sequences are created and displayed on the right in the preview area.

**Recording video sequences using the footswitch or the camera head buttons**

Video sequences are recorded using the footswitch or the camera head buttons in the same way as stills are captured (see Section ‘Capturing stills using the footswitch or the camera head buttons’ on page 3-15).
3.6.3 Viewing captures

**WARNING:** Risk of treatment errors.
The recordings shown are not live surgery images. Mix-ups are possible. When selecting recordings, note the writing in the image or video.

To avoid confusion between the live image from the endoscopic camera and a video recording or a still during full-screen mode or during display on an external monitor, video recordings are labeled with ‘Recorded Video Replay’ and images are labeled with ‘Recorded Image Replay’. Failure to note the labeling can result in treatment errors.

1. In the right-hand window tap on the desired **capture**.
   - A selection menu opens.

2. Tap on the **View** button.
   - The marked capture is displayed in the preview area. Videos can be played back.
A playback bar is available when videos are displayed. You can play back and pause videos, as well as change the playback speed and the volume of the audio playback.

You can view all of the captures created one after the other using the arrow keys at the side.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="flag.png" alt="Flag" /></td>
<td>Press the button to mark the capture with a flag. All of the marked captures can be displayed, printed out or deleted in a single step in the Edit module. Flags can be subsequently set in the Edit module.</td>
</tr>
<tr>
<td><img src="unflag.png" alt="Unflag" /></td>
<td>The button deletes the set flag.</td>
</tr>
<tr>
<td><img src="full-screen.png" alt="FullScreen" /></td>
<td>Shows the capture in full-screen mode.</td>
</tr>
<tr>
<td><img src="external-monitor.png" alt="ExternalMonitor" /></td>
<td>Shows the still or video on an external monitor.</td>
</tr>
<tr>
<td><img src="ok.png" alt="OK" /></td>
<td>The OK button ends the display mode.</td>
</tr>
</tbody>
</table>

### 3.6.4 Deleting a capture

1. Tap on the desired capture. ➔ A selection menu opens.
2. Select **Delete**. ➔ The capture is marked as deleted.

**NOTE:** The recording can be restored at any time during the ongoing procedure using the Restore item in the selection menu. When saving data this recording is not saved and is permanently deleted.
3.6.5 Adding annotations to stills and video sequences

Annotations can be added to video sequences and stills for documentation purposes. The annotation is then shown instead of the recording time on the recordings.

NOTE: Annotations are linked to a procedure designation. We therefore recommend selecting a procedure designation before adding annotations to restrict the annotations list and make selection easier.

Adding annotations using the touchscreen

1. Tap on the image.
2. Select Annotations from the drop-down list.
   ➤ The Annotations window is opened.
3. Tap on the drop-down menu and select the desired entry or
   Enter the desired term in the text field.
4. Confirm with OK.
   ➤ The annotation is displayed below the image.
3.7 ‘Edit’ module – checking and editing captures

In the Edit module you can post-edit stills and video sequences which you have captured during a procedure. To this end, the following tabs are available:

- Viewer
- Still Editing

Opening the ‘Edit’ module

1. Tap on the Edit button.

The Edit module is opened.

3.7.1 ‘Viewer’ tab

In the viewer, you can view, print, delete or annotate captures. In the left area of the viewer (see above), all of the created stills are displayed in a preview, while all of the created videos are displayed in the area on the right.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Select](image) | If you tap on the button, a selection list with the following functions appears:  
  - Select all  
  - Deselect all  
  - Select all flagged  
  - Select all unflagged  
  
  **NOTE:** Selection can also take place by tapping the preview image. |
| ![Search](image) | Captures are shown/played back in a separate viewer. You can view the selected captures created one after the other using the arrow keys at the side. |
### Function | Description
--- | ---
Print | The selected captures are printed.  
**WARNING:** Print-outs may contain display errors and must therefore not be used for diagnostics and therapy purposes.  
**WARNING:** If an anonymous report is printed out, there is a possibility of it being mixed up or assigned to the wrong patient.
Flag | Selected captures are marked with a flag. In the next step, these captures can be shown, printed out or deleted.
Unflag | The flag is removed for selected captures.
Annotations | Annotations can be added to selected captures.
Delete | Selected captures are marked for deletion and are not saved upon Finishing and are permanently deleted.
Undo Delete | Captures which have been designated for deletion can be restored. This button is only enabled if data is available.

**Playing back videos and creating a still**

Upon clicking on the view button you are taken to another window where you can view the individual captures or create stills from videos.

You can view the selected captures created one after the other using the arrow keys at the side.
To create a still from a video:

1. Tap on the **Play Back** button.
2. Tap the camera icon 📸 at the desired position.
   - The still created appears on the right.

### 3.7.2 ‘Still Editing’ tab

You can adjust the brightness and contrast of stills on this tab.

Changes to stills which you make here are saved as additional images; the original captures remain unchanged.

1. Tap the left of the still which you would like to edit.
2. Adjust the **contrast** and/or **brightness** using the plus/minus keys.
3. If you would like a 3D image to be saved as a 2D image, activate the **2D** checkbox.
4. Tap the save button to save a new image with the changes made.

**NOTE:** Discard all changes with **Reset**.
3.8 ‘Finish’ module – data storage

In the Finish module, you can initiate data storage for the documentation to be created. Here all videos and stills which are not designated for deletion are saved. Captures designated for deletion are, however, not saved and are permanently deleted.

The system permits storage on a wide range of media (USB hard disk, CD/DVD, DICOM server or other network servers (FTP, SFTP etc.) or locally on the system (local drive). These are preset by the administrator.

Depending on the configuration, the data is saved either automatically or, if necessary, must also be saved manually.

**CAUTION:** Loss of data from premature removal of the storage medium!
Data will be lost if you remove a USB-connected medium from the system before data storage is finished. In the Open Tasks module, check whether data storage is finished, and only remove the storage medium when it is finished.

**NOTE:** It is possible to save the data for one patient to a CD/DVD. The data from several patients cannot be saved on a single optical data carrier.

1. Tap on Finish.
2. If necessary, you are prompted to complete all data entries. The module does not open until all the mandatory fields for patient data have been completed.
3. You will then be shown a list with all of the configured destination directories on which data can or must be stored appears.
   a. The destinations for automatic data storage are grayed out and the checkboxes are activated. They cannot be excluded from data storage.
   b. The destinations for **manual data storage** are initially deactivated but not grayed out.

4. Are destinations for **manual data storage** configured in your facility?
   a. Otherwise, proceed to the next step.
   b. If they are, activate the checkboxes of the destinations on which data is to be stored.
5. If required, connect a USB stick or insert a CD or DVD.
6. Tap on Save.

- Data storage starts.
- The Export running window opens. Other functions are possible.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worklist</td>
<td>If DICOM is configured, you are taken to the DICOM worklist where you can select the next patient.</td>
</tr>
<tr>
<td>Open tasks</td>
<td>List of incomplete exports. If the list is empty, data storage has been finished successfully (see chapter 3.9.2 ‘Open tasks’ on page 3-24).</td>
</tr>
</tbody>
</table>

### 3.8.1 Data storage on CD/DVD

The system saves all the data on a patient/intervention on CD or DVD. Under certain circumstances, several data carriers are required. If one data carrier is full, it is ejected and the system states that it must be replaced with a new carrier.

At the end of the storage process, the window Label CD/DVD appears on each CD/DVD. This provides a suggestion for labeling the data carrier. Use this suggestion as this prevents mix-ups or assignment problems between the data carrier and patient file.

Data from several patients/interventions cannot be saved on one CD/DVD.

### 3.8.2 Storing data with minimum memory space on a hard disk or USB removable media

The system continuously checks the memory space on the hard disks to ensure that enough space is available for the recordings. The system is set as standard so that the old exports are overwritten when the memory space capacity is limited. Once this status is reached, a warning to this effect is shown in the information bar with the remaining recording time. Always ensure that there is enough storage space available on the hard disk.

### 3.8.3 Forced restart during data backup

The RAM on the hard disk is continuously monitored. As soon as a certain limit is reached, the user is notified via the information bar that a restart should be performed when possible. The message persists until a restart is performed.

If the limit is exceeded considerably, a restart is forced once data storage is started using the Save button. Please therefore always ensure that there are no old images or videos still in the system that are impacting on it.
3.9 Previous procedures area of application

If configured, the ‘Previous procedures’ area of application contains all the data of previous interventions.

Here, you have the possibility of displaying previously created patient documentation via ‘Filing Cabinet’ and completing the documentation of previous procedures under ‘Open Tasks’.

3.9.1 ‘Filing Cabinet’ module

In the Filing Cabinet module, documentation which has already been created and which is saved on a local drive, a network drive, a self-made optical data carrier or a USB stick is displayed. The data there can be viewed, played back or copied to other destinations (USB, CD, DVD and networks such as PACS, HIS and AAR). The data cannot, however, be deleted.

The module may not be available depending on the configuration of your system.

To avoid mix-ups with data from ongoing treatments, the module is a different color from the rest of the interface.

1. Tap on the Filing Cabinet function button on the right of the header.

   or

2. Tap on Filing Cabinet in the ‘Previous procedures’ on the Home screen.

The Filing Cabinet module is displayed.

2. Select the data source from which you wish to take the data from the top part of the screen.

The available data is shown as a table.
3. Select a search criterion, e.g., ‘Last Name’, from the Parameter drop-down list.
4. Enter the term you would like to search for.
5. Tap on the magnifying glass button 🔍.
6. Select the required data set.

A window, in which the stills and videos created of the procedure are displayed, opens.

Further functions are not possible:
**Function** | **Description**
--- | ---
Select | Upon tapping on the Select button you are shown a selection list with the following functions:
- Select all
- Deselect all
- Select all flagged
- Select all unflagged

**NOTE:** Selection can also take place by tapping the preview image.

Export | Selected data is copied to another destination.

If the process cannot be carried out, it is temporarily stored in Open Tasks. When shutting down, a window indicating that copying is not completed then opens.

View | Selected stills or videos can be viewed.

### 3.9.2 Open tasks

Open tasks result when storage media, for example, has too little memory, there is a network interruption during data transmission or the main memory is overloaded. Data transmission was interrupted. To ensure complete data archiving, the interrupted storage processes are recorded and listed under open tasks.

AIDA reports that there are still open tasks when the system is shutting down at the latest. When the system is still running, the Current Open Tasks display appears at the top left in the information bar followed by the number.

Incomplete patient data can be saved at any time. Tap the Information button on the information line to display the list of open tasks.
The list shows the patient/procedure data which has not yet been transmitted. Below that you will find the previously selected target directory with the corresponding information on data size and, if relevant, the problem of interrupted data transmission.

1. Check the data set in the list of open tasks for size and status.
2. If necessary, select another available target directory from the drop-down menu and tap on Try again
   or
   Insert a data carrier into the drive and tap on Burn.

   **NOTE:** When burning onto a CD or DVD, also note chapter 3.8.1 ‘Data storage on CD/DVD’, page 3-21.

### 3.10 ‘Control’ and ‘Communication’ area of application

In the ‘Control’ and ‘Communication’ area of application, the interfaces of other systems can be shown and called up. This enables you, provided that this option is configured, to operate other devices centrally via just one screen (‘Control via SCB’) and provides access to further communication modules (video conference, telephone, ...).

These areas of application can only be opened via the Home screen. If the Home button is not displayed, this function is not available.

The following devices and systems can be connected by way of example:

- KARL STORZ SCB®
- AIDA Interface control
- OR1.avm

   **NOTE:** More information on the use of the connected systems can be found in the separate manuals for the respective devices.
4 Configuration for configuration users

A configuration user is a user who is allowed to make additional settings. Generally speaking, this is the person, who would like to make their own settings for the video resolution and video format for the procedures.

Configuration users must be explicitly specified by the administrator. You should therefore contact your administrator if you are not sure whether you have these rights or require the rights of a configuration user.

4.1 Overview of the settings

The table below provides an overview of the settings which the configuration user may make.

<table>
<thead>
<tr>
<th>Menu</th>
<th>Tab</th>
<th>Settings</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture</td>
<td>General</td>
<td>Select image format</td>
<td>4-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select video format</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select video quality</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select video resolution</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specify how the complete video should be divided into sorted sub-sections</td>
<td></td>
</tr>
<tr>
<td>Remote control</td>
<td></td>
<td>Specify the assignment and functioning of the remote control</td>
<td>4-6</td>
</tr>
<tr>
<td>Finish</td>
<td>Print</td>
<td>Enable auto print</td>
<td>4-7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select layout</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specify the number of images per page</td>
<td></td>
</tr>
<tr>
<td>Data entry</td>
<td>Procedures</td>
<td>Assign keywords</td>
<td>4-8</td>
</tr>
</tbody>
</table>

4.2 Opening the configuration area

1. Tap on the tool button on the right of the header.
   ➤The login window opens.

2. Enter the **username** and the **password**

3. Tap on **OK** or press the Enter key on your keyboard.
   ➤Once you have successfully logged in, the Manage Profiles window, in which your currently assigned default or group profile is displayed, appears.

4. Decide whether you wish to edit the assigned profile or if you wish to reset all the settings made.
   If you decide to reset the profile, it is reset to the group profile assigned by the administrator or the default profile.
   ➤The configuration area opens.
4.3 ‘Capture’ menu

4.3.1 ‘General’ tab

The two capture sources can be configured on this tab. The capture sources are automatically detected by the system. If a source is connected via the display port, this is always automatically recognized as Input 1 (left). A source via HDMI is always recognized as Input 2 (right). The inputs can also be individually assigned other names.

**NOTE:** To minimize the transmission rates and storage requirements, it is recommended that different capture qualities be set for the channels.

An optimized capture source is stored for 3D sources.

**NOTE:** Upon connecting, for example, a TC302 IMAGETC IMAGE1 S D3-LINK via DisplayPort, the 3D signal is transmitted in full resolution in 4K UHD and can also be captured as such. However, a second connected signal cannot be captured as synchronous capture would lead to a loss of quality with the video recordings. Still images can, nevertheless, still be captured via a second source.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DisplayPort source</td>
<td>Entry of a source designation at Input 1.</td>
</tr>
<tr>
<td>HDMI source</td>
<td>Entry of a source designation at Input 2.</td>
</tr>
<tr>
<td>Camera system</td>
<td>Select the camera system in this selection list to set the required colour space. The following options can be selected:</td>
</tr>
<tr>
<td></td>
<td>• TC201</td>
</tr>
<tr>
<td></td>
<td>• TC200</td>
</tr>
<tr>
<td></td>
<td>• 222010 20 / 222020 20</td>
</tr>
<tr>
<td></td>
<td>• OR1® Integration</td>
</tr>
<tr>
<td></td>
<td>• Extended: If this camera system is selected, the desired color space of the received signal must be selected in another selected list.</td>
</tr>
<tr>
<td>3D</td>
<td>If the source supports 3D format, the checkbox must be activated for optimum display. Optimized image and video settings for 3D are automatically loaded. Manual profile settings are then no longer possible.</td>
</tr>
<tr>
<td>Setting</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Image format</td>
<td>Selection of the image format for stills. Select the image format in line with the technical conditions in your facility. The following options can be selected:</td>
</tr>
<tr>
<td></td>
<td>• <strong>BMP files</strong>: Non-compressed image files</td>
</tr>
<tr>
<td></td>
<td>• <strong>JPEG files</strong>: Compressed image files</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: Compressing can result in artifacts in the image file.</td>
</tr>
<tr>
<td>Video format</td>
<td>Selection of the video format. Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table ‘File size depending on format, resolution and capture quality’.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: All the available video formats produce compressed files. Compressing can result in artifacts in the video file.</td>
</tr>
<tr>
<td>Video quality</td>
<td>Selection of the capture quality. Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table ‘File size depending on format, resolution and capture quality’.</td>
</tr>
<tr>
<td>Maximum video resolution</td>
<td>Selection of the resolution for the recording. Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table ‘File size depending on format, resolution and capture quality’.</td>
</tr>
<tr>
<td>Video chapter</td>
<td>Specify here how the complete video should be divided into sorted sub-sections. Select the length of the video recording sections in the drop-down menu depending on the storage capacity of the intended storage medium. The maximum size per video is determined and displayed following selection.</td>
</tr>
<tr>
<td></td>
<td><strong>NOTE</strong>: When saving via the network, a section size of 950 MB should not be exceeded.</td>
</tr>
<tr>
<td></td>
<td>Select <strong>Off</strong> if you do not wish to divide the recording into sections.</td>
</tr>
<tr>
<td>Maximum size for each video</td>
<td>If divisions into video chapters was selected, the maximum size per video is displayed depending on the selected video settings.</td>
</tr>
</tbody>
</table>
File size depending on the format, resolution and capture quality

Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table below.

<table>
<thead>
<tr>
<th>Format</th>
<th>Quality</th>
<th>Resolution</th>
<th>Transfer rate</th>
<th>File size per minute of capturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPEG2</td>
<td>High</td>
<td>1080p</td>
<td>35 Mbit/sec</td>
<td>263 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>18 Mbit/sec</td>
<td>135 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>6 Mbit/sec</td>
<td>45 MB/min</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>1080p</td>
<td>8.75 Mbit/sec</td>
<td>65.63 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>6 Mbit/sec</td>
<td>45 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>3 Mbit/sec</td>
<td>23 MB/min</td>
</tr>
<tr>
<td>MPEG4/MOV</td>
<td>High</td>
<td>1080p</td>
<td>16 Mbit/sec</td>
<td>120 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>8 Mbit/sec</td>
<td>60 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>3 Mbit/sec</td>
<td>23 MB/min</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>1080p</td>
<td>4 Mbit/sec</td>
<td>30 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>2 Mbit/sec</td>
<td>15 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>1 Mbit/sec</td>
<td>8 MB/min</td>
</tr>
<tr>
<td>4K</td>
<td>High</td>
<td>4 x Full HD</td>
<td>80 Mbit/sec</td>
<td>600 MB/min</td>
</tr>
</tbody>
</table>

**NOTE:** You should note the following data transmission rates for the settings:

- Data transmission over USB 2.0 is max. 480 Mbit/s.
- Data transmission over USB 3.0 is max. 5 Gbit/s.
- For WLAN (5 GHz), a gross data rate of max. 866 Mbit/s is possible, which corresponds to a usable data rate of up to 300 Mbit/s. These values very much depend on the local WLAN infrastructure.
4.3.2 ‘Remote Control’ tab

On this tab, you specify the assignment and functioning of the remote control. Depending on the installation, the remote control can be set up for the footswitch or, if necessary, also for the camera head.

The tab shows all the functions of a double foot pedal or the connection identifier ACC1 ... 4. These connection identifiers can be assigned to the following properties:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Still capture channel 1</td>
<td>Source 1’s still capture.</td>
</tr>
<tr>
<td>Still capture channel 2</td>
<td>Source 2’s still capture.</td>
</tr>
<tr>
<td>Still capture channels 1 &amp; 2</td>
<td>One still capture each from source 1 and source 2 at the same time.</td>
</tr>
<tr>
<td>Video start/stop channel 1</td>
<td>Start or stop source 1’s video recording.</td>
</tr>
<tr>
<td>Video start/stop channel 2</td>
<td>Start or stop source 2’s video recording.</td>
</tr>
<tr>
<td>Video start/stop channels 1 &amp; 2</td>
<td>Start or stop source 1’s and source 2’s video recording at the same time.</td>
</tr>
<tr>
<td>None</td>
<td>No function.</td>
</tr>
</tbody>
</table>

With operation using the camera head, please note that, as a rule, the camera only has two instead of four connection identifiers: left button and right button. Depending on the setting options in the camera unit, these can be set with pressed halfway and pressed all the way.

The buttons can also be individually configured via the camera unit. Make sure that the camera unit has an identical function configuration as the settings in AIDA.
4.4 ‘Finish’ menu

4.4.1 ‘Print’ tab

In the Print tab, you can make the settings for automatic printing. The print-out is on the standard printer set by the administrator.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable auto print</td>
<td>Automatic printing during the procedure.</td>
</tr>
<tr>
<td>Name</td>
<td>Enter a designation for the printing process.</td>
</tr>
<tr>
<td>Number of copies</td>
<td>The number of print-outs for automatic printing (auto print) can be specified using the plus and minus keys.</td>
</tr>
<tr>
<td>Page layout</td>
<td>Here you specify the layout/contents of the print layout:</td>
</tr>
<tr>
<td></td>
<td>• No text layout: images only (anonymous)</td>
</tr>
<tr>
<td></td>
<td>• Small text layout: images with information:</td>
</tr>
<tr>
<td></td>
<td>- Logo</td>
</tr>
<tr>
<td></td>
<td>- Treatment Date</td>
</tr>
<tr>
<td></td>
<td>- Performing Physician</td>
</tr>
<tr>
<td></td>
<td>- Facility Name</td>
</tr>
<tr>
<td></td>
<td>- Patient ID</td>
</tr>
<tr>
<td></td>
<td>- Last Name</td>
</tr>
<tr>
<td></td>
<td>- First Name</td>
</tr>
<tr>
<td></td>
<td>- Date of Birth</td>
</tr>
<tr>
<td></td>
<td>- Caption</td>
</tr>
<tr>
<td>Alignment</td>
<td>Portrait or landscape</td>
</tr>
<tr>
<td>Number of images per page</td>
<td>Selection of the number of images to be placed on a page. Printing starts automatically once this number has been reached. The remaining images are automatically printed at the end of the procedure.</td>
</tr>
</tbody>
</table>
4.5 Data entry menu

4.5.1 ‘Procedures’ tab

You can create one or more keywords for each type of procedure on this tab. They are available for the respective type of procedure during capture and editing. The user can assign a keyword to a captured image or recorded video there.

1. Mark an entry in the Procedure Name column.
2. Tap Add in the Keywords column.

A new field is added to the list of keywords.
3. Enter the new keyword.
4. Press OK to confirm the entry.  

The keyword is now assigned to the procedure in the list and can be subsequently assigned to videos or images.

Further entries can be created. To this end, repeat the steps as described above.

Entries can be changed by tapping the respective field.

Entries can be removed by selecting the entry and tapping the **Remove** button.
5 System description

5.1 System requirements

Only the system components/standards approved by KARL STORZ may be used within the system. If necessary, you can request detailed information from your responsible KARL STORZ contact partner.

**WARNING:** Additional equipment connected to medical electrical equipment must demonstrably comply with the relevant IEC or ISO standards (e.g., IEC 60950 for data processing equipment). Furthermore, all configurations must satisfy the requirements for medical electrical systems (see IEC 60601-1-1 and IEC 60601-1, paragraph 16, 3rd edition). Any person who connects additional devices to electrical medical devices configures a medical system, and is therefore responsible for ensuring that this system complies with the requirements for medical electrical systems. It must be taken into account that local regulations take priority over the aforementioned requirements. If in doubt, consult the technical service department or your local representative.

**WARNING:** Connecting non-compatible signal types to the connection panel in the OR can cause picture interference and malfunctioning of the device. Only connect permitted signal types and perform device tests before use.

5.1.1 System-compatible hardware

**Supported touchscreen models**

- **21.5" KARL STORZ touchscreen:**
  
  WM 100 20 0906 21 20 0905 21

- **24.5" KARL STORZ touchscreen:**
  
  WM 101 20 0906 24 20 0905 24

**Supported display types**

- **2D monitor:**
  
  9524NB 9619NB TM 340
  9726NB 9626NB-2 TM 341
  9626NB 9826NB TM 342
  9627NB TM 220 TM 440
  9526NBL TM 263

- **3D monitor**
  
  9826NB-3D
  9832NB-3D
  TM 323
  TM 330
  TM 350

**Supported camera types**

- IMAGE1 S CONNECT (TC 200)
- IMAGE1 S CONNECT II (TC 201)
- IMAGE1 HD (22 2020 20x)
- IMAGE1 HUB HD (22 2010 20x)

* Not all items are offered in your region.
Remote switch
- W23174

Footswitch
- 20014430

**NOTE:** Other system configuration options are generally possible in principle, but must always be considered and planned separately. Additional costs may be incurred here. KARL STORZ AIDA® is supplied as a unit comprising complementary hardware and software. Any changes to the hardware or software which are not authorized by KARL STORZ void the approval for medical use, the guarantee and the manufacturer’s warranty.

If necessary, contact your KARL STORZ staff member to enquire about available and compatible hard- and software components.

* Not all items are offered in your region
5.2 System versions

5.2.1 KARL STORZ AIDA® WD300 full HD with external touchscreen

* Not all items are offered in your region
5.2.2 KARL STORZ AIDA® WD350 full HD with smart screen and surgical screen

* Not all items are offered in your region
5.2.3 KARL STORZ AIDA® WD300 full HD with dual IMAGE1-S with surgical screen

*Not all items are offered in your region
5.2.4 KARL STORZ AIDA® WD350 full HD with smart screen and dual IMAGE1-S with surgical screens

* Not all items are offered in your region
5.2.5 **KARL STORZ AIDA® WD350 full HD with smart screen and SCB devices**

- USB-Printer
- USB-keyboard + Touchpad
- Footswitch 20014430
- Barcode-scanner

**Hospital Network**

- S CB network (192.168.1.0/27)
- Management network (10.179.101.0/24)
- Hospital Network

**System description**

**KARL STORZ AIDA® WD350**

*Not all items are offered in your region*
5.2.6 KARL STORZ AIDA® WD300 ultra HD/4K with external touch screen and 4K screen

- USB-Printer
- USB-Keyboard + Touchpad
- Footswitch* 20014420
- Barcodes scanner*
- RS232 Touch Control
- Ultra HD/4K Camera Signal (Loop-Through) FG Card DP Out to
  RS TM340: DP In
  RS TM341: DP In

- Full HD Backup line – 3G SDI
- Ultra HD/4K Video Source
- Ultra HD/4K Backup line – 12G SDI

* Not all items are offered in your region
5.2.7 KARL STORZ AIDA® WD350 ultra HD/4K with smart screen and 4K screen

*Not all items are offered in your region
5.2.8 KARL STORZ AIDA® WD350 full HD with smart screen and 4K screen

* Not all items are offered in your region
5.2.9 KARL STORZ AIDA® WD350 ultra HD/4K with smart screen and SCB devices

* Not all items are offered in your region
Welcome
Thank you for your expression of confidence in the KARL STORZ brand. Like all of our other products, this product is the result of years of experience and great care in manufacture. You and your organization have decided in favor of a modern, high-quality product from KARL STORZ.

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1 Information concerning this document

This document describes the administration and management of the software KARL STORZ AIDA® release 1.5.1, and is aimed at professional IT personnel in hospitals and doctors’ practices in which the device is used.

Specifically in this document you will find:

- Details on user groups and authorizations
- Information and descriptions on configuration of the system
- Notes on installation, system recovery, data backup and conduct in exceptional situations

Read this software description thoroughly before putting the system into operation. It is a component of the product and must therefore be kept at a location in the immediate vicinity of the system in order to enable reference to important information regarding its use at any time.

1.1 Other applicable documents

The following documents are additional components of the product’s instruction manual and must be observed:

- System description KARL STORZ AIDA® WD300
- Product description KARL STORZ AIDA® WD300

The following documents are not part of the instruction manual but could still be of interest:

- Hospital Network Integration Requirements
- Admin Guide Supplemental – System Hardening
- DICOM
- HL7

1.2 Conventions in this document

1.2.1 Definition of terms

In the following, the KARL STORZ AIDA® release 1.5.1 software described here is referred to as the program.

1.2.2 Explanation of Warnings and Cautions

The words Warning, Caution, and Note convey special meanings. Wherever they are used in this manual, they should be carefully reviewed to ensure the safe and effective operation of this system. To make these words stand out more clearly, they are accompanied by a pictogram.

**WARNING:** A Warning indicates that the personal safety of the patient or user may be involved. Failure to observe a warning may result in injury to the patient, user or a third party.

**CAUTION:** A Caution indicates that particular service procedures or safety precautions must be followed to avoid any damage to the system.

**NOTE:** A Note indicates special information about operating the system, or clarifies important issues.
1.2.3 Images
The patient names in the screenshots are entirely fictional. Any resemblance to actual persons is purely coincidental.

1.3 Abbreviations

<table>
<thead>
<tr>
<th>General abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDA</td>
</tr>
<tr>
<td>DICOM</td>
</tr>
<tr>
<td>HIS</td>
</tr>
<tr>
<td>HL7</td>
</tr>
<tr>
<td>PACS</td>
</tr>
</tbody>
</table>

1.4 Education, training, Internet, etc.
If, in addition to these explanations, you need training, contact KARL STORZ SE & Co. KG directly.
KARL STORZ offers training seminars for different target groups at various levels.

1.4.1 Address
KARL STORZ SE & Co. KG
Abt. Reparaturservice
Take-off Gewerbepark 83
78579 NEUHAUSEN, Germany

1.4.2 Service hotline
Tel.: +49 (0)7461/708 980
E-mail: technicalsupport@karlstorz.com
About this program

2 About this program

The program is a core component of the KARL STORZ AIDA® WD 300 which is intended for documentation of audio-visual and patient data during a diagnostic or therapeutic procedure. It allows for the capture and the annotation of the surgical procedure for documentation purposes.

**NOTE:** Audio-visual data recorded and distributed by the KARL STORZ AIDA® WD300 are not intended for diagnostic or therapeutic purposes. Recorded audio-visual data are not intended for intraoperative display on the surgical monitor.

The program is self-contained and is operated with the aid of operating system Windows 10.

The system is delivered ex works with KARL STORZ AIDA® Secure (SE46 Local Whitelist Manager) as standard. This security software prevents dangerous or undesirable software from running on your system. It functions based on the whitelist principle. This means that only approved (certified) software can be run on the system. You will find more information on the installation of other software and devices in chapter 6 ‘Installation’, as of page 6-1.

**NOTE:** When connecting to a network, KARL STORZ recommends combination with an intrusion prevention system (IPS) in order to guarantee maximum protection of your network.

2.1 Presetting upon program delivery

Following installation, a default profile and two user accounts for two different administrative user roles are already available for configuring the application.

2.1.1 Default profile

The default profile already contains basic configuration settings, which can however be adapted to the requirements in your facility.

The default profile’s settings are indicated by means of a narrow colored bar on the left edge. These markings are only relevant for the administrator if the profile service, which ensures automatic distribution of the default profile and any group profiles created (see below), is used. The marking indicates whether the setting is a global setting or a local setting for the individual device.

- Orange markings label global settings. Only these settings are forwarded to the other AIDA devices by the profile service.
- Light blue markings label local settings.

It is possible to create and edit additional profiles. A group profile can thus be created for different user groups for which field-specific settings are required, for example. Profiles that you create yourself are always referred to as group profiles below. Settings which apply to the group profile have no colored markings.
2.2 User roles and access rights

Various user roles and access rights are available in advance. The table below provides an overview.

<table>
<thead>
<tr>
<th>User role</th>
<th>Group</th>
<th>Field of activity</th>
<th>Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>System administrator</td>
<td>Administrators</td>
<td>IT department</td>
<td>Making settings at operating system level and Windows level in the configuration area.</td>
</tr>
<tr>
<td>Application administrator</td>
<td>Application administrators</td>
<td>Responsible for the configuration of the application</td>
<td>Making settings at application level in the configuration area.</td>
</tr>
<tr>
<td>Configuration user</td>
<td>Settings users</td>
<td>Performing physician</td>
<td>Creating a personal user profile in the configuration area.</td>
</tr>
<tr>
<td>Auditor</td>
<td>Auditors</td>
<td>Auditor</td>
<td>Access to the application’s system and security protocols</td>
</tr>
</tbody>
</table>

The following user roles with various authorizations are predefined for configuration.

**System administrators**

A system administrator may make all the settings at operating system level. These include the following areas, to name but some examples:

- System-related settings, such as domain and network settings
- Security-related settings, such as activation of access control on the various modules
- Settings for user administration. This includes the activation of group profiles, among other things. Only if these settings are activated can the application administrator create and edit additional group profiles as well as the predefined default profile.
- Configuration of the profile service, which distributes the default and group profiles to all AIDA applications.
- Configuration of the remote service.

**Application administrators**

An application administrator may make all the settings for the application, such as the configuration of the user interface. They can create and edit group profiles, provided that the function was enabled by the system administrator.
Configuration users
A configuration user is a user who is allowed to make additional settings. Generally speaking, this is the performing physician, who would like to make their own settings for the video resolution and video format.

A user has the rights of the configuration user if
- he is assigned the role **Settings user in the system** or
- he was assigned as the **Settings user and operating system level**.

2.3 First steps

2.3.1 Start configuration

⚠️ **CAUTION:** Damage to the software or data due to unauthorized access or malware.
To prevent damage to the system or network, start the device without a network connection and external hard drive.

1. Start AIDA
   ➡️ The start screen of the system appears.
2. Tap on the tool icon on the right of the header.
   ➡️ The login window opens.
3. Enter the username and password for the desired access.

The following two user accounts with the corresponding authorizations have already been created for the roles of system administrators and application administrators.

<table>
<thead>
<tr>
<th>Role</th>
<th>Username</th>
<th>Password</th>
</tr>
</thead>
<tbody>
<tr>
<td>System administrator</td>
<td>OR1Admin</td>
<td>or1admin</td>
</tr>
<tr>
<td>Application administrator</td>
<td>OR1User</td>
<td>or1user</td>
</tr>
<tr>
<td>Configuration user</td>
<td>Windows user account</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** We recommend that either you or your IT department create a new user account with administrator rights and deactivate the standard administrator accounts. If you do so, you must not forget the password. For more detailed information on creating new user accounts, go to chapter 3.2.1 ‘System’ tab as of page 3-2.
4. Press the **OK** button or the **Enter key** on your keyboard.
   - The configuration area opens provided that other settings have not already been made.
   - The following window opens if the system administrator has **activated group profiles** (see chapter 3.3.1 ‘Role Management’ tab as of page 3-7)

### 2.3.2 Overview of the configuration area

In Configuration mode, you will see a navigation bar on the left-hand side with the menu items, e.g., General and Capture etc. If you click on a menu item, the associated tabs on which you can make the settings are shown on the right.

Which menus and tabs are available depends on the administration role you have logged in with. The tabular overviews in the following chapters provide an overview of the menus and tabs and are explained in greater detail in the subsequent sub-chapters.
# 3 Configuration for system administrators

## 3.1 Overview of setting options

<table>
<thead>
<tr>
<th>Menu</th>
<th>Tab</th>
<th>Setting</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>System</td>
<td>Make domain settings</td>
<td>3-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make network settings</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make Windows desktop settings</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make NTP settings</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Make WLAN settings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safety</td>
<td>Specify access control for different modules</td>
<td>3-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable login banner</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Format hard disk (D:)</td>
<td></td>
</tr>
<tr>
<td>User Management</td>
<td>Role Management</td>
<td>Assign user roles to definable groups of people</td>
<td>3-7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Allow the creation of group profiles</td>
<td></td>
</tr>
<tr>
<td>Authentication</td>
<td></td>
<td>Enable automatic login for local login</td>
<td>3-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable automatic Windows login</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable automatic logout after procedure finish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable automatic logout after timeout</td>
<td></td>
</tr>
<tr>
<td>Profile Service</td>
<td></td>
<td>Enable Profile Service for automatic profile distribution</td>
<td>3-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Set up Profile Service</td>
<td></td>
</tr>
<tr>
<td>Remote Service</td>
<td>General</td>
<td>Enable Remote Service</td>
<td>3-12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Set up Remote Service</td>
<td></td>
</tr>
</tbody>
</table>
### 3.2 ‘General’ menu

#### 3.2.1 ‘System’ tab

On this tab, you can make various settings at operating system level, such as network or WLAN settings. Local users can also be created here via the Windows desktop.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain settings</td>
<td>Settings for the domain</td>
</tr>
<tr>
<td>Network settings</td>
<td>Settings for the network</td>
</tr>
<tr>
<td>Windows desktop</td>
<td>Management of local users. A more detailed description is given in the following.</td>
</tr>
<tr>
<td>Date and time</td>
<td>Setting of the system’s date and time.</td>
</tr>
<tr>
<td>WLAN settings</td>
<td>WLAN settings can be made here. If no WLAN module is available, the button is grayed out.</td>
</tr>
</tbody>
</table>

#### 3.2.2 Creating user accounts

User accounts are created and managed directly via the Windows operating system. The individual accounts can be assigned to the predefined user groups. For more information, see chapter ‘User roles and access rights’ on page 2-2.

To access the Windows interface, you must click on the **Windows Desktop** button on the **System** tab.

- You will be prompted to exit AIDA.
  1. Tap on **Shutdown**.
- The application is closed.
- The Windows login window appears.
  2. Log on as the **system administrator**.
3. Call up **Computer Management**. You can search for and launch it using the Windows search field.

4. On the left in the console tree, select **System Tools > Local Users and Groups > Users**.

5. Right-click on the **Users** folder and select **New User** in the context menu.

   The following window opens.

   ![Computer Management window]

6. Enter the user data and click on **Create**.

7. Right-click on the new user and select **Properties** in the context menu.
8. Select the Member of tab.

9. Click on the Add button.

The following window opens.

10. In the text field, enter a group predefined for the AIDA, e.g., ‘Settings Users’, and confirm with OK.

The created user now has all the authorizations of the assigned group, e.g., ‘Setting User’.
3.2.3 ‘Security’ tab

On this tab, you can set up access control on various modules. You can also configure and enable an information window, which should appear to each user following login.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
</table>
| Enable Access Right Validation  | Here, access to the listed modules with access control can be documented by activating the checkbox for the corresponding module. The user must then use their user data to authenticate themselves if they would like to access the module.  
If the Configuration module is enabled, authentication is required each time Configuration mode is opened. If it is disabled, the user only has to log in once for the duration of the session. |
| Enable Login Banner             | If the checkbox is activated, an information message is shown to each user once they have successfully logged in (as standard from the Microsoft Active Directory).  
This message can be customized using the field Heading and Text.                                                                                     |
| Delete All Data from the System | Formats the hard disk (D:).  
CAUTION: Data loss!  
Clicking on this button formats the hard disk on which the image data of patients could be stored. Before performing the following steps, make sure that the existing data has already been saved elsewhere. |
Format hard disk (D:) ‘Delete All Data from the System’
The patient, image and video data are saved as standard on the hard disk (D:). It is necessary to remove this data occasionally (e.g., should the device be returned to KARL STORZ for repair etc.). You can format the storage medium D: using the button ‘Delete All Data from the System’ and ensure that no patient data is forwarded to third parties.

Only perform the following steps if you are sure that all the data on the hard disk can be deleted or is saved elsewhere.

1. Tap on the **Delete All Data from the System** button.
   - A confirmation prompt pops up.

   ![Confirmation Prompt](image1)

2. Confirm by pressing **OK**.
   - You are warned that all data will be permanently deleted.

   ![Warning](image2)

3. Confirm by pressing **OK**.
   - The window for the Windows authentication opens.

4. Enter the user name and password and confirm by pressing **Yes**.
   - The hard disk (D:) is formatted and all the data is deleted. An information window visualizes this process.
   - Once formatting is complete, a window opens to confirm that formatting has taken place. The system is automatically shut down after a few seconds.
3.3 ‘User Management’ menu

The system allows you to assign certain access rights to individual groups of people. We recommend that you make settings here to optimize your IT security.

Users are not automatically created when groups are defined. This must be done separately in the Windows computer management (see ‘Creating local users’, page 3-2).

3.3.1 ‘Role Management’ tab

The groups are managed in user management under the Role Management tab.

You can give the individual groups specific names here and activate the group profile.

**Predefined groups**

The predefined user roles with assigned groups are listed and described in chapter 2.2 ‘User roles and access rights’, page 2-2. These can be used without further configuration.

**Using your own groups**

To use your own groups, e.g., when using the Microsoft Active Directory, you can replace the predefined values with your own group names in the relevant text fields.

As access rights for the application can be combined, you can enter multiple entries from your Active Directory in the text fields, separated by commas.

**Enabling a group profile**

Activate the Enable Group Profile checkbox if group profiles are to be created. The application administrator can then create a group profile, which has to be assigned to the users, for different user groups for which field-specific settings are required (also see chapter 4-2 ‘Profile management’ as of page 4-4).
3.3.2 ‘Authentication’ tab

On this tab, you can configure automatic Windows login and automatic login to the application for ‘or1user’, among other things.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>Enables automatic login to AIDA. The auto login window appears after activation of the checkbox. You must enter the username and password here to be used for automatic login to the local application.</td>
</tr>
<tr>
<td>Windows</td>
<td>Enables automatic login to Windows This setting is enabled as standard. <strong>NOTE:</strong> This setting should not be changed without Active Directory. If Windows Auto Login is not enabled, a user will need to log in to Windows manually each time the system is started up! The auto login window appears after activation of the checkbox. You must enter the username and password here to be used for automatic login to the local application.</td>
</tr>
<tr>
<td>Auto Logout after Procedure Finish</td>
<td>If the checkbox is activated, the user is automatically logged out as soon as they have initiated data storage in the Finish module and confirmed this with OK.</td>
</tr>
<tr>
<td>Auto Logout after Timeout</td>
<td>If this checkbox is activated, the system logs outs automatically after a defined period of inactivity. The time period (in minutes) can be set using the plus/minus buttons on the display bar. Automatic logout never takes place during an ongoing procedure.</td>
</tr>
</tbody>
</table>
3.3.3 ‘Profile Service’ tab (only with network integration)

The profile service is a way of distributing the default profile and the group profiles to all AIDA applications in your facility’s network. You can therefore configure the profiles just once, and the profile service performs synchronization automatically within your hospital network. A regular network connection must be available for this to happen.

Enabling the profile service for the first time

To enable the setting for the first time, you must authenticate yourself with the following standard user account:

- Username: Admin
- Password: 12345

The password must then be changed under all circumstances to enable the service. The service is disabled for security reasons when the standard password is used.

1. Activate the Enable Profile Service checkbox.
2. Enter all the necessary information in the following input window.
3. Tap on the Echo button.
   • The connection parameters are checked and you are prompted to change the password.
4. Enter the new password and confirm with OK.
   • The profile service is enabled.

You can assign the password again at any time using the button ‘Change Password’.
Selecting a certificate
Communication between the AIDA and the profile service is encrypted in principle. It is also possible to use a certificate to protect against 'man-in-the-middle' attacks. This certificate is generated in the profile service program directory when the profile service is installed. The certificate file is not automatically distributed for security reasons.

1. If you would like to read in the certificate file for AIDA, click on the **Browse** button next to the **Certificate** checkbox.
2. Select the file with the ‘*.cer’ format.
   - If the certificate is valid, the text ‘**Certificate validation successful.**’ appears next to the ‘Browse’ button, and the **Certificate** checkbox is activated.
3. Tap on the **Echo** button to check the validity of the certificate for the profile service.
3.4 ‘Remote Service’ menu

The Remote Service is a device interface to KARL STORZ via which we aim to guarantee our customers an efficient and comprehensive service. The Remote Service offers a KARL STORZ service technician direct access via a secure VNC connection in order to detect errors on site and react accordingly. For the customer this allows for largely smooth and failure-free surgical operations as the device cannot be taken out of the theater.

Depending on the hospital network configuration, it may be necessary to enter details of an HTTP proxy host in order to establish the Remote Service connection to KARL STORZ. This setting is made in the Remote Service menu.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable Remote Service</td>
<td>Activate the checkbox to enable the Remote Service.</td>
</tr>
<tr>
<td>Host</td>
<td>Entry of the HTTP proxy server’s IP address to which the AIDA is connected.</td>
</tr>
<tr>
<td>Port</td>
<td>Entry of the port.</td>
</tr>
<tr>
<td>Username</td>
<td>Username for logging into the HTTP proxy server.</td>
</tr>
<tr>
<td>Password</td>
<td>Password for logging into the HTTP proxy server.</td>
</tr>
</tbody>
</table>
## 4 Configuration for application administrators

### 4.1 Overview of the settings

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<th>Menu</th>
<th>Tab</th>
<th>Settings</th>
<th>Page</th>
</tr>
</thead>
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<td>4-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select country and language variant</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select keyboard</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select startup module</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enter facility name</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable Home Screen</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable Turnover Measurement Timer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contents</td>
<td>Specify available modules</td>
<td>4-6</td>
</tr>
<tr>
<td>Display</td>
<td></td>
<td>Select screen type</td>
<td>4-6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable feedback for image capture and video recording</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable display input switching if there are two video sources</td>
<td></td>
</tr>
<tr>
<td>DICOM</td>
<td></td>
<td>Setting up DICOM parameters</td>
<td>4-7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable and set the interface to the DICOM Worklist Provider</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enable and set the interface to the MPPS Provider</td>
<td></td>
</tr>
<tr>
<td>Open Commits</td>
<td></td>
<td>Display the active, ongoing, open commits and their status</td>
<td>4-9</td>
</tr>
<tr>
<td>HL7</td>
<td></td>
<td>Setting up HL7 parameters</td>
<td>4-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Set up the interface to the HL7 server</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Set up the interface for the HL7 export</td>
<td></td>
</tr>
<tr>
<td>Reports</td>
<td></td>
<td>Select standard printer and paper format for automatic printing</td>
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</tr>
<tr>
<td>System</td>
<td></td>
<td>Display system information</td>
<td>4-12</td>
</tr>
</tbody>
</table>
## Menu | Tab | Settings | Page
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Select video format
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Watermark logo scaling
Specify watermark transparency amount
Enable watermark fields
Select watermark fields
Capture Feedback | Enable feedback for a captured image | 4-16
Enable feedback for a recorded video
Select acoustic feedback for a captured image
Remote control | Specify the assignment and functioning of the remote control | 4-16
Voice control | Enable voice control for image capture and video recording | 4-16
Enter activation words
Checklist | General | Select logo for the checklist report | 4-17
Select logo alignment
Finish | Prechecked | Specify storage media for automatic data backup | 4-17
Select templates for the report type
Manual | Specify storage media for manual data backup | 4-17
Select templates for the report type
Reports | Enable logo for the report | 4-21
Select logo
Enter standard headings for the header
Print | Enable auto print | 4-22
Select layout
Specify the number of copies
Specify the number of images per page
<table>
<thead>
<tr>
<th>Menu</th>
<th>Tab</th>
<th>Settings</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data entry</td>
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<td>Select patient screen</td>
<td>4-23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specify areas for extended patient screen</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select procedure identifier</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specify mandatory fields</td>
<td></td>
</tr>
<tr>
<td>Team 1</td>
<td></td>
<td>Put together a clinical team</td>
<td>4-25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enter referring physicians</td>
<td></td>
</tr>
<tr>
<td>Team 2</td>
<td></td>
<td>Enter anesthesiologists</td>
<td>4-25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enter nurses</td>
<td></td>
</tr>
<tr>
<td>Instruments</td>
<td></td>
<td>Enter instrument trays</td>
<td>4-26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enter endoscopes</td>
<td></td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
<td>Enter clinical speciality</td>
<td>4-26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enter procedure name</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select anatomic region</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assign keywords</td>
<td></td>
</tr>
<tr>
<td>Staff Groups</td>
<td></td>
<td>Import staff groups from the Active Directory</td>
<td>4-27</td>
</tr>
<tr>
<td>Browser</td>
<td>Browser</td>
<td>Add connections to, for example, streaming servers, cloud services or Internet services</td>
<td>4-27</td>
</tr>
</tbody>
</table>
4.2 Profile management

Profile management is possible when the system administrator has activated the function **Activate Group Profile**. The application administrator can then assign specialist area-related settings to individual user groups (e.g., for gynecology) and assign these as a group profile.

If the setting is activated, the following window appears automatically after login:

You can now decide whether you wish to

- create,
- delete or
- edit group profiles for the various user groups.

A group profile can be subsequently be assigned under the **Data Entry** menu item on the **Team 1** tab. Read the chapter 4.7.2 ‘**Team 1 and Team 2** tabs’ on page 4-25 for more information on this matter.

4.2.1 Group profile and default profile

If the system administrator has decided that only the supplied default profile should be used, it is automatically loaded following login and the configuration area opens directly.

A copy of the default profile is always created as a basis for a group profile. Group profiles contain fewer setting options than the default profile. Settings which affect the default profile are marked by the colors orange or light blue on the input field.

Please note that only the settings WITHOUT an orange or light blue marking can be assigned exclusively to the group profile.

- Changes to the settings with an orange marking change the default profile and are globally effective.
  - If the profile service (see page 3-10) is enabled, this leads to the changes to the default profile being adopted on all AIDA applications in your facility.
- Changes to the settings with a light blue marking change the settings in the default profile for the local application only.

**NOTE:** Please note that the profile service is updated every 5 minutes by default. If this service is activated, we recommend that you do not make settings on several applications at the same time, as they might overwrite themselves.
### 4.3 ‘General’ menu

#### 4.3.1 ‘User Interface’ tab

Settings for operation, language, the start screen etc. can be made on this tab. You can therefore enable or disable the on-screen keyboard or the Home button for the user, for example.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable On-screen Keyboard</td>
<td>If the checkbox is activated, a virtual on-screen keyboard is available for entering text on the touchscreen.</td>
</tr>
<tr>
<td>Country</td>
<td>Location.</td>
</tr>
<tr>
<td>Culture</td>
<td>Language variant.</td>
</tr>
<tr>
<td>Keyboard</td>
<td>Keyboard’s key assignment.</td>
</tr>
<tr>
<td>Startup module</td>
<td>Module to be displayed following application launch.</td>
</tr>
<tr>
<td>Facility Name</td>
<td>The facility name can also be adopted in the watermark display for created videos and images (see the section “Watermark’ tab’ on page 4-18).</td>
</tr>
<tr>
<td>Enable Home Screen</td>
<td>If the checkbox is activated, the Home button is available to the user following login. They can use it at any time to navigate to the start screen, where they have access to all the modules belonging to the system’s functional scope.</td>
</tr>
<tr>
<td>Enable Turnover Measurement Timer</td>
<td>If the checkbox is activated, a stopwatch is shown on the screen as soon as the user has initiated data storage in the Finish module and confirmed this with OK. The turnover time until the next procedure is shown on the screen.</td>
</tr>
</tbody>
</table>
4.3.2 ‘Content’ tab

On this tab, you specify which AIDA modules and interface devices should be available to the user.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Checklist</strong></td>
<td>If this checkbox is activated, safety checklists for performing the procedure can be called up.</td>
</tr>
</tbody>
</table>
| **Medical Device Control over AIDA Interface Box** | Activate this checkbox if AIDA is connected to an SCB module. SCB can be operated via the AIDA.  
To call up the SCB module, the home screen must be activated (see chapter 4.3.1 ‘User Interface tab’, page 4-5).  
This function can only be used if ‘Medical Device Control’ is disabled. |
| **Medical Device Control**             | Activate this checkbox if the AIDA is to be operated by an external device via a VNC connection.  
To this end, too, the home screen must be activated (see chapter 4.3.1 ‘User Interface tab’, page 4-5).  
This function can only be used if ‘Medical Device Control over AIDA Interface Box’ is disabled. |
| **Edit**                               | If this checkbox is activated, recordings on the AIDA can be checked, selected and edited.                                                  |
| **Filing Cabinet**                     | If this checkbox is activated, the archived procedures can be displayed.                                                                   |
| **Browser**                            | Displaying and calling up the connections set under the Browser menu item (see the chapter 4.8.1 “Browser” tab’ on page 4-27).              |
4.3.3 ‘Display’ tab

On this tab, you make the settings for the operation monitor.

**NOTE:** You must then restart the computer for the settings to take effect.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Screen Type</strong></td>
<td>Selection of the connected operation monitor’s screen type.</td>
</tr>
<tr>
<td><strong>Still Feedback</strong></td>
<td>If the checkbox is activated, a white dot is displayed as feedback on the operation monitor for one second while a still is being captured.</td>
</tr>
<tr>
<td><strong>Capture Feedback</strong></td>
<td>If the checkbox is activated, a green flashing dot is displayed as feedback on the operation monitor for the duration of video recording.</td>
</tr>
<tr>
<td><strong>COM Connection</strong></td>
<td>To display the feedback for image capture and video recording (white dot or green flashing dot), the operation monitor must be connected to the AIDA using an additional serial cable. Select the COM connection for connecting the serial cable here.</td>
</tr>
<tr>
<td><strong>Display Input Switching</strong></td>
<td>This function enables the switchover from image signals to an output device. This is recommended in particular if only one monitor is available. The shortcut CRTL+M can be subsequently used to switch between the two video sources. After activating the checkbox, the video source connections must be selected.</td>
</tr>
<tr>
<td><strong>Test Settings</strong></td>
<td>Tap on this button to test the monitor configuration.</td>
</tr>
</tbody>
</table>
4.3.4 ‘DICOM’ tab

On the DICOM tab, you set up the DICOM interface. You will find a further description of the DICOM interface in the DICOM Conformance Statement which must be confirmed with your IT department.

You can also activate and set up the MPPS (Modality Performed Procedure Step) service here. This service enables notification of a performed action.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client AET</td>
<td>Entry of the AE title which was assigned for the AIDA system by your IT department.</td>
</tr>
<tr>
<td>Modality</td>
<td>Selection of the modality.</td>
</tr>
<tr>
<td></td>
<td>• ES: Endoscopy</td>
</tr>
<tr>
<td></td>
<td>• US: Ultrasound</td>
</tr>
<tr>
<td></td>
<td>• OT: Other</td>
</tr>
<tr>
<td>Character set</td>
<td>Selection of the character set.</td>
</tr>
<tr>
<td>Port</td>
<td>Entry of the DICOM port.</td>
</tr>
<tr>
<td>Encryption</td>
<td>Selection of the encryption.</td>
</tr>
<tr>
<td></td>
<td>You can choose between the following encryption protocols for data transmission:</td>
</tr>
<tr>
<td></td>
<td>• TLS (Transport Layer Security)</td>
</tr>
<tr>
<td></td>
<td>• ISCL (Integrated Secure Communication Layer)</td>
</tr>
<tr>
<td></td>
<td><strong>CAUTION:</strong> Data protection: If an encryption protocol is not selected, data is transmitted in an unencrypted format and data may not be transmitted securely. You must use a key to transmit data.</td>
</tr>
<tr>
<td>Local Certificate</td>
<td>If the checkbox is activated, on the local computer the computer’s certificate can be imported for encryption. These are usually imported from a USB stick by pressing the <strong>Browse</strong> button. The certificates are managed by the hospital's IT department.</td>
</tr>
</tbody>
</table>
## Configuration for application administrators

### Server Certificate
- **Description**: If the checkbox is activated, the certificate for the DICOM server used by the application can be loaded by pressing the **Browse** button. The certificates are managed by the hospital's IT department.

### Timeout (in seconds)
- **Description**: Here, you can make settings to specify how long a connection to the Worklist server and MPPS server is maintained. You can set the seconds for the timeout using the plus/minus keys.
  - **NOTE**: The timeout can be changed if necessary, but should otherwise remain in factory settings.

### LogLevel
- **Description**: Leave the **LogLevel** as the factory setting. If necessary, this can be adapted for servicing purposes.

### Flat File
- **Description**: Here, you can specify a file in CSV format which should be used instead of the DICOM Worklist. You can select the file in the file system using the **Browse** button.

### Interface to the DICOM Worklist provider

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enable Worklist</strong></td>
<td>If the checkbox is activated, access to the DICOM Worklist is allowed.</td>
</tr>
<tr>
<td><strong>Server AET</strong></td>
<td>Entry of the DICOM Worklist server’s AE title.</td>
</tr>
<tr>
<td><strong>Server IP</strong></td>
<td>Entry of the DICOM Worklist server’s IP address.</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>Entry of the DICOM Worklist server’s port.</td>
</tr>
<tr>
<td><strong>Date filter</strong></td>
<td>Date range to be used when searching for patient data in the DICOM Worklist.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Today</strong>: Only the patients on the Worklist for the current day</td>
</tr>
<tr>
<td></td>
<td>• <strong>One Day</strong>: Plus/minus 1 day</td>
</tr>
<tr>
<td></td>
<td>• <strong>Two Days</strong>: Plus/minus 2 days</td>
</tr>
<tr>
<td></td>
<td>• <strong>Three Days</strong>: Plus/minus 3 days</td>
</tr>
<tr>
<td></td>
<td>• <strong>None</strong>: No restriction</td>
</tr>
<tr>
<td><strong>Echo</strong></td>
<td>Press the button to test the connection to the DICOM server.</td>
</tr>
</tbody>
</table>

### Interface to the MPPS

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enable MPPS</strong></td>
<td>If the checkbox is activated, the MPPS service is enabled.</td>
</tr>
<tr>
<td><strong>Server AET</strong></td>
<td>Entry of the MPPS server’s AE title.</td>
</tr>
<tr>
<td><strong>Server IP</strong></td>
<td>Entry of the MPPS server’s IP address.</td>
</tr>
<tr>
<td><strong>Port</strong></td>
<td>Entry of the MPPS server’s port.</td>
</tr>
<tr>
<td><strong>Echo</strong></td>
<td>Press the button to test the connection to the MPPS server.</td>
</tr>
</tbody>
</table>
4.3.5 ‘Open Commits’ tab

The ‘Storage Commitment’ DICOM function confirms that an image or video has been securely stored in PACS. The Storage Commitment message is only generated by PACS once the data has not only been completely received but also securely stored in the storage medium. If DICOM has been selected as a medium and Storage Commitment is activated, the following list will show all active ongoing Commits, together with their status.

The list of ‘Open Commits’ is updated automatically every 30 seconds.

The columns in the table show the following information:

- **ID**: Unique media data ID.
- **Time**: Time of the requested Storage Commitment.
- **Status**: Current status of the request.

### Setting Description

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send</td>
<td>A ‘Storage Commitment’ is requested again.</td>
</tr>
<tr>
<td>Delete</td>
<td>The list entry can be deleted once selected.</td>
</tr>
<tr>
<td>Update</td>
<td>To update the list.</td>
</tr>
</tbody>
</table>
**List of expected messages**

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>Unknown error/error in retrieving the methods, no return value for the status.</td>
<td>Please re-send the Commit request. Error: There is a DICOM error. Please contact the DICOM administrator.</td>
</tr>
<tr>
<td>Failed</td>
<td>The Commitment server has sent the response ‘Failed’ for (at least) one request.</td>
<td>Please re-send the Commit request. Error: There is a DICOM error. Please contact the DICOM administrator.</td>
</tr>
<tr>
<td>CommitTimeout</td>
<td>Commit requests were sent, but no answer has yet been received from the Commitment server (for at least one request). The first request was made at least as long ago as the configured timeout. If there are failed requests as well as requests which were not answered within the timeout period, these requests are marked with ‘Timeout’.</td>
<td>WARNING: Please re-send the Commit request.</td>
</tr>
<tr>
<td>CommitPending</td>
<td>Commit requests were sent, but no answer has yet been received from the Commitment server. The first request was made within the configured timeout period.</td>
<td>Normal status. Request being processed.</td>
</tr>
<tr>
<td>CommitIncomplete</td>
<td>At least one request was not sent yet.</td>
<td>Normal status. Please observe the timeout period and then re-send the Commit request.</td>
</tr>
<tr>
<td>StorageIncomplete</td>
<td>At least one data set was not stored.</td>
<td>Normal status. Please observe the timeout period and then re-send the Commit request.</td>
</tr>
<tr>
<td>StorageNotDone</td>
<td>Error when storing the data sets on the store server (no Commit request was sent).</td>
<td>Please re-send the Commit request. Error: Please contact the DICOM administrator.</td>
</tr>
<tr>
<td>StorageNotConfigured</td>
<td>No store server configured (also no Commit request).</td>
<td>Error: Please check the DICOM server settings.</td>
</tr>
</tbody>
</table>
4.3.6 ‘HL7’ tab

On this tab, you set up the HL7 interface.
Two separate HL7 server settings can be configured.

- Query patient data from HL7 configuration, with a choice between DEM and APA
- Store HL7 configuration for the storage of ORU and MDM messages

Both server settings have an echo function, meaning that the server availability can be checked immediately after configuration has been carried out.

You will find a more detailed description of the HL7 interface in the HL7 Interface Description.
## Configuration for application administrators

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
</tr>
<tr>
<td>HIS Name</td>
<td>Name of the hospital information system.</td>
</tr>
<tr>
<td>Modality Name</td>
<td>Name of the AIDA system allocated to you by the IT department.</td>
</tr>
<tr>
<td>PID Field</td>
<td>Selection of the position at which the patient ID is to appear within the HL7 messages.</td>
</tr>
<tr>
<td>Version</td>
<td>Version of the HL7 standard currently in use.</td>
</tr>
<tr>
<td><strong>Query patient data from HL7</strong></td>
<td></td>
</tr>
<tr>
<td>Enable HL7 Query</td>
<td>If the checkbox is activated, requests for patient data are allowed.</td>
</tr>
<tr>
<td>Server IP</td>
<td>The HL7 server's IP address.</td>
</tr>
<tr>
<td>Server Port</td>
<td>The HL7 server's port.</td>
</tr>
<tr>
<td>Time for Answer(s)</td>
<td>Entry of the maximum time for answering.</td>
</tr>
<tr>
<td>Value QRD-9</td>
<td>Selection of the patient search type:</td>
</tr>
<tr>
<td></td>
<td>• DEM: Search according to patient ID</td>
</tr>
<tr>
<td></td>
<td>• APN: Search according to admission ID</td>
</tr>
<tr>
<td>COM Port for Barcode Scanner</td>
<td>Selection of the channel to which an external reader, e.g., a barcode reader is to be connected.</td>
</tr>
<tr>
<td>Echo</td>
<td>Checking of the server availability.</td>
</tr>
<tr>
<td><strong>HL7 Export Settings</strong></td>
<td></td>
</tr>
<tr>
<td>Server IP</td>
<td>The HL7 server's IP address.</td>
</tr>
<tr>
<td>Server Port</td>
<td>The HL7 server’s port.</td>
</tr>
<tr>
<td>Time for ACK(s)</td>
<td>Entry of the maximum transmission time.</td>
</tr>
<tr>
<td>Send HL7 Message as Type</td>
<td>Selection of the message type in which you will send the data.</td>
</tr>
<tr>
<td></td>
<td>• ORU: All the information in an HL7 message</td>
</tr>
<tr>
<td></td>
<td>• MDM: One HL7 message per fragment (image, video)</td>
</tr>
<tr>
<td>Echo</td>
<td>Checking of the server availability.</td>
</tr>
</tbody>
</table>
4.3.7 ‘Reporting’ tab
On the Reporting tab, you can select the standard printer and the paper format for print-outs.

4.3.8 ‘System’ tab
Free text can be saved on the System tab which is shown to the user upon using the ‘Question mark’ function button. This, for example, could be system information or other system information which you wish to communicate to the user here.
4.4 ‘Capture’ menu

4.4.1 ‘General’ tab

The two capture sources can be configured on this tab. The capture sources are automatically detected by the system. If a source is connected via the display port, this is always automatically recognized as Input 1 (left). A source via HDMI is always recognized as Input 2 (right). The inputs can also be individually assigned other names.

**NOTE:** To minimize the transmission rates and storage requirements, it is recommended that different capture qualities be set for the channels. An optimized capture source is stored for 3D sources.

**NOTE:** Upon connecting, for example, a TC302 IMAGE1 S D3-LINK via DisplayPort, the 3D signal is transmitted in full resolution in 4K UHD and can also be captured as such. However, a second connected signal cannot be captured as synchronous capture would lead to a loss of quality with the video recordings. Still images can, nevertheless, still be captured via a second source.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DisplayPort Source</strong></td>
<td>Entry of a source designation at Input 1.</td>
</tr>
<tr>
<td><strong>HDMI Source</strong></td>
<td>Entry of a source designation at Input 2.</td>
</tr>
<tr>
<td><strong>Camera System</strong></td>
<td>Select the camera system in this selection list to set the required colour space. The following options can be selected:</td>
</tr>
<tr>
<td></td>
<td>• TC201</td>
</tr>
<tr>
<td></td>
<td>• TC200</td>
</tr>
<tr>
<td></td>
<td>• 222010 20 / 222020 20</td>
</tr>
<tr>
<td></td>
<td>• OR1® Integration</td>
</tr>
<tr>
<td></td>
<td>• Extended: If this camera system is selected, the desired color space of the received signal must be selected in another selected list.</td>
</tr>
<tr>
<td><strong>3D</strong></td>
<td>If the source supports 3D format, the checkbox must be activated for optimum display. Optimized image and video settings for 3D are automatically loaded. Manual profile settings are then no longer possible.</td>
</tr>
<tr>
<td>Setting</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Image Format**     | Selection of the image format for stills.  
Select the image format in line with the technical conditions in your facility.  
The following options can be selected:  
• **BMP files**: Non-compressed image files  
• **JPEG files**: Compressed image files  

**NOTE:** Compressed files can contain artifacts and thus must not be used for diagnosis and therapy purposes. |
| **Video Format**     | Selection of the video format.  
Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table ‘File size depending on format, resolution and capture quality’.  

**NOTE:** All the available video formats produce compressed files which may contain artifacts. |
| **Video Quality**    | Selection of the capture quality.  
Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table ‘File size depending on format, resolution and capture quality’. |
| **Video Resolution** | Selection of the resolution for the recording.  
Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table ‘File size depending on format, resolution and capture quality’. |
| **Video Chapter**    | Specify here how the complete video should be divided into sorted sub-sections.  
Select the length of the video recording sections in the drop-down menu depending on the storage capacity of the intended storage medium. The maximum size per video is determined and displayed following selection.  

**NOTE:** When saving via the network, a section size of 950 MB should not be exceeded.  
Select Off if you do not wish the recording to be divided into sections. |
| **Maximum Size for Each Video** | If divisions into video chapters was selected, the maximum size per video is displayed depending on the selected video settings. |
Configuration for application administrators

File size depending on the format, resolution and capture quality
Take note of the expected file size per minute of capturing depending on the format, resolution and capture quality as per the table below.

<table>
<thead>
<tr>
<th>Format</th>
<th>Quality</th>
<th>Resolution</th>
<th>Transfer rate</th>
<th>File size per minute of capturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPEG2</td>
<td>High</td>
<td>1080p</td>
<td>35 Mbit/sec</td>
<td>263 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>18 Mbit/sec</td>
<td>135 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>6 Mbit/sec</td>
<td>45 MB/min</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>1080p</td>
<td>8.75 Mbit/sec</td>
<td>65.63 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>6 Mbit/sec</td>
<td>45 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>3 Mbit/sec</td>
<td>23 MB/min</td>
</tr>
<tr>
<td>MPEG4/ MOV</td>
<td>High</td>
<td>1080p</td>
<td>16 Mbit/sec</td>
<td>120 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>8 Mbit/sec</td>
<td>60 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>3 Mbit/sec</td>
<td>23 MB/min</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>1080p</td>
<td>4 Mbit/sec</td>
<td>30 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>720p</td>
<td>2 Mbit/sec</td>
<td>15 MB/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>1 Mbit/sec</td>
<td>8 MB/min</td>
</tr>
<tr>
<td>4K</td>
<td>High</td>
<td>4 x Full HD</td>
<td>80 Mbit/sec</td>
<td>600 MB/min</td>
</tr>
</tbody>
</table>

**NOTE:** You should note the following data transmission rates for the settings:

- Data transmission over USB 2.0 is max. 480 Mbit/s.
- Data transmission over USB 3.0 is max. 5 Gbit/s.
- For WLAN (5 GHz), a gross data rate of max. 866 Mbit/s is possible, which corresponds to a usable data rate of up to 300 Mbit/s. These values very much depend on the local WLAN infrastructure.
4.4.2 ‘Watermark’ tab

On the Watermark tab, you specify whether the captured stills and video recordings should be stored with a watermark. You can also specify the data for labeling the recordings.

Setting up the watermark

1. Activate the Enable Watermark Logo checkbox.

2. Tap on the button ‘...’ next to Watermark Logo.

3. Select the image in the file directory and confirm with Open.

![Image of Watermark Tab]

**NOTE:** The place where you have stored the watermark logo must be on the local hard drive! If necessary, a relevant archive must be created by a service technician.

4. Adjust the size of the watermark if necessary under Watermark Logo Scaling using the plus/minus keys.

5. Set the transparency of the logo under Watermark transparency using the plus/minus keys.

The watermark created is displayed in the preview window.
Setting up image labeling
1. Activate the Enable Watermark Fields checkbox.
2. Select the desired entries one after another in the Available Fields list and adopt them by tapping on the right arrow button in the Watermark Fields list.
3. Using the arrow buttons on the right-hand side, place the entries in the order in which they are to appear on the images.
4. Tap on OK.

4.4.3 ‘Capture Feedback’ tab
On this tab, you specify whether the user should receive visual and/or acoustic feedback about a captured image or recorded video.
### Setting Description

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Still Image</strong></td>
<td>Here, you specify the visual feedback for capturing a still.</td>
</tr>
<tr>
<td></td>
<td>• <strong>No Feedback</strong>: The user receives no visual feedback about a captured still.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Thumbnail and Image Number</strong>: A thumbnail and image number are displayed on the operation monitor for one second after a still has been captured.</td>
</tr>
<tr>
<td><strong>Capture Feedback Position</strong></td>
<td>Selection of the position/corner of the thumbnail on the operation monitor.</td>
</tr>
<tr>
<td><strong>Video</strong></td>
<td>Here, you specify the visual feedback for video recording.</td>
</tr>
<tr>
<td></td>
<td>• <strong>No Feedback</strong>: The user receives no visual feedback about a recorded video.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Icon</strong>: A camera icon is displayed on the operation monitor while a video is being recorded.</td>
</tr>
<tr>
<td><strong>Speech Output</strong></td>
<td>Here, you can specify whether and in what way acoustic feedback should be provided following capture of a still or when starting and ending a video. Select the desired setting from the drop-down list.</td>
</tr>
<tr>
<td></td>
<td>• <strong>None</strong>: No feedback.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Beep</strong>: Feedback by means of a beep.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Speech Output</strong>: Feedback by means of speech output.</td>
</tr>
</tbody>
</table>

#### 4.4.4 ‘Remote Control’ tab

On this tab, you specify the assignment and functioning of the remote control. Depending on the installation, the remote control can be set up for the footswitch or, if necessary, also for the camera head.

The tab shows all the functions of a double foot pedal or the connection identifier ACC1 ... 4. These connection identifiers can be assigned to the following properties:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Still capture channel 1</strong></td>
<td>Source 1’s still capture.</td>
</tr>
<tr>
<td><strong>Still capture channel 2</strong></td>
<td>Source 2’s still capture.</td>
</tr>
<tr>
<td><strong>Still capture channels 1 &amp; 2</strong></td>
<td>One still capture each from source 1 and source 2 at the same time.</td>
</tr>
<tr>
<td><strong>Video start/stop channel 1</strong></td>
<td>Start or stop source 1’s video recording.</td>
</tr>
<tr>
<td><strong>Video starts/stop channel 2</strong></td>
<td>Start or stop source 2’s video recording.</td>
</tr>
<tr>
<td><strong>Video start/stop channels 1 &amp; 2</strong></td>
<td>Start or stop source 1’s and source 2’s video recording at the same time.</td>
</tr>
<tr>
<td><strong>None</strong></td>
<td>No function.</td>
</tr>
</tbody>
</table>
With operation using the camera head, please note that, as a rule, the camera only has two instead of four connection identifiers: **left button** and **right button**. Depending on the setting options in the camera unit, these can be set with **pressed halfway** and **pressed all the way**.

The buttons can also be individually configured via the camera unit. Make sure that the camera unit has an identical function configuration to the settings in AIDA.
4.4.5 ‘Voice Control’ tab

On this tab, you can enable voice control. The user can then trigger image capturing and video recording with predefined commands. An activation word, which you can also specify here, must be prefixed to the command.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enable Voice Control</strong></td>
<td>If the checkbox is activated, voice control is possible for image capture and video recording in the <strong>Capture</strong> module.</td>
</tr>
<tr>
<td><strong>Voice Control Keyword</strong></td>
<td>Entry of the activation word for image capture and video recording.</td>
</tr>
<tr>
<td><strong>Voice Control Commands</strong></td>
<td>The voice commands for image capture and video recording can be entered here. The following voice commands are preset:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Image</strong>: A still is created.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Record</strong>: Video recording is started.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Stop</strong>: Video recording is ended.</td>
</tr>
</tbody>
</table>
4.5 ‘Checklist’ menu

4.5.1 ‘General’ tab

On this tab, you save the logo for the checklist reports and specify how it ought to be aligned. The checklist templates are stored locally on the hard disk under the file path D:\Data\Checklist\Repository. This storage location is preset. Own logos can also be saved here.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal alignment of logo</td>
<td>Select the logo’s horizontal alignment.</td>
</tr>
<tr>
<td>Vertical alignment of logo</td>
<td>Select the logo’s vertical alignment.</td>
</tr>
<tr>
<td>Browse</td>
<td>Opens a window in which the file can be selected.</td>
</tr>
</tbody>
</table>
4.6 ‘Finish’ menu

4.6.1 ‘Preselected’ and ‘Manual’ tabs

On these two tabs, you specify the destinations (e.g., CD, USB, DICOM server) for the data backup. When saving data via the network to, for example, DICOM or SMTP, the accesses for this are also to be stated.

- **Preselected**: The destinations for data storage to where image and video material is automatically stored are specified here. Data storage is subsequently obligatory. Here, the user has no opportunities to intervene; they are only shown the destinations.

- **Manual**: The destinations configured here can be subsequently manually selected or deselected by the user upon finalizing. Automatic storage of the image and video data cannot be ensured here.

Both tabs are identically structured; however, destination selection is restricted with the Manual tab.

### Specifying destinations for data storage

1. Under [Select ...], select a destination which you wish to include in data storage.

2. Tap on Add.
   - Your selection is included in the list of destinations.
   - All checkboxes (Stills, Videos, Checklist, Reference and Removable) are automatically enabled.

3. If necessary, repeat the two steps to include further destinations for data storage.

4. For each destination, specify which data (still, videos and checklist) you wish to have saved, if necessary remove the checkmark.

5. For each destination, use the Reference checkbox to specify whether the saved data should be retrievable again for displaying and editing in the Filing Cabinet.
   - If yes, leave the checkbox activated.
   - If no, deactivate the checkbox.
6. Use the **Removable** checkbox to specify whether the data may be deleted in the **Open Tasks** module.
   - If yes, leave the checkbox activated.
   - If no, deactivate the checkbox.

7. In the right-hand part of the window, further details may be required depending on the destination:
   a. Click on the respective destination
   b. Enter all the details on the destination in the input window on the right, e.g.:
      - Path or server name of the destination
      - Login name and password if stated
      - Report form under **Template** if desired.
   - Please note further setting options in the following set-up.

**NOTE:** With the destination DICOM, a timeout must additionally be set.

   - If only stills are to be saved:
     - Timeout: 30 seconds
   - If stills and video recordings are to be saved:
     - Timeout: 120 seconds

8. **If you want to delete a destination from the list again, mark it and tap Remove.**

**Data storage on an internal or external hard disk**

The export destination **Localdrive** is predefined; the name and the file path D:\Export cannot be edited.

If you would like to create an additional export destination on the hard disk D:\ or an external storage medium, you can select the **Hard Disk** or **USB** export destination. You can specify an individual name and a file path for this.

**CAUTION:** Loss of data from premature removal of the storage medium!

Data will be lost if you remove a USB-connected medium from the system before data storage is finished. In the Open Tasks module, check whether data storage is finished, and only remove the storage medium when it is finished.

**Storing data with minimum memory space**

The system continuously checks the memory space on the hard disks to ensure that enough space is available for the recordings. The system is set as standard so that the old exports are overwritten as of a memory space capacity of less than 250 MB. The checkbox **Remove old exports as required** is activated.

To prevent old exports from being overwritten, the checkbox **Remove old exports as required** can be deactivated. However, it can then no longer be guaranteed that the system saves all recordings on the hard disk. As of a memory capacity of 100 GB or less, storage on the hard disk is aborted. Prior to that, as of around 250 GB, a warning to this effect with the remaining recording time is displayed in the information bar.

Always ensure that there is enough storage space available on the hard disk.
Data saving on the facility’s DICOM server
If the facility has a DICOM server and you have connected the AIDA to this, you can specify here the video quality which is to be subsequently transmitted to the server.

1. After entering the destination address, check the connection using the Echo button
2. Set the Timeout time.
   - If only stills are to be saved, we recommend a timeout of approx. 30 seconds
   - If stills and video recordings are to be saved, we recommend a timeout of approx. 120 seconds.
3. Select the video format.
   - As Configured in Capture: Exports the video data in the same format as during recording.
   - MPEG2 MP@ML: Video-streaming format with the profile MP (main profile: 4:2:0) and the level ML (main level: 720:576 with the frame rate 30 full images/second).

**NOTE:** With the setting MPEG2 MP@ML a 2D video will be created as well as the 3D video. Only the 2D video will be transmitted when transferring in MPEG2 MP@ML format.

**NOTE:** If the DICOM server does not accept this video format, then the AIDA will automatically send the video in MPEG2 MP@ML format.

4. Activate the Storage Commitment checkbox if you would like to receive confirmation that the data has been securely stored in PACS.

Report at the end of the procedure
For each destination (with the exception of a DICOM server), you can decide whether a data storage report should be added as a PDF. In this case, the selection field Template appears in the input field to the right next to the list with all destinations. Several report templates are available in the drop-down menu.

The following table provides a brief overview of the templates and their contents.

<table>
<thead>
<tr>
<th>Template</th>
<th>Contents</th>
</tr>
</thead>
</table>
| **Procedure, 1, 2 or 3 columns** | • Header  
• Logo  
• Patient data  
• Team, procedure and patient-related data  
• Images in 1, 2 or 3 columns  
We recommend using this template if the extended patient screen is used (see the menu ‘Data entry’, user interface tab as of page 4-33). |
| **Simple, 1, 2 or 3 columns**    | • Header  
• Logo  
• Patient data  
• Procedure data  
• Images in 1, 2 or 3 columns  
We recommend using this template if the minimal patient screen or the standard patient screen is used (see the menu ‘Data entry’, user interface tab as of page 4-33). |
<table>
<thead>
<tr>
<th>Template</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Image, 1, 2 or 3 columns</strong></td>
<td>Anonymous report:</td>
</tr>
<tr>
<td></td>
<td>• Header</td>
</tr>
<tr>
<td></td>
<td>• Logo</td>
</tr>
<tr>
<td></td>
<td>• Images in 1, 2 or 3 columns</td>
</tr>
<tr>
<td>![Caution icon]</td>
<td><strong>CAUTION:</strong> When an anonymous report is printed, there is a risk of mix ups and of the report being assigned to the wrong patient data.</td>
</tr>
<tr>
<td><strong>Image 1, 2 or 3 columns, no header</strong></td>
<td>Anonymous report:</td>
</tr>
<tr>
<td></td>
<td>• Images in 1, 2 or 3 columns</td>
</tr>
<tr>
<td>![Caution icon]</td>
<td><strong>CAUTION:</strong> When an anonymous report is printed, there is a risk of mix ups and of the report being assigned to the wrong patient data.</td>
</tr>
<tr>
<td><strong>No PDF report</strong></td>
<td>An additional report is not created.</td>
</tr>
<tr>
<td><strong>No logo 2 columns</strong></td>
<td>• Header</td>
</tr>
<tr>
<td></td>
<td>• Patient data</td>
</tr>
<tr>
<td></td>
<td>• Procedure data</td>
</tr>
<tr>
<td></td>
<td>• Images in 2 columns</td>
</tr>
</tbody>
</table>

You also have the option of setting up a printer which also prints out the report at the end of the procedure. Here you can make a selection under Templates, or use the print layout, which you can define under the Print tab (see page 4-31). To this end activate the checkbox **Use Print Layout.**
4.6.2 ‘Reporting’ tab
On the Reporting tab, you specify the logo and the headers for the report.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable Report Logo</td>
<td>If the checkbox is activated, the selected logo is integrated into the report.</td>
</tr>
<tr>
<td>Report Logo</td>
<td>Using this button, you can select the logo for the report. This is displayed in the header. A window, in which the file can be selected in the file directory, opens.</td>
</tr>
<tr>
<td>Header 1</td>
<td>Entry of the standard heading for the report’s header.</td>
</tr>
<tr>
<td>Header 2</td>
<td>Entry of a second standard heading for the report’s header.</td>
</tr>
<tr>
<td>Header 3</td>
<td>Entry of a third standard heading for the report’s header.</td>
</tr>
</tbody>
</table>
4.6.3 ‘Print’ tab

In the Print tab you can make the settings for automatic printing.

The report is printed on the set standard printer (see chapter 4.3.7 ‘Reporting’ tab, page 4-14).

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable auto print</td>
<td>Automatic printing during the procedure.</td>
</tr>
<tr>
<td>Name</td>
<td>Enter a designation for the printing process.</td>
</tr>
<tr>
<td>Number of copies</td>
<td>The number of print-outs for automatic printing (auto print) can be specified using the plus and minus keys.</td>
</tr>
</tbody>
</table>
| Page layout            | Here you specify the layout/contents of the print layout:  
                          • No text layout: images only (anonymous) 
                          • Small text layout: images with information:
                          - Logo  
                          - Treatment Date  
                          - Performing Physician  
                          - Facility Name  
                          - Patient ID  
                          - Last Name  
                          - First Name  
                          - Date of Birth  
                          - Caption |
| Alignment              | Portrait or landscape |
| Number of images per page | Selection of the number of images to be placed on a page.  
                             Printing starts automatically once this number has been reached.  
                             The remaining images are automatically printed at the end of the procedure. |
4.7 ‘Data entry’ menu

4.7.1 ‘User Interface’ tab

On this tab, you specify the possible scope of documentation. You can also label selected fields as mandatory fields.

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Screen Selection</strong></td>
<td>You can choose from three different input masks depending on the specific requirements.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Minimal Patient Screen:</strong> Minimal information about the patient, the performing physician and the procedure.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Standard Patient Screen:</strong> Standard input of outline data; additional patient data such as a middle name and title can be entered.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Extended Patient Screen:</strong> Team-, procedure- and instrument-related data can be entered in addition to the standard input of patient data.</td>
</tr>
<tr>
<td></td>
<td>An overview of the functions included is provided in the table in the following section.</td>
</tr>
<tr>
<td><strong>Visible Sections</strong></td>
<td>These settings are only available if the extended patient screen is selected. The following data can then be documented in addition:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Team-related data</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Procedure-related data</strong></td>
</tr>
<tr>
<td></td>
<td>• <strong>Instrument-related data</strong></td>
</tr>
<tr>
<td><strong>Procedure Identification in the Minimal and Standard Patient Input Mask</strong></td>
<td>This setting is available with the minimal and standard patient input mask. Here, you can decide whether the accession number or admission ID has to be specified for primary patient identification.</td>
</tr>
<tr>
<td><strong>Mandatory Fields</strong></td>
<td>The fields whose checkboxes are activated are subsequently labeled as mandatory fields in the entry screens for users.</td>
</tr>
</tbody>
</table>
**Input data in the different patient input masks**
The table below provides an overview of what settings are available to the user in the three variants.

<table>
<thead>
<tr>
<th>Input data</th>
<th>Standard</th>
<th>Minimal</th>
<th>Expanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>First Name</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Middle Name</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Title</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Suffix</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Gender</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Patient ID</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Case ID or Accession Number</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Case ID and Accession Number</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Performing Physician</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Assistant Physician</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Anesthetist</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Referring Physician</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Scrub Nurse</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Circulating Nurse</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Anesthetic Nurse</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Clinical Speciality</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Procedure Name</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Anatomic Region</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Laterality</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Procedure Comment</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Tray 1</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Tray 2</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Tray 3</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Tray 4</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Endoscope Serial No.</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

**Team-related Data**

**Procedure-related Data**

**Instrument-related Data**
4.7.2 ‘Team 1’ and ‘Team 2’ tabs

On these tabs, you enter the available staff resources (users) so that they are available in the selection lists on the user interface. The ‘Performing and Referring Physicians’ can be managed under Team1 and the ‘Anesthesiologists and Nurses’ under Team2.

Management of the tab Team1 is described by way of example below. The same also goes for the Team2 tab.

**Important information on the significance of the performing physician**

The physicians managed here can be selected as performing physicians when entering the outline data for the procedure. The default or group profile is linked to the performing physician. This means that all of the profile settings, such as the import and export destinations, and the recording settings (video sources, voice control, etc.) are only loaded following selection of the performing physician for the current procedure.

Only the performing physician can then view the documentation in the Filing Cabinet, provided that the access control to the Filing Cabinet was activated.

**NOTE:** The default profile is active if no performing physician is selected. Procedures which were not assigned to a physician can only be viewed by a user with the role of Super User if access control is activated.

**Adding a physician and assigning a group profile**

1. Tap on the **Add** button.

   ➤ A new row for entering the physician data is inserted.

2. In the field **Physicians** enter the physician data in a DICOM-compliant manner in the specified order and separated by commas:

   [Last name, first name, middle name, title, suffix]

3. Is StreamConnect used?
   - If yes, enter the username to be used to create a StreamConnect export directory in the **Single Sign-On** field.
   - If no, leave the field empty.

4. Select the desired profile in the **Group Profile** list.
4.7.3 ‘Instruments’ tab

In this tab, for example, you can specify the serial numbers of endoscopes or the identification numbers of instruments or instrument trays for documentation purposes. These are then available to the user on the Extended Patient Screen under the Instruments menu item in the selection lists.
4.7.4 ‘Procedures’ menu

On this tab, you can create new specialist areas and associated procedure types and edit or delete existing ones. Each procedure type can be assigned an anatomic region and several keywords.

**NOTE:** The procedure list is pre-set as per the DICOM standard. Consult with the PACS archive management before making any changes.

---

### Creating a new entry

1. Tap on **Add**.
2. Enter the medical specialization, e.g., Urology under **Clinical Speciality**.
3. Enter the nature of the surgical procedure, e.g., cystoscopy, under **Procedure Name**.
4. Enter the anatomical region of the procedure, e.g., bladder, under **Anatomic Region**.

### Creating keywords for a procedure

You can create one or more keywords for each type of procedure. They are available for the respective type of procedure during capture and editing. The user can assign a keyword to a captured image or recorded video there.

1. Mark an entry in the **Procedure Name** column.
2. Tap **Add** in the **Keywords** column.
3. Enter the new keyword.
4. Repeat the steps to create more keywords.
5. Confirm the entry with **OK**.

**NOTE:** We recommend restarting the system once configuration is complete.
4.7.5 ‘Staff Groups’ tab

On this tab, you can set the automatic import of the staff groups from the Active Directory. The imported users are then entered on the Team 1 tab. The group content is updated in the background once a day when there is a connection to the Active Directory server.

**NOTE:** If users were already entered manually, they are overwritten.

In order to be able to use this setting, there must be a connection to a Microsoft Active Directory server. If this connection has not been set up, the settings will be deactivated or not designated for your facility. Should you have further questions, contact your system administrator or the IT department in your facility.

---

**Importing a staff group from the Active Directory**

6. Activate the **Active Directory Import** checkbox.

7. In the **Physician** text field, now enter the group name that was assigned for the required group of physicians in the Active Directory by the IT department.

8. Exit the configuration with **OK** in order to save it.

If you open the configuration area again, the imported entries are shown on the Team 1 tab under Physicians.
4.8 ‘Browser’ menu

4.8.1 ‘Browser’ tab

On this tab, it is possible to create one or more connections to streaming servers, cloud services or Internet services, for example. Up to 5 web-based third-party products can be integrated into AIDA.

**NOTE:** Web-based KARL STORZ/third-party products may only be used if they have been verified and approved by KARL STORZ. For further information, please contact your responsible KARL STORZ contact partner.

**NOTE:** The connections set here are only shown on the Home screen. This means that the Home screen button must be enabled under the General menu item on the User Interface tab (see chapter 4.3.1 “User Interface’ tab’ on page 4-5).

9. Activate the checkbox in the Enable column so that the connection to the user interface is displayed.

10. Enter the name of the server or service in the Name column.

11. Enter the URL of the server or service in the Address column.

12. If you would like to assign an icon, tap on the button in the Icon column and select the icon in the file system.

13. In the Icon Location selection list, select in which area on the start screen the icon is to be displayed.

**NOTE:** We recommend restarting the system once configuration is complete.
5 Configuration for configuration users

A configuration user is a user who is allowed to make additional settings. Generally speaking, this is the performing physician, who would like to make their own settings for the video resolution and video format.

5.1 Overview of the settings

The table below provides an overview of the settings which the configuration user may make.

You will find detailed information on the configuration for configuration users in the system description in chapter 4.

<table>
<thead>
<tr>
<th>Menu</th>
<th>Tab</th>
<th>Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capture</td>
<td>General</td>
<td>Select image format</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select video format</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select video quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select video resolution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specify how the complete video should be divided into sorted sub-sections</td>
</tr>
<tr>
<td>Remote control</td>
<td></td>
<td>Specify the assignment and functioning of the remote control</td>
</tr>
<tr>
<td>Finish</td>
<td>Print</td>
<td>Enable auto print</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Select layout</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specify the number of images per page</td>
</tr>
<tr>
<td>Data entry</td>
<td>Procedures</td>
<td>Assign keywords</td>
</tr>
</tbody>
</table>
6 Installation procedure

6.1 KARL STORZ AIDA® Secure

The system is delivered ex works with KARL STORZ AIDA® Secure (SE46 Local Whitelist Manager) as standard. With this security software, other software and hardware (e.g., printers etc.) can be installed in Service mode and a check of the installed software is run to prevent harmful or undesired software entering the system. It uses the whitelist approach. This means that only approved (certified) software can be run on the system.

<i>Note:</i> With network integration KARL STORZ also recommends an Intrusion Prevention System (IPS) in order to guarantee maximum protection of your network.

<i>Caution:</i> Damage to the system or data loss!

The addition of new software or hardware can, under certain circumstances, cause the system to malfunction (including loss of data). Consequently, it is essential that a system test which verifies perfect functioning be performed after adding new software or hardware.

<i>Note:</i> KARL STORZ cannot accept any liability for malfunctions or loss of data on modified systems.
6.2 Installing and approving new hardware and software components

New software and hardware components can be installed and certified as follows:

1. Ensure that the software to be installed comes from a safe and trustworthy source and can be installed on the system without any risks.

**CAUTION:** Damage to the operating system from malware!
Check the software and the data carrier to be installed with an up-to-date anti-virus program. Only use data carriers you have checked throughout the entire process.

2. Disconnect all unnecessary data carriers from the system (e.g., USB hard disks).

3. Disconnect the system from the network if necessary.

**NOTE:** If it is not possible to disconnect the system from the network or you do not wish to do so, you must ensure that your network is free from viruses and other malware.

4. Switch to Windows and log in using an account with administrator rights.
To access the operating system, you must log in as the system administrator and call up the Windows desktop in the Configuration menu under General -> System (also see chapter 3.2.1 ‘System’ tab, page 3-2).

5. Click on Start\Programs\neXus\SE46\Local Whitelist Manager and start the Local Certification of Software.

-SE46 Local Whitelist Manager opens.

6. Click on Next.
The following window appears:

7. Enter the following service key: Service-MLAACDET-ACAA-HHTPZATZ
   Please pay attention to the use of uppercase and lowercase.

8. Now enter the reason for your changes and click on Next; the following window then appears:

   The system is now in Service mode and new system components can be installed.
Switch to the software to be installed and complete the installation program as requested. If a restart is necessary, this can be performed. After starting up again, the system is still in Service mode and you can continue with the installation.

9. Once installation is complete, mark **I've finished updating the system** and then click on **Next**
   
   The Whitelist Manager now checks the changes.
   
   The following window appears after successful checking:

10. Select **Automatically approve all changes** and then click on **Next**
   
   The following window appears:
11. Enter information on your changes and then click on **Next**.

- The Whitelist Manager now creates a new system certificate.

The following window appears on creation of the certificate:

12. Click on **Finish**.

- The new software is now installed and has been checked by the Whitelist Manager.
- Service mode is ended.

You can reconnect the system to the network or reconnect any data carriers.

13. Finally, carry out a system test.

- Installation is complete.
7 System recovery

The following describes the KARL STORZ AIDA® system recovery with the AIDA recovery USB stick. The following options are available:

- Complete system recovery: During complete system recovery, both hard drives are reset via the recovery files on the USB stick.

⚠️ CAUTION: Data loss!
If you carry out a full system recovery, all procedure data from the hard drive will be deleted. We recommend backing up the data on drive DATA (D:) before system recovery.

- Operating system recovery: In this case, only the system drive (C:) is reset.

7.1 Backing up data from the (D:) drive

Since with system recovery all data on the hard disks is deleted and the system is reset to the delivery state, we recommend saving the data to removable media or similar in advance.

The data can be saved via Windows and Windows Explorer to the backup data carrier by means of drag-and-drop.

To access the operating system, you must log in as the system administrator and call up the Windows desktop in the Configuration menu under General -> System (also see chapter 3.2.1 ‘System tab’, page 3-2).
7.2 Complete system recovery

1. Plug the AIDA recovery USB stick into the USB port on the front of the device before it is switched on.

2. Start the device.

3. When starting up, wait for the KARL STORZ logo to appear and then press the F12 key.
   - The password entry window for accessing BIOS opens.

4. Enter the password (standard password: 123456).
   - The following window opens in BIOS.

5. Select the USB drive of the recovery stick as the boot device.
   - The name of the USB drive is the name of the physical USB stick. In the above window, this is SanDisk. This is normally the third entry in the list.

   - The KARL STORZ OR1 Deployment Tool starts.

6. Click on the Install New System button.
   - A window opens.

   CAUTION: Data loss!
   If you confirm with OK, complete system recovery starts. All the data on the system will be deleted. Make sure that all procedure data is saved elsewhere.

7. Confirm with OK.
The system data is deleted.

8. If the message **Restoring image finished, please reboot** appears in the Logfile window, press the **Close and Shutdown** button.

The system shuts down.

**NOTE:** For recovery a BitLocker encryption was saved on the connected USB stick. As such, do not remove the AIDA recovery USB stick.

9. When restarting, ensure that the device is connected to the Internet, in order to guarantee successful registration with Microsoft.

10. Start the device.

The system automatically logs in as OR1 Admin and starts the BitLocker hard drive encryption. This takes approx. 1 minute.

The following windows appear:

11. If necessary, complete the steps for system recovery.

The system then shuts itself down.

**NOTE:** The next time you start the AIDA, the system logs in as OR1 User again.

12. Remove the recovery USB stick.

Full recovery is complete.
7.3 Operating system recovery

With **operating system recovery** only drive C: is recovered. Drive D: is untouched.

To allow the operating system to subsequently access drive D:, the BitLock drive key must be saved prior to system recovery.

1. Switch to Windows.
   - To access the operating system, you must log in as the system administrator and call up the **Windows desktop** in the **Configuration menu** under **General -> System** (see chapter 3.2.1 ‘System tab’, page 3-2).

2. Log in to Windows as OR1 Admin.

3. Open the start menu and enter ‘Bitlocker’ into the search field.

4. Select **Manage BitLocker**.

5. In the window that follows, click on **Back up your recovery key** in the **Data (D:)** area.
The following window opens.

![Image](https://example.com/image1.png)

6. Select **Save to a file**.

   The saving dialogue opens.

7. Save the BitLocker key as a .txt file on the AIDA recovery USB stick. You can also use another NTFS-formatted USB stick. In this case, you must ensure that this stick is used for the first restart after the recovery.

8. Confirm the saving dialogue and close the window with **Finish**.

**Performing system recovery**

1. Turn the system off.

2. If not already done: Plug the AIDA recovery USB stick into the USB port on the front of the device.

3. Start the device.

4. When starting up, wait for the KARL STORZ logo to appear and then press the **F12 key**.

   The password entry window for accessing BIOS opens.

5. Enter the password (standard password: 123456).

   The following window opens in BIOS.

   ![Image](https://example.com/image2.png)

6. Select the USB drive of the recovery stick as the boot device. The name of the USB drive is the name of the physical USB stick. In the above window, this is SanDisk. This is normally the third entry in the list.
7. Click on the Install Only System Drive button.
8. Confirm with OK.
9. If the message Restoring image finished, please reboot appears in the Logfile window, press the Close and Shutdown button.
10. The system shuts down.
11. When restarting for the first time, ensure that the device is connected to the Internet, in order to guarantee successful registration with Microsoft.
12. Make sure that the USB stick upon which the BitLocker key is saved was connected with the system.
13. Start the device.
14. The system automatically logs in as OR1 Admin and starts the BitLocker hard drive encryption.
   • If you have not changed the key, no further action is necessary.
   • If you receive the following error message, the key has changed.
     
     ERROR: The password failed to unlock volume D:
     'The D: partition could not be unlocked'
     Please enter the recovery password to unlock the D: partition:
15. Copy the 48-character password from the text file, which you have saved as the BitLocker key to the prompt.
16. Press the Enter key. The following windows appear:
15. If necessary, complete the steps for system recovery.

16. The system then shuts itself down.

**NOTE:** The next time you start the AIDA, the system logs in as OR1 User again. With every start, decryption takes place in the background.

17. Remove the USB stick.

- Full recovery is complete.
Welcome
Thank you for your expression of confidence in the KARL STORZ brand. Like all of our other products, this product is the result of years of experience and great care in manufacture. You and your organization have decided in favor of a modern, high-quality product from KARL STORZ.

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1 Information concerning this document

This instruction manual describes the KARL STORZ AIDA® WD300 device and is intended to serve as an aid in the proper installation and maintenance of this device.

Read this instruction manual thoroughly before putting the system into operation. Read the chapter on safety instructions particularly carefully to avoid putting your patients, personnel or yourself at risk.

The instruction manual is a component of the product and must therefore be kept at a location in the immediate vicinity of the system in order to enable reference to safety instructions and important information regarding its use at any time.

This instruction manual is valid following an initial commissioning procedure which has been properly carried out.

1.1 Other applicable documents
The following documents are additional components of the product’s instruction manual and must be observed:

- System description KARL STORZ AIDA® WD300
- Software description KARL STORZ AIDA® Release 1.5.1

The following documents are not part of the instruction manual but could still be of interest:

- Hospital Network Integration Requirements
- Admin Guide Supplemental – System Hardening
- DICOM
- HL7

1.2 Conventions in this document

1.2.1 Definition of terms
In the following, the KARL STORZ AIDA® WD300 system described here is referred to as ‘system’.

1.2.2 Explanation of Warnings and Cautions
The words Warning, Caution, and Note convey special meanings. Wherever they are used in this manual, they should be carefully reviewed to ensure the safe and effective operation of this system. To make the signal words stand out more clearly, they are accompanied by a pictogram.

**WARNING:** A Warning indicates that the personal safety of the patient or user may be involved. Failure to observe a warning may result in injury to the patient, user or a third party.

**CAUTION:** A Caution indicates that particular service procedures or safety precautions must be followed to avoid any damage to the system.

**NOTE:** A Note indicates special information about operating the system, or clarifies important issues.

1.2.3 Images
The patient names in the screenshots are entirely fictional. Any resemblance to actual persons is purely coincidental.
1.3 General information on use

This system is produced in accordance with state-of-the-art technology and is safe to operate. Nonetheless, the system may still be a source of risk, especially if it is operated by personnel who are not adequately trained or if it is used incorrectly and for a purpose other than its intended use.

The system may be operated, cleaned and disinfected only by the specialist personnel. The specialist personnel must be briefed on the actions required for these steps.

For safety reasons, actions or interventions which extend beyond those described in this instruction manual must be carried out only by KARL STORZ or a company authorized by KARL STORZ. Before a company can receive this authorization, an employee of the company in question must successfully participate in a technical training course conducted by KARL STORZ. Authorization is then granted for a fixed period of time.

National laws and regulations must be observed.

1.3.1 User groups

The following three groups of people are named in this instruction manual.

Operators
The term operator applies to all individuals or legal entities:

• Who use the system themselves or allow a third party to use it in a doctor’s practice, hospital etc. and exercise actual physical authority over the system during operation.
• It is incumbent upon the operator to provide a safe system and properly instruct the user in the operation and intended use of the system.

Users
The term user applies to persons:

• Who, due to their education and the appropriate training provided by the persons delegated by the operator, are qualified to operate the system and work with it.
• Users are fully responsible for using the system safely and in accordance with its intended use.

Specialist personnel
The term specialist personnel applies to persons:

• Who have acquired their knowledge through professional training in the medical or medical-technical fields.
• Who are able to assess their work on the basis of professional experience and instruction in the safety-related regulations and recognize potential dangers whilst carrying out their work.
• In countries in which the performance of an activity in the medical or medical-technical fields is certified, the classification of individuals as specialist personnel assumes the corresponding accreditation.

1.3.2 Training in the operation of the system

Before using the system, all persons must be instructed directly at the system. This must be conducted by a person delegated by the operator, KARL STORZ, or a company authorized by KARL STORZ.

When the instruction has been completed, the user’s understanding of the special actions required to operate the device in accordance with its intended use must be documented.
1.3.3 Obligation to check and inform
The user must inspect the system to ensure that it is in proper condition and functioning correctly before every use or before handing it over for use by a third party.

If particular problems arise which are not addressed in sufficient detail for you in this instruction manual, please consult KARL STORZ or a company authorized by KARL STORZ for your own safety.

1.3.4 Warranty
KARL STORZ guarantees the safe and proper functioning of the system only subject to the following conditions:

- The system is used only as designated and operated in accordance with the information provided in this instruction manual.
- Only original replacement parts or accessories which are defined and approved by KARL STORZ are used. The use of other parts poses unknown risks and must be avoided at all times.
- Initial commissioning has been performed and documented.
- No structural modifications must be made to the system. Unauthorized modifications or alterations to the system or the software are not permitted for safety reasons and void the guarantee.
- Inspection and maintenance work must be conducted by KARL STORZ or a company authorized by KARL STORZ at the specified intervals.

1.4 Intended use of the device
1.4.1 Intended use
The KARL STORZ AIDA® WD 300 is intended for use by qualified personnel in the Doctor’s Office or Operating Room. The KARL STORZ AIDA® WD 300 is a dedicated appliance (consisting of hard- and software) intended for documentation of audio-visual and patient data during a diagnostic or therapeutic procedure. It allows for the capture and the annotation of the surgical procedure for documentation purposes. Audio-visual data recorded and distributed by the KARL STORZ AIDA® WD 300 are not intended for diagnostic or therapeutic purposes. Recorded audio-visual data are not intended for intraoperative display on the surgical monitor.

1.4.2 Contraindications
No contraindications were known at the time of printing. The use of this device is generally contraindicated if, in the opinion of an experienced physician, such an application presents an unjustifiable risk to the patient’s health, e.g., due to the general condition of the patient.

1.4.3 Markings

| CE conformity mark: With this mark, the manufacturer declares the compliance of the products with the applicable standards and directives. |
| CSA certification mark for the USA and Canada: With this mark, the manufacturer declares compliance with the certification requirements. |

The manufacturer declares the conformity of this device with the essential requirements outlined in Annex I of the MDD and documents this by means of the CE mark.

Directive compliance
The WD 300 is a medical device in accordance with the Medical Devices Directive 93/42/EEC (MDD). Risk class: I
1.4.4 Standards and directives

The device complies with the safety requirements of the following standards and directives:

- Electrical safety according to IEC 60601-1
  - Electric shock protection rating: protection class I (protective grounding)
  - Degree of IP protection: IPX0
  - Frequency band: 5 GHz
  - Maximum transmission power: 250 mW
- 2012/19/EU – Waste Electrical and Electronic Equipment (WEEE) Directive
- 2011/65/EU – Restriction of the use of hazardous substances in electronic and electrical equipment directive (RoHS2)
- Electromagnetic compatibility according to IEC 60601-1-2

**NOTE:** Please observe the Electromagnetic Compatibility information in chapter 7.

1.5 Ambient conditions for operation and storage

Different ambient conditions apply to the operation and intermediate storage of the device.

1.5.1 Ambient conditions for storage and transport

- Ambient temperature: 14°F to 140 °F / -10°C to 60°C
- Relative humidity: 5% to 95%
- Air pressure: 500 hPa to 1080 hPa

1.5.2 Ambient conditions for operation

- Ambient temperature: 41°F to 95°F / 5°C to 35°C
- Relative humidity: 10% to 90%
- Air pressure: 700 hPa to 1080 hPa
- Max. height above sea level: 3000 m

1.6 Disposal

This device has been marked in accordance with the European Directive on waste electrical and electronic equipment (WEEE). At the end of its useful operating life, dispose of the device as electronic scrap. Please ask KARL STORZ SE & Co. KG, a KARL STORZ subsidiary or your authorized dealer about the collection point in your area. Within the scope of application of this directive, KARL STORZ SE & Co. KG is responsible for the proper disposal of this device.

**NOTE:** The device must be disposed of in accordance with the applicable national regulations at a suitable collection point for the recycling of electrical and electronic equipment.
2 Safety instructions

Read the safety instructions carefully to avoid putting your patients, personnel or yourself at risk.

2.1 Risk of infection
The use of incorrectly reprocessed medical devices poses a risk of infection for patients, users and third parties.

► When carrying out any work on contaminated medical devices, the guidelines of the Employers’ Liability Insurance Association and equivalent organizations striving to ensure personal safety must be observed.
► The country-specific laws and regulations must be observed.
► Take suitable personal protection measures.
► Prior to using devices for the first time and after each further use, clean the devices in accordance with the instruction manual.
► In the case of any varying procedure, ensure the effectiveness of the cleaning.
► In the case of any varying procedure, exclude any possible harmful consequences.

2.2 Potentially explosive atmospheres
Electrical sparks in the device can result in explosions or fire.

► Do not operate the device in an oxygen-enriched environment.
► Do not use the device in an environment with flammable gases (for example, inhalation anesthetics or other flammable or explosive chemicals). Note the danger zone shown in the graphic.

► Connect or disconnect the power plug to or from the power supply only when outside potentially explosive atmospheres.

2.3 Power supply
An improper power supply may cause an electric shock and injure patients, users or third parties.

► The electrical installations in the operating room in which the device is installed and operated must comply with the applicable IEC standards.
► Only operate the device with the voltage stated on the identification plates.
► The device must be connected to the power grid only using the power cord supplied by KARL STORZ or a comparable power cord with a national test seal.
► The cable connections must not be disconnected or connected during operation.
In the case of devices which are operated with electricity, individual components or the device itself may be live. Reaching into the device can lead to electric shock and severe injury.

► Do not open the device.
► Have servicing carried out by KARL STORZ or personnel authorized by KARL STORZ only. The removal of covers by unauthorized personnel voids the warranty.
► Connect the device to a perfectly installed grounded outlet. Routinely inspect the electrical plug and cable. Do not use them if the inspection reveals damage.
► To reduce leakage currents, connect the device via the equipotential bonding plug to the connection socket for equipotential bonding.
► Do not touch the output jacks of the device and the patient at the same time during use.
► It is essential to ensure that no liquids can penetrate the housing.
► Do not store any liquids in the vicinity of the device.
► If liquid has penetrated into the device despite the precaution, switch off the device and pull the power cord. The evaporation must be allowed sufficient time.

2.4 Technical state

Combinations of medical devices are only assured to be safe if:
► they are identified as such in the respective manuals or
► the intended use and interface specifications of the products used in combination permit this.

A damaged device can injure patients, users and third parties or lead to severe injury.
► Before each use of the device and all devices connected, make sure that they are safe and operating properly.
► The device should not be used if any damage is evident.
► If any of the system's devices are defective, have them checked by an authorized service technician provided by KARL STORZ or a company authorized by KARL STORZ.
► Arrange for regular safety inspections to be conducted by an authorized service technician provided by KARL STORZ or a company authorized by KARL STORZ.

Sudden failures or malfunctions can critically impair the surgeon’s view of the site. This could result in injury to the patient.
► In case of a device failure or malfunction, cease work immediately and switch to a backup system (‘direct line’).
► Prior to each intervention, make sure that the personnel are familiar with the procedure for switching over to the backup device (‘direct line’).
► Contact an authorized service technician provided by KARL STORZ or a company authorized by KARL STORZ to check the device.

Devices which emit excessively high interference radiation due to a defect can impair the monitors or other devices.
► Switch off the defective device.
2.5 Notes on image display and transmission

The video signals and recordings shown may display artifacts as a result of compression and/or scaling.

The image preview on the touchscreen is not intended to be used for diagnostic or therapeutic purposes.

Signals in 3D are only correctly displayed on suitable display devices.

The visualization of image signals which do not originate from a KARL STORZ device may only be used for information purposes.

The data recorded with the device may only be used for documentation purposes, in particular:
- Image information in printed form
- Image information which was compressed or recorded in non-native resolution
- Image information which originates from or was recorded by a device which was not manufactured by KARL STORZ

Shutting down the device whilst processing patient data results in the loss of image data.

» Only switch off the device using the ON/OFF switch.

Connecting non-compatible signal types to the connection panel in the OR can cause picture interference and malfunctioning of the KARL STORZ AIDA.

» Only connect permitted signal types.

» Perform device tests before use.
3  Product description

3.1  Technical description

The KARL STORZ AIDA® WD 300 is designed for use in the operating rooms of clinics and hospitals.

The KARL STORZ AIDA® WD 300 serves to aid the implementation and documentation of medical interventions aimed at examining and treating patients.

When performing medical interventions, the KARL STORZ AIDA® WD 300 can be used to do the following from the central touchscreen:

• Control non-medical devices;
• Transfer and display video and audio signals from the integrated signal sources to the integrated peripheral devices;
• Record, save, edit, forward and print medical examinations and interventions in the form of still images, video sequences and audio sequences.

3.2  Symbols and labels

3.2.1  Packaging label

The following symbols are depicted on the packaging label and have the following meaning.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Catalog number</td>
<td></td>
</tr>
<tr>
<td>Serial number</td>
<td></td>
</tr>
<tr>
<td>Number of products in the product packaging</td>
<td></td>
</tr>
<tr>
<td>Keep dry</td>
<td></td>
</tr>
<tr>
<td>Fragile, handle with care</td>
<td></td>
</tr>
<tr>
<td>Consult instructions for use</td>
<td></td>
</tr>
<tr>
<td>Temperature limit</td>
<td></td>
</tr>
<tr>
<td>Humidity limitation</td>
<td></td>
</tr>
<tr>
<td>Atmospheric pressure limitation</td>
<td></td>
</tr>
</tbody>
</table>
### 3.2.2 Type plate

The following symbols are depicted on the type plate and have the following meaning.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Manufacturer" /></td>
<td>Manufacturer</td>
</tr>
<tr>
<td><img src="image" alt="Catalog number" /></td>
<td>Catalog number</td>
</tr>
<tr>
<td><img src="image" alt="Serial number" /></td>
<td>Serial number</td>
</tr>
<tr>
<td><img src="image" alt="Non-ionizing radiation" /></td>
<td>Non-ionizing radiation</td>
</tr>
<tr>
<td><img src="image" alt="Control of pollution caused by electronic information products (China RoHS)" /></td>
<td>Control of pollution caused by electronic information products (China RoHS)</td>
</tr>
<tr>
<td><img src="image" alt="Separate collection of electrical and electronic devices" /></td>
<td>Separate collection of electrical and electronic devices. Do not dispose of as household waste.</td>
</tr>
<tr>
<td><img src="image" alt="CSA Certification Mark for the USA and Canada" /></td>
<td>CSA Certification Mark for the USA and Canada</td>
</tr>
<tr>
<td><img src="image" alt="AC voltage" /></td>
<td>AC voltage</td>
</tr>
<tr>
<td><img src="image" alt="Date of manufacture" /></td>
<td>Date of manufacture</td>
</tr>
<tr>
<td><img src="image" alt="CE conformity mark" /></td>
<td>CE conformity mark</td>
</tr>
<tr>
<td><img src="image" alt="FCC ID" /></td>
<td>The FCC identification number relates to the internal WLAN adapter.</td>
</tr>
<tr>
<td><img src="image" alt="IC" /></td>
<td>The IC identification number relates to the internal WLAN adapter.</td>
</tr>
<tr>
<td><img src="image" alt="RxOnly" /></td>
<td>Federal (USA) law restricts this device to sale by or on the order of a physician.</td>
</tr>
</tbody>
</table>
3.2.3 Front of device

<table>
<thead>
<tr>
<th>Follow instructions for use!</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB port</td>
</tr>
<tr>
<td>Standby</td>
</tr>
<tr>
<td>The device is in Sleep mode.</td>
</tr>
<tr>
<td>Yellow indicator light.</td>
</tr>
<tr>
<td>ON</td>
</tr>
<tr>
<td>Device switched on.</td>
</tr>
<tr>
<td>Green indicator light.</td>
</tr>
<tr>
<td>Access to hard disk.</td>
</tr>
<tr>
<td>Red indicator light.</td>
</tr>
</tbody>
</table>

3.2.4 Back of device

<table>
<thead>
<tr>
<th>Dangerous voltage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Danger of electric shock.</td>
</tr>
<tr>
<td>Disconnect the power plug before opening the housing.</td>
</tr>
<tr>
<td>Follow instructions for use!</td>
</tr>
</tbody>
</table>

The potential equalization is responsible for equalizing the potentials of different metal parts that can be touched at the same time, or for reducing potential differences that could occur between the body, electromedical devices and external live parts during use.
### 3.3 Connections

#### 3.3.1 Front panel

- a. Switch between standby and operating mode
- b. ‘Yellow’ standby LED
- c. ‘Green’ operating LED
- d. LED for hard disk access ‘red’
- e. USB port

#### 3.3.2 Back panel

- a. Power supply
- b. PS/2 (mouse)
- c. Lemo 8-pin (keyboard)
- d. 4x USB 2.0
- e. 2x DP (Display Port)
- f. 2x DE 9 (serial interface)
- g. DVI (monitor)
- h. 2x RJ-45 (LAN)
- i. 4x USB 3.0
- j. Mini jack (audio OUT)
- k. Mini jack (audio IN)
- l. ‘SmartScreen’ socket DE 9 (serial interface, 12 VDC / 2 A, pins 4 + 7)
- m. Phoenix 2-pin (On Air light, for subsequent use)
- n. Phoenix 4-pin (remote activation of KARL STORZ OR1 FUSION®)
- o. 2x HDMI 2.0 In/Out
- p. 2x DP 1.2a In/Out
- q. Lemo 5-pin (footswitch)
- r. 4x 3.5 mini jack (camera head buttons)
- s. POAG grounding connection

**WARNING:** Risk of electric shock 12 VDC / 2 A low voltage is present on pins 4 + 7 of the ‘SmartScreen’. The corresponding ground is provided via shield and pin 5. Do not touch the socket while it is in operation and only connect cables when it is switched off.
### 3.4 Technical data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>100 VAC – 240 VAC</td>
</tr>
<tr>
<td>Input frequency</td>
<td>50 Hz – 60 Hz</td>
</tr>
<tr>
<td>Power consumption max.</td>
<td>5 – 2 A</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>305 x 74.5 x 355 (W x H x D)</td>
</tr>
<tr>
<td>Weight max.</td>
<td>6.0 kg</td>
</tr>
<tr>
<td>Degree of protection against electric shock</td>
<td>Class I</td>
</tr>
<tr>
<td>Degree of protection against humidity</td>
<td>IPX0</td>
</tr>
<tr>
<td>Hard drive capacity</td>
<td>2 TB</td>
</tr>
<tr>
<td>RAM</td>
<td>16 GB</td>
</tr>
<tr>
<td>CPU</td>
<td>Intel® CoreTM i7-6700@3.4 GHz</td>
</tr>
<tr>
<td>Operating system</td>
<td>Windows 10 IoT Enterprise</td>
</tr>
<tr>
<td>Mode of operation</td>
<td>Continuous</td>
</tr>
</tbody>
</table>
4 Installation

WARNING: Faulty installation can result in injury to the user, third party or patient.
Installation and commissioning of the device must only be performed by authorized, electrotechnically qualified specialists from KARL STORZ SE & Co. KG or by an authorized contractual partner.

The electrical installations in the room in which the device is installed and operated must comply with the applicable IEC standards.

Additional devices that are connected to electrical medical devices must conform to the respective IEC or ISO standards (e.g., IEC 60950 for data processing equipment). Furthermore, all configurations shall comply with the standard requirements for medical systems (see IEC 60601-1-1 or Clause 16 of the 3rd Ed. of IEC 60601-1, respectively). Any person who connects additional equipment to medical electrical equipment configures a medical system, and is therefore responsible for ensuring that the system complies with the requirements for medical electrical systems. Please note that local laws take priority over the above-mentioned requirements. If in doubt, consult the technical service department or your local representative.

Combinations of medical devices are only assured to be safe if they are identified as such in the respective instruction manuals or the intended use and interface specifications permit the combination of the used products.

► The instruction manuals and interface specifications for medical devices and/or system components used in combination must be observed precisely.
► Only the software and hardware components which have been tested and approved by KARL STORZ and listed in the system description may be used.
► The maximum permitted values at the inputs and outputs of the device must be observed. If components are connected which exceed these values, this can lead to defects on the device and will void the warranty.

4.1 Unpacking

Check the delivery for missing items and evidence of shipping damage. Please file any complaints with the manufacturer or supplier immediately.

A damaged system can injure patients, users and third parties, or lead to severe injury.

► Operate the system only if it has no external damage.

Retain the original packaging for later use. This may be useful if the device has to be transported.

4.2 Installation and commissioning

WARNING: Risk of injury from electric shock.
The use of additional and freely accessible multiple socket outlets is not permitted in combination with this device. Multiple socket outlets must not be placed on the floor.

CAUTION: Damage to the device during faulty installation.
The device must be installed so as to ensure sufficient ventilation. Keep the defined free areas free (see graphic).
The device can be operated free-standing, in a rack or as a wall-mounted solution in either a vertical or horizontal position.

Note the following points when positioning:

- Position the device so as to ensure that the power supply can simply be disconnected at any time.
- Keep the device out of reach of patients.
- Note the free area dimensions for the installation site based on the graphic below to guarantee that the device is sufficiently ventilated.
- Note the ambient conditions for operation as described in chapter 1.8.
- Note the technical data as described in chapter 3.4.
- The device may only be connected to the power grid using the power cord supplied by KARL STORZ or a comparable power cord with a national test seal.

**NOTE:** In the case of installation in a rack, the system may only be used with a power cord approved by KARL STORZ. Please contact KARL STORZ for more information.

- Connect the supplied potential equalization cable to the plug connection for potential equalization. Carry out the potential equalization in accordance with the applicable national regulations.
5 Maintenance

5.1 Reprocessing

**WARNING:** Risk of infection: Incorrectly reprocessed medical devices expose patients, users and third parties to a risk of infection as well as the risk that the medical device may malfunction.

- Observe the reprocessing steps in these instructions for use carefully.
- In the case of any varying procedure, ensure the effectiveness of the cleaning.
- In the case of any varying procedure, exclude any possible harmful consequences.

**NOTE:** When carrying out any work on contaminated medical devices, the guidelines of the Employers’ Liability Insurance Association and equivalent organizations striving to ensure personal safety must be observed. The country-specific laws and regulations must be observed.

5.1.1 Required reprocessing agents

- Disposable cloth or ready-to-use disinfectant cloth
- Dry, low-lint cloth
- Disinfectants

**NOTE:** Due to their protein-fixating effect and possible material incompatibility, alcohol-based agents must not be used.

**CAUTION:** When preparing and using the solutions, follow the chemical manufacturer’s specifications, paying close attention to proper concentration, exposure time and service life. Incorrect concentration may result in damage to the device. Bear in mind the microbiological range of action of the chemicals used.

5.1.2 Manual wipe-down disinfection

**WARNING:** Danger of unwanted current flow: The device is only voltage-free when the power plug has been disconnected.

- Before performing any cleaning work on the central device and the connected devices, disconnect them from the supply line!

**CAUTION:** Danger of damage to the device or reduced performance: Residues of the cleaning agent on the connections on the device or contacts in the device can lead to the conductivity being impaired or even electronic components corroding.

- To prevent liquid entering, the devices should not be sprayed with the reprocessing agent.
- Do not place any reprocessing agent in the connections on the back of the device.

1. Use a disposable cloth moistened with disinfectant or a soaked, ready-to-use disinfectant cloth.
2. Wipe-clean the exterior surfaces of the medical device.
3. Allow the disinfectant to take effect, observing the instructions of the disinfectant manufacturer.
4. At the end of the necessary exposure time, wipe the surfaces with a dry, low-lint cloth.
5. After using the cloth, dispose of this in accordance with the disposal regulations.
5.2 Maintenance and repair

5.2.1 Safety instructions

**WARNING:** Danger of unwanted current flow: The device is only voltage-free when the power plug has been disconnected.

- Before performing any maintenance work on the central device and the connected devices, disconnect them from the supply line!

**NOTE:** All work may only be performed by qualified technicians trained in electrical or electronic engineering, in compliance with the relevant occupational, safety and accident prevention regulations! A safety test according to IEC 62353 must be carried out following service work.

**WARNING:** By making the enclosed technical information available, KARL STORZ does not authorize any service or repair work by unauthorized service personnel. Any tampering with instruments or devices or unauthorized service or repair work to the device will render the warranty void.

**WARNING:** Damaged equipment components must only be maintained and repaired by KARL STORZ. Defective device components may only be maintained and repaired by persons authorized by KARL STORZ and using original KARL STORZ parts only.

5.2.2 Maintenance plan

<table>
<thead>
<tr>
<th>Interval</th>
<th>Action</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annually</td>
<td>Check and inspect device</td>
<td>KARL STORZ service technician</td>
</tr>
<tr>
<td>Every 4 years</td>
<td>Replace BIOS battery</td>
<td>KARL STORZ service technician</td>
</tr>
</tbody>
</table>

5.3 Repair program

5.3.1 Return of defective devices to KARL STORZ

In case you need to return a device to KARL STORZ for repair, we request that you make a backup copy of all the patient and personal data stored on the hard disk and then delete the data from the hard disk prior to returning the device (see software description chapter 7.1 ‘Backing up data from the (D:);’ drive on page 7-1 and section ‘Format hard disk (D:);’ on page 3-6).

In Germany, you can refer repairs direct to:

KARL STORZ SE & Co. KG
Abt. Reparaturservice
Take-off Gewerbepark 83
78579 NEUHAUSEN, Germany

Service hotline: +49 7461/708 980
E-mail: technicalsupport@karlstorz.com

In other countries please contact your local KARL STORZ subsidiary or authorized dealer.
## 6 Accessories*

<table>
<thead>
<tr>
<th>Article/article no.</th>
<th>Designation</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>400A</td>
<td>EU power cord&lt;br&gt;Length 3 m&lt;br&gt;Not suitable for the wall-mounted solution!</td>
<td>1</td>
</tr>
<tr>
<td>400B</td>
<td>US power cord&lt;br&gt;Length 2 m</td>
<td>1</td>
</tr>
<tr>
<td>WD10004</td>
<td>AIDA recovery USB stick</td>
<td>1</td>
</tr>
<tr>
<td>WA1000C</td>
<td>DP 1.2 4K 60 Hz, cable&lt;br&gt;Length 1.8 m</td>
<td>1</td>
</tr>
<tr>
<td>20040086</td>
<td>DVI connecting cable&lt;br&gt;Length 2 m</td>
<td>1</td>
</tr>
<tr>
<td>4800288</td>
<td>HDMI to DVI connecting cable&lt;br&gt;Length 2 m</td>
<td>1</td>
</tr>
<tr>
<td>WD10002</td>
<td>HDMI to DVI connecting cable&lt;br&gt;Length 3 m</td>
<td>1</td>
</tr>
<tr>
<td>20221070</td>
<td>ACC connecting cable&lt;br&gt;Length 1.8 m</td>
<td>2</td>
</tr>
<tr>
<td>20040240xx</td>
<td>USB keyboard with touchpad</td>
<td>1</td>
</tr>
<tr>
<td>20040076</td>
<td>CAT5e/6 network connecting cable&lt;br&gt;Length 5 m</td>
<td>1</td>
</tr>
<tr>
<td>96296654XX</td>
<td>System Documentation&lt;br&gt;Including:&lt;br&gt;Instruction for User 96296655XX&lt;br&gt;System description 96296656XX&lt;br&gt;Software description 96296657XX&lt;br&gt;(XX stands for individual language package)</td>
<td>1</td>
</tr>
</tbody>
</table>

*Not all items are offered in your region
Appendix

7.1 Electromagnetic Compatibility (EMC) information

**NOTE:** The tables and guidelines that are included in this Appendix provide information to the customer or user that is essential in determining the suitability of the device or system for the electromagnetic environment of use, and in managing the electromagnetic environment of use to permit the device or system to perform its intended use without causing interferences in other devices or systems or non-medical electrical equipment. If electromagnetic interference occurs while using the device, the user can eliminate it by taking the following actions:

- reorient or relocate the receiving device;
- increase the separation between the individual devices;
- connect the equipment to a different circuit.

If you have any further questions, please contact your local representative or our service department.

KARL STORZ AIDA WD300 is suitable for use in professional healthcare facilities (CISPR 11 Group 1 Class A).

Professional healthcare facilities include physician offices, dental offices, limited care facilities, freestanding surgical centers, freestanding birth centers, multiple treatment facilities, hospitals (emergency rooms, patient rooms, intensive care, surgical rooms, outside the high-energy shielded room of an ME system for magnetic resonance imaging).

**WARNING:** Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this and the other devices should be monitored to ensure that they are functioning correctly.

<table>
<thead>
<tr>
<th>Type</th>
<th>Shielded</th>
<th>Length [m]</th>
<th>Ferrite</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC power cord</td>
<td>No</td>
<td>3.0</td>
<td>No</td>
<td>Power supply</td>
</tr>
<tr>
<td>PE</td>
<td>No</td>
<td>1.0</td>
<td>No</td>
<td>POAG grounding connection</td>
</tr>
<tr>
<td>ACC1-4</td>
<td>Yes</td>
<td>2.0</td>
<td>No</td>
<td>Camera head buttons</td>
</tr>
<tr>
<td>Line In/Out</td>
<td>Yes</td>
<td>1.8</td>
<td>No</td>
<td>Audio In/Out</td>
</tr>
<tr>
<td>Lemo 5-pin</td>
<td>Yes</td>
<td>3.0</td>
<td>No</td>
<td>Footswitch</td>
</tr>
<tr>
<td>RS232 (1/2)</td>
<td>Yes</td>
<td>3.0</td>
<td>No</td>
<td>Control cable/barcode reader</td>
</tr>
<tr>
<td>RS232 12 VDC</td>
<td>Yes</td>
<td>3.0</td>
<td>No</td>
<td>SMARTSCREEN® power connection</td>
</tr>
<tr>
<td>DVI</td>
<td>Yes</td>
<td>3.0</td>
<td>Yes</td>
<td>Monitor</td>
</tr>
<tr>
<td>HDMI 4K</td>
<td>Yes</td>
<td>3.0</td>
<td>Yes</td>
<td>In/Out</td>
</tr>
<tr>
<td>DP 4K</td>
<td>Yes</td>
<td>3.0</td>
<td>No</td>
<td>In/Out</td>
</tr>
<tr>
<td>DP PC</td>
<td>Yes</td>
<td>3.0</td>
<td>No</td>
<td>DP 1/2</td>
</tr>
<tr>
<td>LAN (1/2)</td>
<td>Yes</td>
<td>5.0</td>
<td>No</td>
<td>Ethernet</td>
</tr>
</tbody>
</table>
### Accessories and lines for EMC compliance

<table>
<thead>
<tr>
<th>Type</th>
<th>Shielded</th>
<th>Length [m]</th>
<th>Ferrite</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB 2.0</td>
<td>Yes</td>
<td>1.8</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>USB 3.0</td>
<td>Yes</td>
<td>3.0</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>PS/2</td>
<td>Yes</td>
<td>1.8</td>
<td>No</td>
<td>Keyboard/mouse</td>
</tr>
<tr>
<td>Phoenix plug</td>
<td>No</td>
<td>5.0</td>
<td>No</td>
<td>On Air light</td>
</tr>
</tbody>
</table>

**WARNING:** The use of an accessory or cable with the equipment other than those specified in this manual may result in increased emissions or decreased immunity of the equipment. When an accessory or cable other than those specified in this manual is used with the device, it is the responsibility of the device user to determine compliance with IEC 60601-1-2 when this device is used.

**WARNING:** Portable high-energy communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the device, including cables specified by the manufacturer. Otherwise, performance may be impaired.

**NOTE:** (CISPR 11 Class A): The emission characteristics of this equipment make it suitable for use in industrial areas as well as in professional healthcare facilities such as hospitals (CISPR 11 Class A). If the device is used in a domestic environment (for which CISPR 11 Class B is normally required), the device may not offer sufficient protection for radio transmission operation. The user might need to take mitigation measures, such as relocating or re-orienting equipment.
Table 1 - Compliance level for immunity tests
Guidelines and manufacturer’s declaration - electromagnetic immunity

The device is intended for use in the electromagnetic environment specified below. The user of the equipment should make sure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Interference immunity test</th>
<th>EN/IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment - guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD) acc. to IEC 61000-4-2</td>
<td>± 8 kV contact discharge ± 15 kV air discharge</td>
<td>± 8 kV contact discharge ± 2 kV, ± 4 kV, ± 8 kV ± 15 kV air discharge</td>
<td>Floors should be made of wood, concrete or covered with ceramic tiles. If floors are covered with synthetic material, the relative humidity must be at least 30%. The power supply quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>Electrical fast transient / burst acc. to IEC 61000-4-4</td>
<td>± 2 kV for power supply lines ± 1 kV for input/output lines 100 kHz repetition</td>
<td>± 2 kV for power supply lines ± 1 kV for input/output lines 100 kHz repetition</td>
<td>The power supply quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>Surges acc. to IEC 61000-4-5</td>
<td>± 1 kV voltage outer conductor – outer conductor ± 2 kV voltage outer conductor – ground</td>
<td>± 1 kV voltage outer conductor – outer conductor ± 2 kV voltage outer conductor – ground</td>
<td>The power supply quality should be that of a typical commercial or hospital environment.</td>
</tr>
<tr>
<td>Voltage dips, short interruptions and voltage variations of the supply voltage acc. to IEC 61000-4-11</td>
<td>Voltage dip: Dip to 0% for 1 period at 0° phase angle Dip to 70% for 25/30 periods at 0° phase angle Drop to 0% for 1/2 period at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° phase angles Voltage interruption: 100% for 250/300 periods</td>
<td>Voltage dip: Dip to 0% for 1 period at 0° phase angle Dip to 70% for 25/30 periods at 0° phase angle Drop to 0% for 1/2 period at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° phase angles Voltage interruption: 100% for 250/300 periods</td>
<td>The power supply quality should be that of a typical commercial or hospital environment. If the user of the equipment requires continued operation during power mains interruptions, it is recommended that the device be powered from an uninterruptible power supply or a battery.</td>
</tr>
<tr>
<td>Magnetic field at the supply frequency (50/60 Hz) acc. to IEC 61000-4-8</td>
<td>30 A/m at 50 Hz / 60 Hz</td>
<td>30 A/m at 50 Hz / 60 Hz</td>
<td>If image distortion occurs, it may be necessary to position the equipment further from sources of electromagnetic fields or to install magnetic shielding. Before installing the device, the electromagnetic field should be measured to ensure that it is sufficiently low.</td>
</tr>
<tr>
<td>Interference to immunity test acc. to IEC 61000-4-3 for high-frequency electromagnetic fields</td>
<td>3 V/m 80 MHz to 2.7 GHz *Refer to table 2 for wireless proximity RF field test levels</td>
<td>3 V/m 80 MHz to 2.7 GHz *Refer to table 2 for wireless proximity RF field test levels</td>
<td></td>
</tr>
<tr>
<td>Immunity to conducted disturbances, induced by high-frequency fields acc. to IEC 61000-4-6</td>
<td>3 Vrms to 150 kHz to 80 MHz 1 kHz 80% AM modulation 6 Vrms in ISM band</td>
<td>3 Vrms to 150 kHz to 80 MHz 1 kHz 80% AM modulation 6 Vrms in ISM band</td>
<td></td>
</tr>
</tbody>
</table>
## Table 2
Test levels for proximity fields of wireless high-energy communication

<table>
<thead>
<tr>
<th>Test frequency MHz</th>
<th>Frequency band MHz</th>
<th>Radio service</th>
<th>Modulation</th>
<th>Immunity test level V/m</th>
<th>Compliance level V/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>385</td>
<td>380 - 390</td>
<td>TETRA 400</td>
<td>Pulse modulation 18 Hz</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>450</td>
<td>430 - 470</td>
<td>GMRS 460, FRS 460</td>
<td>FM ± 5 kHz deviation 1 kHz sine wave</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>710</td>
<td>704 - 787</td>
<td>LTE band 13 &amp; 17</td>
<td>Pulse modulation 217 Hz</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>810</td>
<td>800 - 960</td>
<td>GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE band 5</td>
<td>Pulse modulation 18 Hz</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>1720</td>
<td></td>
<td>GSM 1800, TETRA 1900, GSM 1900, DECT, LTE band 1,3,4,25, UMTS</td>
<td>Pulse modulation 217 Hz</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>2450</td>
<td>Bluetooth, WLAN 802.11 b/g/n, RFID 2450, LTE band 7</td>
<td>Pulse modulation 217 Hz</td>
<td>28</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>5240</td>
<td>2100 - 5800</td>
<td>WLAN 802.11 a/n</td>
<td>Pulse modulation 217 Hz</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>5785</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Electromagnetic Immunity

The device is intended for use in the electromagnetic environment specified below. The user of the equipment should make sure that it is used in such an environment.

## Interference Immunity Test

<table>
<thead>
<tr>
<th>Interference Immunity Test</th>
<th>EN/IEC 60601 Test Level</th>
<th>Compliance Level</th>
<th>Electromagnetic Environment - Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted RF disturbances</td>
<td>3 Vrms 150 kHz to 80 MHz</td>
<td>3 Vrms</td>
<td>Portable and mobile high-energy communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance:</td>
</tr>
<tr>
<td>acc. to IEC 61000-4-6</td>
<td></td>
<td></td>
<td><strong>d = 1.2 \sqrt{P}</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Where P is the rated power of the transmitter in watts [W] according to the information provided by the transmitter manufacturer and d is the recommended separation distance in meters [m].</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>According to a study, the field strength of stationary transmitters at all frequencies on site(^a) should be less than the conformity level(^b).</td>
</tr>
<tr>
<td>Radiated RF disturbances</td>
<td>3 V/m 80 MHz to 2.5 GHz</td>
<td>3 V/m</td>
<td>Interferences may occur in the vicinity of equipment marked with the following symbol:</td>
</tr>
<tr>
<td>acc. to IEC 61000-4-3</td>
<td></td>
<td></td>
<td><strong>d = 1.2 \sqrt{P}</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>80 MHz to &lt; 800 MHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>d = 2.3 \sqrt{P}</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>800 MHz to 2.5 GHz</td>
</tr>
</tbody>
</table>

**Note:** At 80 MHz and 800 MHz, the higher frequency range applies.

**Note:** These guidelines may not apply in all situations. The propagation of electromagnetic waves is affected by absorptions and reflections of buildings, 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 assess the electromagnetic environment due to fixed transmitters, an electromagnetic site survey should be considered. If the measured field strength at the location where the device is used exceeds the above compliance levels, the device should be monitored to ensure proper function. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the equipment.

\(^b\) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.
Table 4 – Emission class and group
Guidelines and manufacturer’s declaration – electromagnetic emissions

The device is intended for use in the electromagnetic environment specified below. The customer or user of the equipment should ensure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Emission Type</th>
<th>Group</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF emissions according to CISPR 11</td>
<td>Group 1</td>
<td>The equipment uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.</td>
</tr>
<tr>
<td>RF emissions according to CISPR 11</td>
<td>Class A</td>
<td>The device is suitable for use in establishments other than domestic and those directly connected to a public low voltage power supply network that supplies buildings used for domestic purposes.</td>
</tr>
<tr>
<td>Harmonic emissions according to IEC 61000-3-2</td>
<td>Class A</td>
<td>Complies</td>
</tr>
<tr>
<td>Voltage fluctuations/flicker emissions as per IEC 61000-3-3</td>
<td>complies</td>
<td></td>
</tr>
</tbody>
</table>

Table 5
Recommended separation distances between portable and mobile high-energy communications equipment and the device.

The device is intended for use in the electromagnetic environment specified below. The customer or user of the device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile high frequency communications equipment (transmitters) and the device as recommended below, depending on the output energy of the communications equipment.

<table>
<thead>
<tr>
<th>Rated power of the transmitter [W]</th>
<th>Separation distance d [m] according to frequency of transmitter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>150 kHz to 80 MHz</td>
</tr>
<tr>
<td></td>
<td>(d = 1.2\sqrt{P})</td>
</tr>
<tr>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>0.1</td>
<td>0.38</td>
</tr>
<tr>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>10</td>
<td>3.8</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
</tr>
</tbody>
</table>

For transmitters whose maximum rated power is not listed in the table above, the recommended separation distance \(d\) in meters (m) can be estimated using the equation from the respective column, whereby \(P\) is the maximum rated power of the transmitter in watts (W) according to the transmitter manufacturer.

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

Note: These guidelines may not apply in all situations. The propagation of electromagnetic waves is affected by absorptions and reflections of buildings, objects, and people.

Compatibility with surgical HF instruments

This device was tested for compatibility with HF surgical devices. It has been tested according to IEC 60601-2-2 Annex BB.
## 7.2 Regulatory information on telecommunications

### 7.2.1 USA

The device corresponds to Section 15 of the FCC Regulations. The application is subject to the following two conditions:

- a. The device may not cause harmful interference.
- b. The device must be able to withstand harmful interference, including interference which may lead to undesirable functions.

Includes FCC ID: PD98265NG

### 7.2.2 Canada

The device corresponds to Industry Canada’s license-free RSS standards. The application is subject to the following two conditions:

- a. The device may not cause harmful interference.
- b. The device must be able to withstand harmful interference, including interference which may lead to undesirable functions.

Includes IC: 1000M-8265NG

### 7.2.3 European Union

For indoor use only.

Radio Equipment Directive (RED) 2014/53/EU