3.6.26 Extras

o o o

In this menu, you can perform license imports and log file exports.

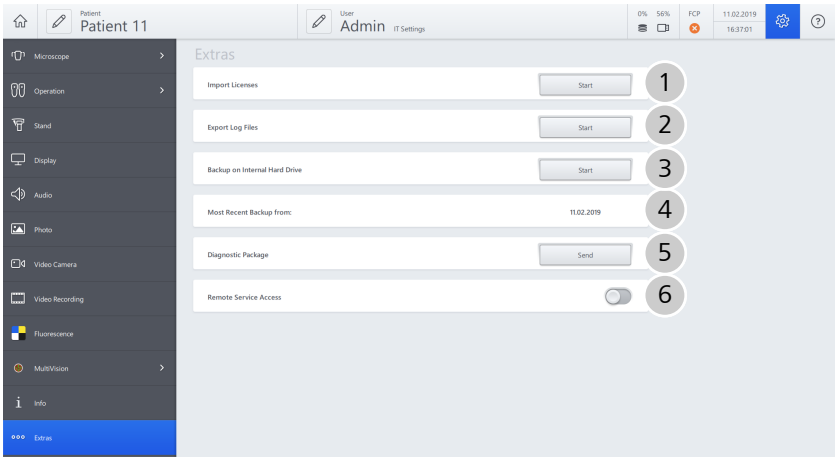


Figure 51: "Settings Extras" menu

Pos.	Name	Explanation
1	License import	Import additional licenses
2	Export Log Files	When you press this button, the log files (error messages) are exported to a connected USB storage device. You can then send this data to ZEISS Service as an email attachment.
3	Backup on Internal Hard Drive	Data is saved on internal hard drive
4	Most Recent Backup from:	Point of time of last backup
5	Diagnostic Package	Send diagnostic data to ZEISS. Only available if ZEISS Smart Services are activated (see ZEISS Smart Services [▷ 109]).
6	Remote Service Access	Enables a direct data exchange between the device and ZEISS Service. Only available if ZEISS Smart Services are activated (see ZEISS Smart Services [▷ 109]).

3.6.27 Password-protected settings and configurations

The following settings and configurations can be performed only by authorized users who have the IT admin password required for this purpose.

If the rights for IT system administration are activated, an input window is displayed where the password for IT system rights must be entered.
The IT ADMIN password is contained in a sealed red envelope included in the scope of supply.

3.6.27.1 Service PC / Overview

Service PC - Overview

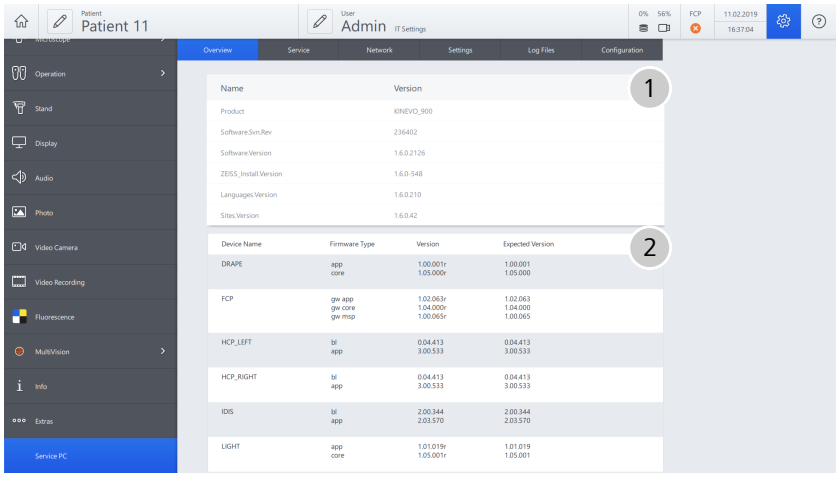


Figure 52: "Settings Service PC" menu, "Overview" tab

Pos.	Name	Explanation
1	Software information	Information on system software
2	Firmware information	Information on system component firmware

3.6.27.2 Service PC / Service

Service PC - Service

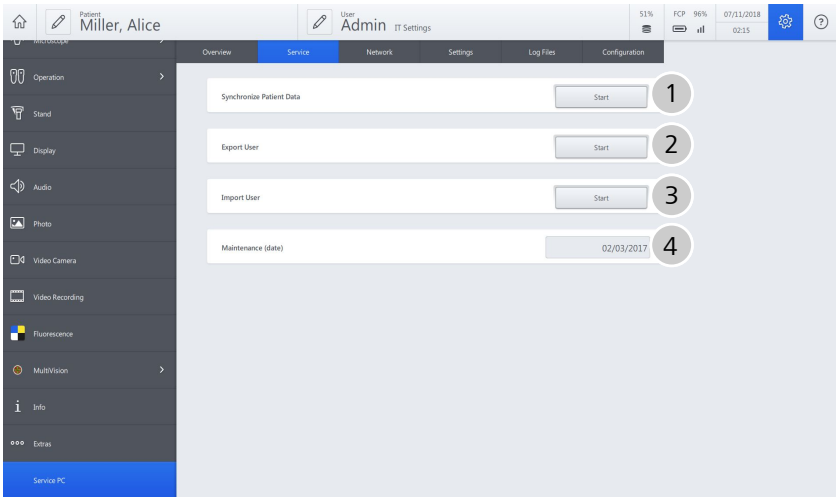


Figure 53: "Settings Service PC" menu, "Service" tab

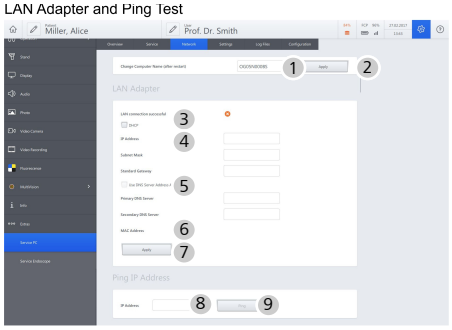
Pos.	Name	Explanation
1	Synchronize Patient Data	Synchronize patient data.
2	Export User	Export the existing user profile.
3	Import User	Import the existing user profile.
4	Maintenance (date)	Date of last maintenance call.

3.6.27.3 Service PC / Network

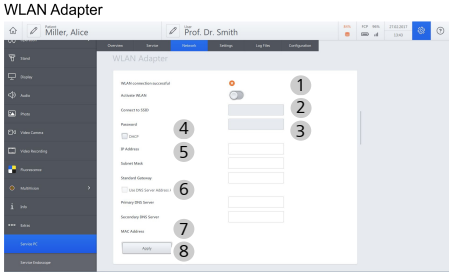
Service PC - Network

In this menu, you configure the network settings.

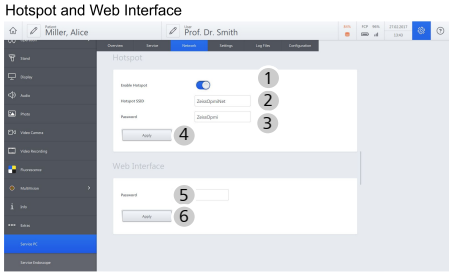
LAN Adapter and Ping Test



WLAN Adapter



Hotspot and Web Interface



Share Folder

DICOM

Figure 54: "Settings Service PC" menu, "Network" tab

Pos.	Name	Explanation
LAN adapter and ping		
1	Change Computer Name (after restart)	Change PC name (recommended), change takes effect after restart.
2	[Accept]	Confirm entry.
3	DHCP	Assign a network connection via DHCP.
4	IP Address	Specify IP address for LAN connection. **Attention:** Do not use any IP addresses from the following address ranges: ■ 192.168.173.xxx (used for the KINEVO 900 hotspot) ■ 192.168.100.xxx (used for an internal network connection with QEVO (optional))
5	Use DNS Server Address Automatically	The DNS server address is automatically activated with DHCP.
6	MAC Address	Display of MAC address.
7	[Accept]	Confirm entry.
8	IP Address	Enter IP address for ping test.
9	[Ping]	Start ping test.
WLAN Adapter		
1	Activate WLAN	WLAN corresponds to WPK2 / PSK.
2	Connect to SSID	Enter SSID (Service Set Identifier - also called network name).
3	Password	Enter the password.
4	DHCP	Assign a network connection via DHCP.
5	IP Address	Specify IP address for WLAN connection. **Attention:** Do not use any IP addresses from the following address ranges: ■ 192.168.173.xxx (used for the KINEVO 900 hotspot) ■ 192.168.100.xxx (used for an internal network connection with QEVO (optional))
6	Use DNS Server Address Automatically	The DNS server address is automatically activated with DHCP.
7	MAC Address	Display of MAC address.

Pos.	Name	Explanation
8	[Accept]	Confirm entry.
Hotspot and web interface		
1	Enable Hotspot	Switch on/off; first activate WLAN connection.
2	Hotspot SSID	Enter SSID (Service Set Identifier - also called network name).
3	Password	Enter password. Password see: Touchscreen / Status bar / Network / Display hotspot password.
4	[Accept]	Confirm entry.
5	Password	Factory setting: “ZEISS”.
6	[Accept]	Prerequisite: WLAN connection is activated. Confirm entry.
Network drive		
1	Activate	Activate network connection.
2	Host	Enter host name (sys. admin data).
3	User Name	Enter user name (sys. admin data).
4	Password	Enter password (sys. admin data).
5	Workgroup / Domain	Enter workgroup (sys. admin data).
6	Share Name	Enter share name (sys. admin data).
7	[Accept]	Confirm entry.
DICOM		
1	Station name	KINEVO 900 Enter own readable name (human readable).
2	AE title	KINEVO 900 AET (Application Entity Title) Own DICOM name.
3	Port	Preset.
4	MWL AE Title	Enter name of worklist (sys. admin data).
5	MWL Hostname	Enter host name (sys. admin data).
6	MWL Port	Preset.
7	Storage AE Title	Enter storage AE Title (sys. admin data).
8	Storage Hostname	Enter storage hostname (sys. admin data).
9	Storage Port	Preset.

Pos.	Name	Explanation
10	Institution Name	Enter name of clinic/institution.
11	[Accept]	Confirm entry.
12	[Test connection]	Test DICOM connection.

3.6.27.4 Service PC / Settings

⚙ Service PC - Settings

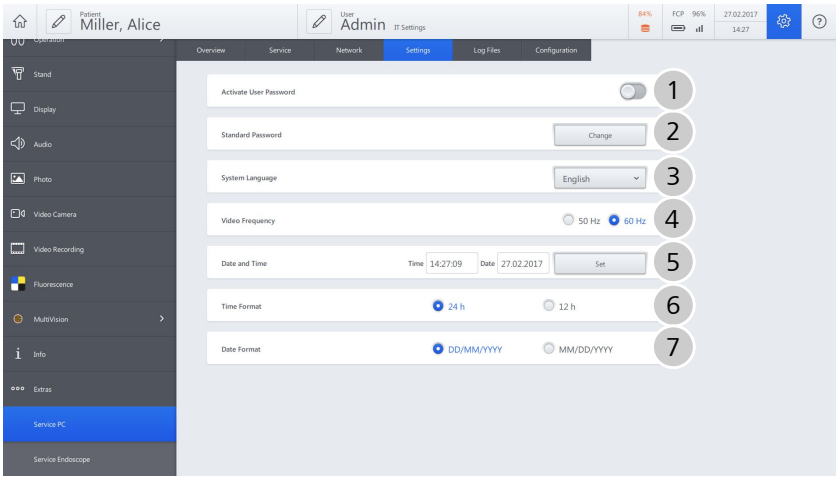


Figure 55: "Settings Service PC" menu, "Settings" tab

Pos.	Name	Explanation
1	Activate User Password	Activate / deactivate user password (default setting: activated).
2	Standard Password	Change standard password for all users.
3	System Language	Select System Language. The system language is applied before the successful user login and in the password-protected setting area.
4	Video Frequency	Set to 50 Hz or 60 Hz.
5	Date and Time	Set and [Accept].
6	Time Format	Select: 24h or 12h.
7	Date Format	Select: DD.MM.YYYY or MM/DD/YYYY.

3.6.27.5 Service PC / Log files

Service PC - Log files

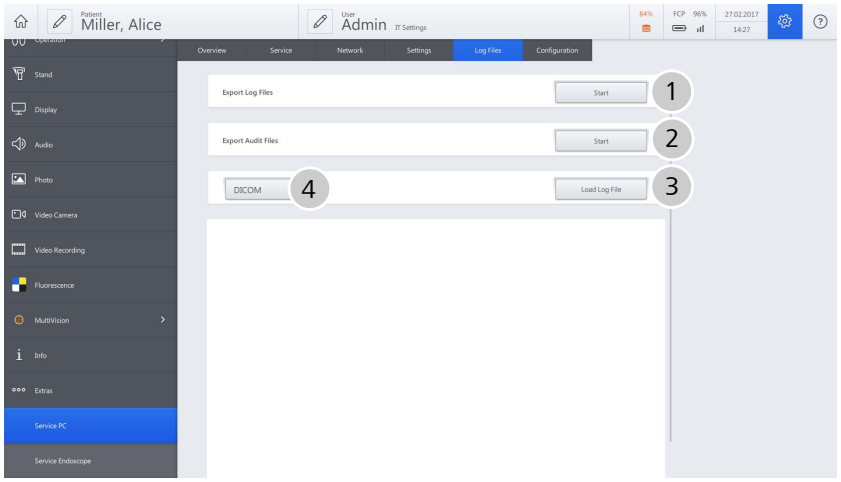


Figure 56: "Settings Service PC" menu, "Log Files" tab

Pos.	Name	Explanation
1	Export Log Files	Export log files to a USB storage device.
2	Export Audit Files	Export audit files to a USB storage medium.
3	[Load Log File]	Load log files from USB storage medium.
4	[DICOM]	Load Log Files from DICOM.

3.6.27.6 Service PC / Configuration

Service PC - Configuration

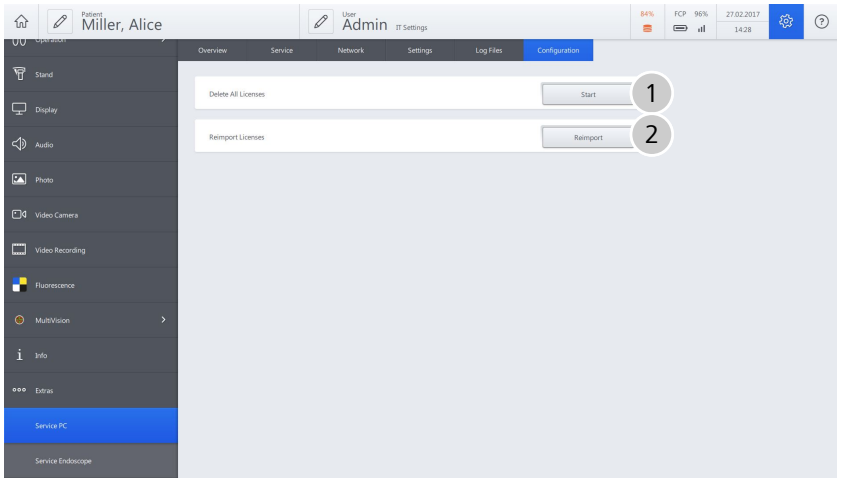


Figure 57: “Settings Service PC” menu, “Configuration” tab

Pos.	Name	Explanation
1	Delete All Licenses	Delete all licenses installed on the device.
2	Reimport Licenses	Reimport previously exported licenses.

3.6.27.7 ZEISS Smart Services

ZEISS Smart Services

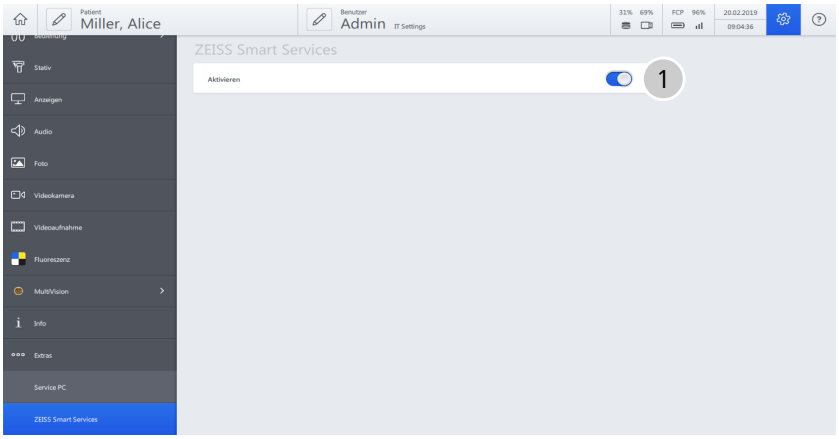


Figure 58: "ZEISS Smart Services settings" menu

Pos.	Name	Explanation
1	Activate	Activating ZEISS Smart Services

Empty page, for your notes

4 Installation

4.1 Requirements

Installation requires special knowledge and skills.
An installation by persons not authorized by ZEISS can lead to the injury of patients and operators, as well as to property damage.

Action

- ▶ Have the installation and initial startup performed only by persons authorized by ZEISS.

⚠ CAUTION!

Risk of injury caused by uncontrolled device movements.

The device may make uncontrolled swinging movements if the suspension arm and the surgical microscope are not in the transport position.

- ▶ Place the device in the transport position before moving it.

4.2 Attaching the tubes and eyepieces

The information in this paragraph only applies to the optional configuration of the microscope as a system for hybrid (optical-digital) visualization.

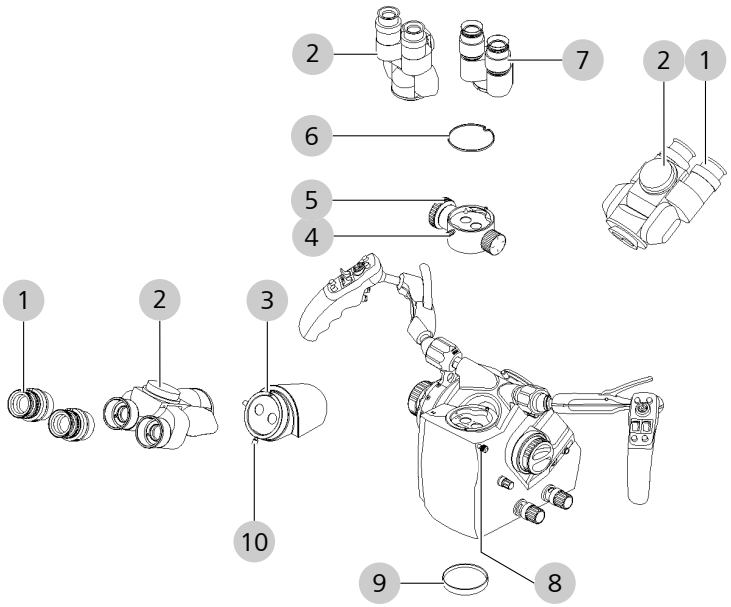


Figure 59: Attaching the tubes and eyepieces

1	Wide-field eyepieces	2	Tiltable tube, optional foldable tube
3	Angle optics (spine adapter)*	4	Fastening screw, magnification changer
5	Magnification changer, 3-position*	6	Dust protection cover
7	Straight tube	8	Fastening screw
9	Transport protection cover	10	Fastening screw, angle optics

* When assembling the microscope, be careful not to mount the 3-position magnification changer (item 5) and the angle optics (item 3) on the microscope body at the same time. In this case, the microscope body would be too heavy for the autobalance function.

NOTE

Wide-angle eyepieces with magnetic coupling!

Please keep in mind the usual rules for the handling of magnets with regard to eyepieces that have been removed from the tube:

- ▶ Do not place the eyepiece near instruments which may be magnetizable.
- ▶ Do not place the eyepiece on sensible devices such as infusion pumps, pacemakers, measuring devices or magnetic data media such as floppy disks, audio and video tapes or credit cards.
- ▶ Always store the eyepiece in its original packaging when not using it.

⚠ CAUTION!

Never stare directly into the sun or a light source with the tube!

An excessive light intensity can damage the retina of the eye.

- ▶ Never look at the sun or a light source through the eyepieces or the binocular tube.

⚠ CAUTION!

Risk of injury to the patient caused by lowering of the surgical microscope or falling parts!

Never change modules or permissible components during a surgical procedure or above the patient!

- ▶ Always make sure that the maximum permissible load is not exceeded
- ▶ Balance the completely equipped surgical microscope before each application.

Action

1. Unscrew the fastening screw on the microscope body several turns.
2. Remove the dust protection cover.
3. If necessary: Place the angle optics with dovetail (spine adapter) or the magnification changer (option) on the microscope body and tighten the fastening screw on the microscope body hand-tight.
4. Mount the binocular tube and tighten the fastening screw on the microscope body or on the angle optics with dovetail (spine adapter) hand-tight.
5. Insert widefield eyepieces as far as they will go in the mounts provided on the binocular tube.
6. Remove the transport protection cover from the objective lens.
7. Enter the tube focal lengths and eyepiece magnifications used in the “Settings Surgical Microscope” menu so that the device can calculate the correct total magnification.

4.3 Using an integrated 3D video system for observation without eyepieces (option)

The fully digital configuration of KINEVO 900 enables exclusively digital operation with an external 3D-video monitor. The optical co-observation through tubes and eyepieces cannot be used in this configuration. In the optional configuration as system for hybrid (optical digital) visualization, you have the possibility of using your KINEVO 900 in the digital system mode for a complete observation without an eyepiece.

In this case, the surgical field is displayed on the second 3D video monitor or on a separate, external 3D video monitor via the 3D video system. With this type of application, the magnification, and therefore the resolution on the monitor, is lower than it is when using the surgical microscope with tube and eyepieces.

⚠ CAUTION!

Do not use images and videos for diagnostic purposes!

The monitors are neither calibrated nor designed for diagnostic purposes.

- ▶ The video contents and images displayed on the monitors (cut sequences) must not be used for diagnostic purposes. They may contain deviations with respect to scale, shape, contrast and color.

To use the surgical microscope - which is configured for optional hybrid visualization - as a digital 3D video system for observation without eyepieces, proceed as follows:

Prerequisite

☑ The microscope is configured as a system for hybrid (optical-digital) visualization.

Action

1. Unscrew the fastening screw on the microscope body several turns.
2. Remove the binocular tube with the widefield eyepieces from the microscope body or from the angle optics with dovetail (spine adapter).
3. Remove the angle optics with dovetail (spine adapter) or the magnification changer (option) from the microscope body.
4. Place the Digiskop cover on the microscope body and tighten the fastening screw hand-tight.
5. Unscrew the fastening screw of the binocular assistant's tube several turns.
6. Remove the binocular assistant's tube with the widefield eyepieces from the microscope body.
7. Place the assistant's Digiskop cover on the microscope body and tighten the fastening screw hand-tight.
8. Switch the device on and log into the system software.
9. Tap on ⚙ Settings → Microscope → Tube [▶ 79].

10. Select the "Digital" option in the "System mode" field.
11. Leave "Settings" and check the image and color quality of the video display on the 3D video monitor.
    ⇨ If the image and color quality are perfect, you can start your operation.

⚠ WARNING!

Failure of digital image

If the 3D video system fails in the fully digital configuration and the image is no longer displayed on the 3D monitor, the system may no longer be used for the operation.

- ▶ Switch off the system and disconnect it from the power supply.
- ▶ Use a second device or magnifying glasses to finish your operation.
- ▶ Inform ZEISS Service and arrange for the defective system to be repaired.

4.4 Attaching the documentation/co-observer facility

The information in this paragraph only applies to the optional configuration of the microscope as a system for hybrid (optical-digital) visualization.

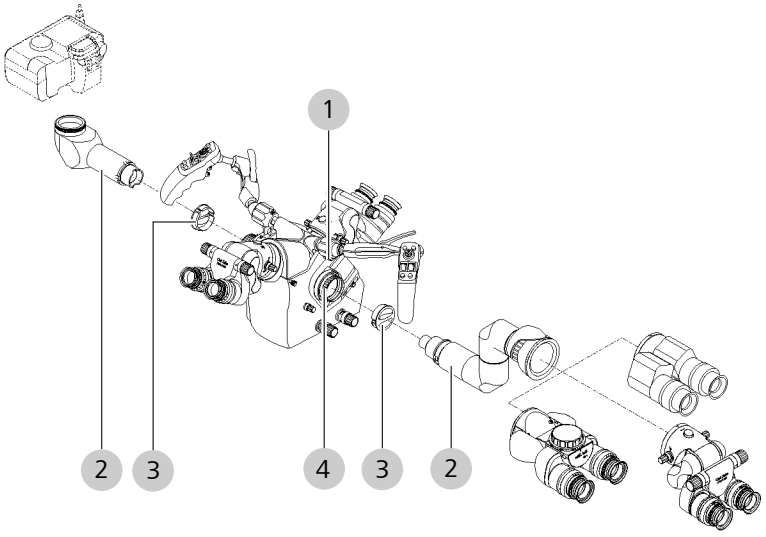


Figure 60: Attaching the documentation/co-observer facility

1	[Pivoting mirror] adjustment knob	2	Co-observation assembly e.g. photo adapter for DSLR or stereo co-observer
3	Dust cover	4	Knurled ring, right Opposite knurled ring on the left not shown

Action

1. Loosen the knurled ring concerned.
2. Remove the dust protection cap.
3. Push the co-observation module into the mount of the image output as far as it will go.
   The mount of the image exit port is fitted with guide projections.
4. Screw the knurled ring onto the co-observation module and tighten the knurled ring securely.
5. Set the [pivoting mirror] adjustment knob on the microscope body for the lateral co-observer connection .
6. Or configure the pivoting mirror setting on the monitor:
   Tap on Settings → Microscope → Tube [▶ 79].
7. In the [Co-observer (start value)] field, activate the function "Lateral".

4.5 Mounting the mouth switch

The information in this paragraph only applies to the optional configuration of the microscope as a system for hybrid (optical-digital) visualization.

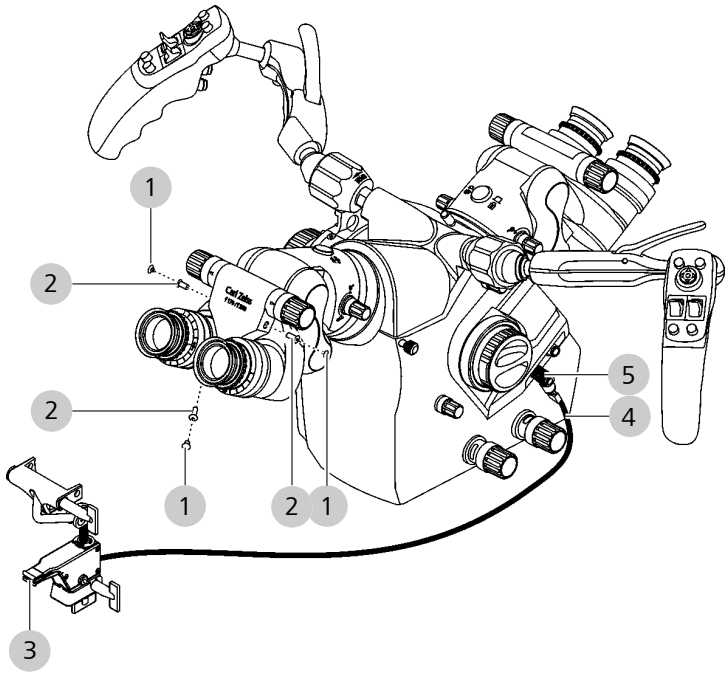


Figure 61: Mounting the mouth switch

1	Protective cap, 3 pcs	2	Fastening screw, 3 pcs
3	Mouth switch for 180° tiltable tube and foldable tube	4	Mouth switch cable with connector
5	Angle adapter for mouth switch		

Action

1. Remove the three protective caps from the tube.
   ⇨ Threads for attaching the mouth switch are located underneath the protective caps.
2. Position the mouth switch on the tube and attach it with three screws (included in the scope of supply).
3. Tighten the three screws hand-tight using a 4 mm Allen key.
4. Insert the mouth switch cable in the angle adapter for the mouth switch.
5. Connect the angle adapter for the mouth switch to the connection socket on the microscope.
6. Set the height, tilt and distance of the mouth switch via the relevant locking screws and properly tighten these screws.
7. Perform an autobalance for the system.
8. Press one of the brake release buttons on the back of the hand grips to activate the mouth switch.

Note:
Each time the device is rebooted, the mouth switch will be activated only after one of the brake release buttons on the back of the hand grips is pressed.

You will find an exact description of the mouth switch in the Instructions for Use of the Mouth Switch G-30-1469.

4.6 Moving the device

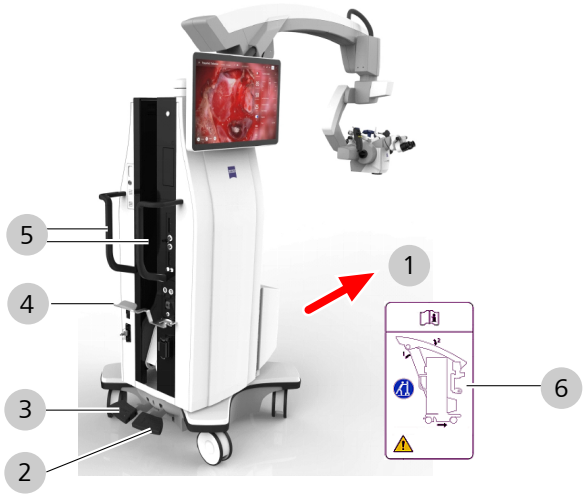


Figure 62: Moving the device

1	Transport direction	2	Locking mechanism tab
3	Pedal for straight-ahead movement	4	Holder for cable and foot control panel
5	Transport handles	6	Parking position [▶ 190]

⚠ CAUTION!

Risk of crushing!

Fingers may be crushed between the vertical arm and the horizontal arm.

- ▶ Never touch the area between the vertical arm and the horizontal arm while moving the device.
- ▶ Use the transport handles to move, push and position the device.

⚠ CAUTION!

Risk of toppling!

The device may topple over and injure persons when being moved over thresholds and obstacles.

- ▶ Be careful when pushing or pulling the device over thresholds.
- ▶ Push or pull the device **grasping it only by its transport handles** in the transport direction.
- ▶ Be extremely careful when moving over inclines.
- ▶ Do not park the device on sloped surfaces.

Action

1. Tap on Settings ⟶ Stand ⟶ and, in the -Move to park position field, ⟶the -Start button
2. To activate the travel, press the XY joystick button on the right handgrip to the right and hold it down until the park position has been reached. The joystick on the FCP also can be used to activate the travel.
3. The device now automatically travels to the park position.

   ⇨ When the park position has been reached, this is acknowledged by a signal tone.
4. Remove the power plug from the wall socket.
5. Hang the foot control panel on the holder provided for this purpose.
6. Hang the power cord on the holder provided for this purpose.
7. Release the locking button and push the device in the direction of the arrow (= transport direction).
8. Press the straight-ahead travel button:
   When steering the device over longer distances and in a straight-ahead direction.
9. When the locking button is pressed gently, all four castors again become steerable, e.g. in order to position the device at its usage site.
10. Press the locking button:
    For locking at the usage site or in a park position.

4.7 Connecting the device to the power supply

A yellow locking mechanism is attached to the power cord to prevent it from being accidentally disconnected.

Power cords in The Netherlands and Switzerland:
The power cords used in The Netherlands and Switzerland (order numbers: 000000-0603-410 and 000000-0584-947), do not have a locking mechanism. A potential equalization cable with a connector is attached to both ends of the power cord in each case.

⚠ CAUTION!

Danger! Electrical voltage!

When the power cord is connected to the power outlet, the device is in the Standby mode. The Standby/ON-OFF switch illuminates white.

- ▶ Since the connector of the power input socket is used as a disconnect device, the disconnect device must remain freely accessible.

⚠ CAUTION!

Protective ground connector!

To avoid the risk of electric shock, this device may only be connected to a power grid which is provided with a protective ground conductor (IEC 60601-1).

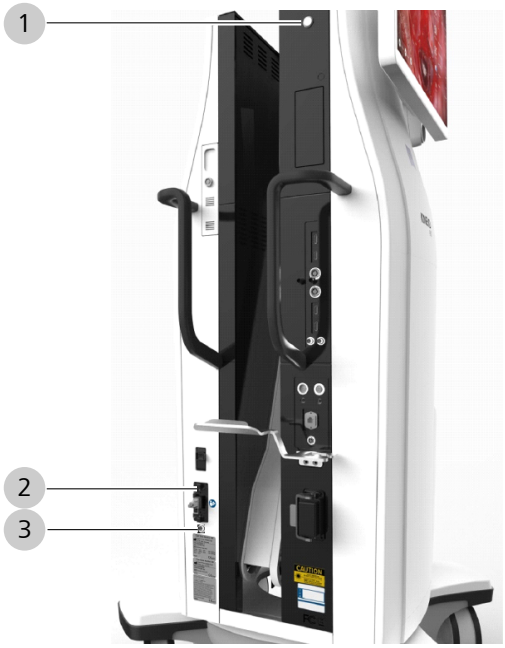
- ▶ Only connect the device to power outlets which are equipped with a properly connected protective ground conductor.

NOTE

Risk of tripping!

Inappropriately laid cables represent an increased risk of tripping and falling.

- ▶ Always route cables in such a manner that they do not obstruct your work.



1	"Device Power On/Off" operating button	2	Power input socket
3	Potential equalization connector		

Action

1. Press the yellow locking lever on the device-side connector and slide the connector of the power cord into the power input socket
   (exception: The power cord which is used in The Netherlands and Switzerland does not have a locking mechanism).
   ⇨ When the connector has been fully inserted and you let go of the locking lever, the power cord is secured against unintentional disconnection.
2. Plug the other connector of the power cord into the power outlet.
   ⇨ The "Device Power On/Off" operating button is illuminated white.
3. If required: connect the potential equalization connector to the equipotential bonding bar in the OR.

4.8 Switching the device on

1	"Device Power On/Off" operating button

Prerequisite

☑ The device is connected to the power supply [▶ 120]

Action

1. If you wish to use the following options, before switching the device on, make sure that either the LAN cable is connected or WLAN access to the hospital network has been obtained.
   - ZEISS Smart Services
   - Data storage on a jointly used network drive
   - Data exchange via DICOM
   - Connection of a navigation system via LAN directly or via clinic LAN
2. Push the "Switch system on/off" control key once (max. 1 second).
   - ⇨ The "Device Power On/Off" operating button is illuminated green.
   - ⇨ The operating system is booted.
   - ⇨ The device comes on and displays the start screen and is ready for operation.

* This option is not available in all countries.

4.9 Initial device login

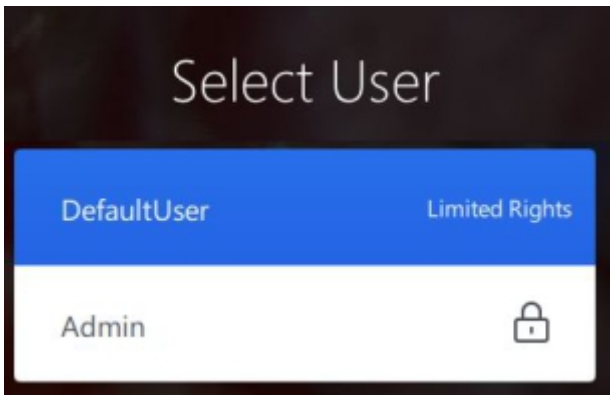
When you use the device for the first time, only the selections "DefaultUser" and "Admin" appear in the "Select User" selection window on the login screen. The "DefaultUser" user group has only limited rights. In order to be able to use the device to a full extent, you must create a new user during initial startup of the device.

Prerequisite

☑ The device is connected to the power supply [▷ 120] and switched on [▷ 122]

Action

1. Tap on the "DefaultUser" field in the "Select User" selection window.



   ⇨ The start screen opens.

   ⇨ In the status bar at the top of the screen, the "DefaultUser" appears in the "User" field.

2. Tap on the [DefaultUser] button.

   ⇨ The "Select User" selection window opens again.

   ⇨ The [Add User] button appears in the "Select User" selection window .

3. Tap on the [Add User] button and create a new user [▷ 201].

Result

✓ The next time you start the device, the user you have created will appear in the "Users" selection window. Now you can add new users [▷ 201], remove users [▷ 203], edit user data [▷ 202] etc.

4.10 Connecting the wired foot control panel or rocker foot switch

Figure 63: Connection sockets for foot control panel and rocker foot switch

1	Connection socket for foot control panel	2	Connection socket for rocker foot switch

Action

1. If you would like to connect a foot control panel, connect the cable of the foot control panel to the corresponding port on the device.
2. To check the preconfigured button assignment of the foot control panel, open the additional menu "Extended operation" on the right edge of the monitor screen and tap in the [Foot control panel] button.

   ⇨ The preconfigured button assignment is displayed.
3. To change the button assignment, tap on the [Change settings] button in the display window. Adapt the button assignment as required [▷ 181].
4. If you would like to connect a foot control panel, connect the cable of the rocker foot switch to the corresponding port for foot rocker switches on the device.
5. To check the preconfigured button assignment of the rocker foot switch, tap on Settings → Operation → ooo Rocker foot switch. Adapt the button assignment as required [▷ 182].

4.11 Pairing the wireless foot control panel with the device

You can use the "Pairing" function to assign the wireless foot control panel (FCB WL) to the device.

Prerequisite

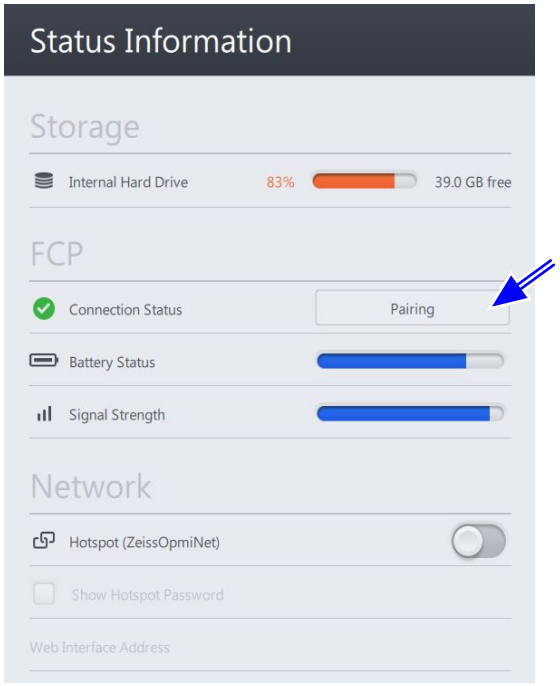
☑ Wireless foot control panel is switched on

Action

1. Tap on the [Status Information] button in the status bar.

⇨ The "Status Information" menu is displayed.

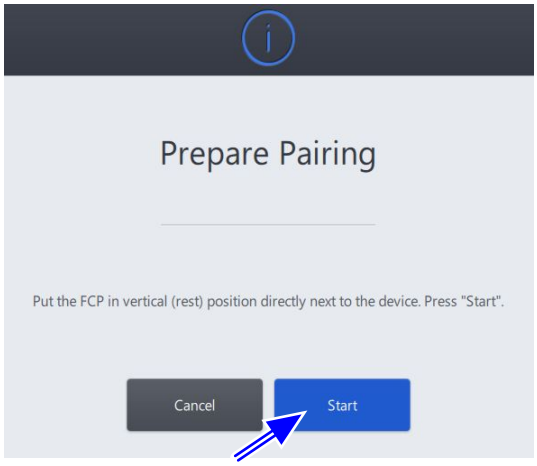
2. Tap on the [Pairing] button.



⇨ The "Prepare pairing" menu is displayed.

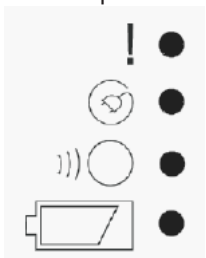
3. Follow the prompts on the screen. Put the foot control panel in a vertical position in the immediate vicinity of the device.

4. Tap on the [Start] button.



⇨ The message “Pairing of the device and the foot control panel in progress” is displayed.

5. “Press a button on the foot control panel until the third LED from the top flashes orange. Keep the foot control panel in a vertical position”.



⇨ Following successful pairing, a corresponding message appears on the screen: "Pairing was successfully completed. Place the foot control panel in a horizontal position and perform a function test. Use the wheel on the foot control panel to set the number specified on the stand."

6. Perform a function test. To do this, press any two buttons on the foot control panel.

⇨ The “Radio Connection Intensity” status display lights up green for approx. 1 second.

7. Use the rotary indicator on the foot control panel to set the number specified on the stand sticker and make the assignment of the paired foot control panel to this stand visible.

⚠ CAUTION!

Malfunction due to incorrect pairing!

If pairing is performed incorrectly or not at all, the foot control panel may be disabled or activation of a control may trigger functions on a different stand not assigned to the foot control panel.

- ▶ Check and label the assignments of the device and the foot control panel.

8. If pairing is unsuccessful, the "Radio Connection Intensity" status display lights up red for approx. 1s and one of the following messages appears:
   "Pairing could not be performed successfully. No foot control panel was detected."
   "Pairing could not be performed successfully. Several foot control panels were detected."
9. Repeat the "Pairing" procedure.

4.12 Connecting video systems and external monitors

⚠ CAUTION!

Risk of injury caused by electrical voltage.

Connecting unrecognized, defective or non-permitted accessories to live ports may result in electric shock.

- ▶ Connect only recognized, functioning and permitted accessories to live ports.
- ▶ When assembling your ME system, observe the requirements of IEC 60601-1 Chapter 16 or EN 60601-1-1.

You can connect the following external monitors to the device:

- Sony 55" 3D* monitor
  - Sony 55" 4K 3D monitor
  - Sony 55" HD 3D monitor

  Sony 55" 2D* monitor
  - Sony 55" 4K 2D monitor
  - Sony 55" HD 2D monitor
- Monitor of a third-party manufacturer [▶ 144]

* Sony monitors are not available in all countries.

The video ports are consecutively numbered from 1 to 16 on the device. The following ports are optionally available:

- 1: Available for 4K 2D option
- 1 and 2: Available for 4K 3D option
- 11 to 16: Available for 4K 2D / 3D option

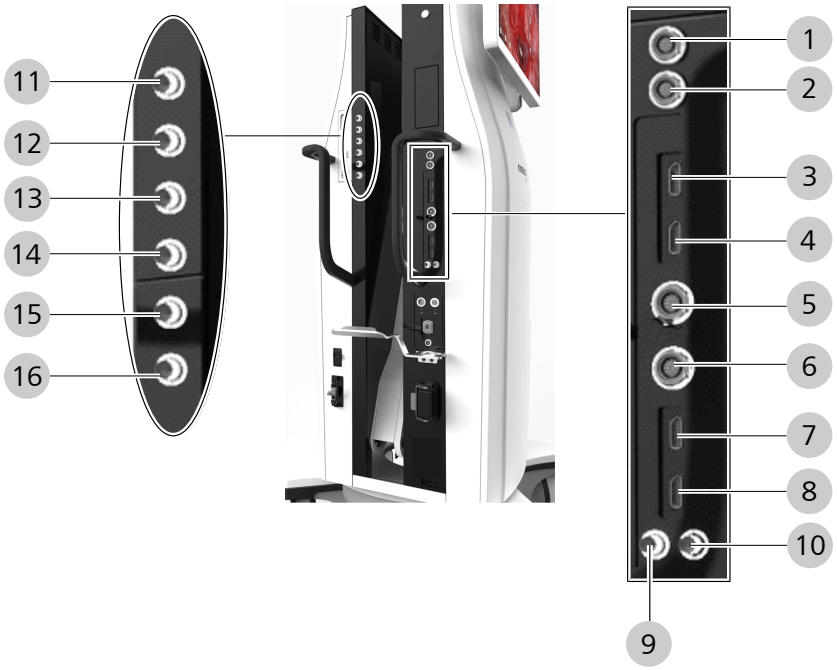


Figure 64: Video ports on the device

1	HDMI video output, left	2	HDMI video output, right
3	DP video input for navigation (MultiVision)	4	DP video input for navigation (MultiVision)
5	DVI video input for external video source**	6	DVI video output for external monitor
7	DVI camera signal video output (touchscreen live image)	8	DVI camera signal video output (touchscreen live image)
9	3G-SDI camera video output	10	3G-SDI camera video output
11	3G-SDI video output, left (2D/3D)	12	3G-SDI video output, left (2D/3D)
13	3G-SDI video output, left (2D)	14	3G-SDI video output, left (2D)
15	3G-SDI video output, right (3D)	16	3G-SDI video output, right (3D)

** Only external video sources with 16:9 format can be used.

4.12.1 Connecting video devices

Approved video cables are listed in product overview G-30-1888.

Action

1. Connect the external video devices to the corresponding video inputs and outputs of the device.
2. Connect the external video sources (e.g. the endoscope) to the corresponding video input of the device.
3. Read and observe the manufacturer's documentation in each case.

4.12.2 Connection of the 4K 3D monitor

You can connect the Sony monitor to the device via the SDI connection sockets or via the HDMI connection sockets.

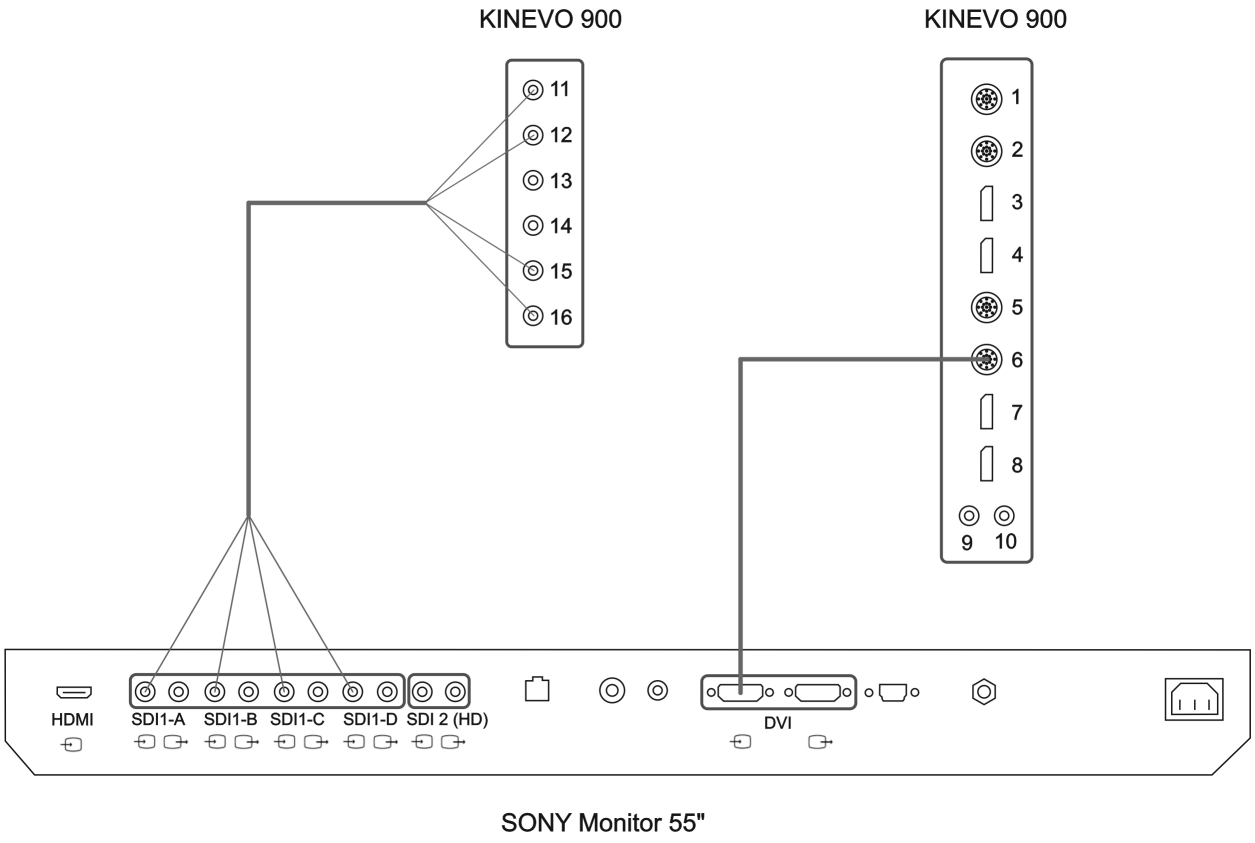


Figure 65: Connection options for Sony 55" 4K 3D monitor (LMD-X550MT), shown without HDMI connection

Connector ports	Device port	Monitor port	Video cable	Output signals
SDI	11 12 15 16	SDI 1-A SDI 1-B SDI 1-C SDI 1-D	Quad SDI cable, 10 m Order no.: 302584-8785-000	QuadSDI 3840x2160 50/60p (4xBNC)
HDMI	1 or 2	HDMI	HDMI cable, 5 m Order no.: 302584-8758-000	HDMI 2.0 3840x2160 50/60p (ODU)
DVI	6	DVI	DVI cable, 5 m Order no.: 305989-8698-000 DVI cable, 10 m Order no.: 305989-8667-000	DVI-D 1920x1080 50/60p (Lemo)

Table 3: Connection options for Sony 55" 4K 3D monitor

Connecting the device to the Sony 55" 4K 3D monitor

Prerequisite

☑ The device and Sony monitor are switched off.

☑ An approved video cable is available.

Action

1. Connect the system to the Sony monitor via the SDI connection sockets using 4K-Quad SDI cable.
2. Also connect the device to the Sony monitor via the DVI connection socket.
3. Set the Sony monitor to your desired display mode.

Setting the KINEVO 900

4. Switch the device on.
5. Tap on ⚙ Settings → 🖵 Displays [▶ 88].
6. Activate the "Application-specific" function in the "External monitor output" field.
7. Activate the "3D" function in the "Video format" field.

Setting the Sony 55" 4K 3D monitor

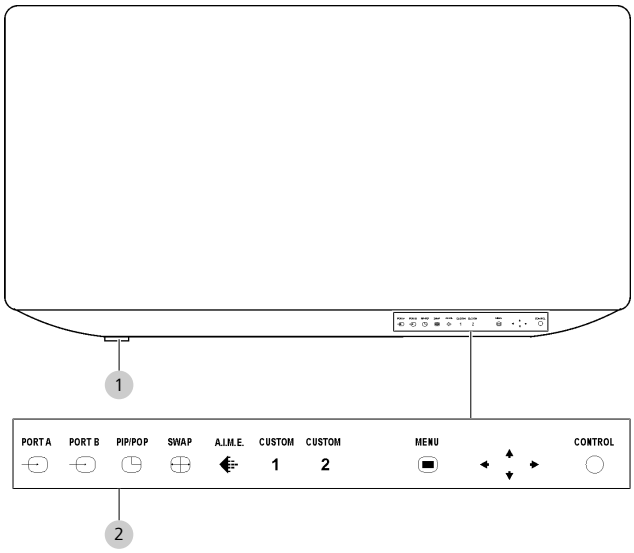
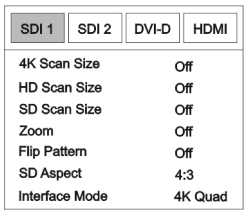


Figure 66: Sony 55" 4K 3D monitor control elements

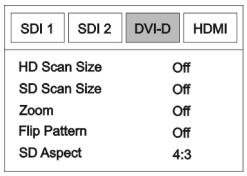
1	"Switch monitor on/off" control key	2	Setting functions

8. Push the green main switch on the top of the stand pillar of the monitor cart once.
   ⇨ The power supply for the Sony monitor is switched on.
9. Push the black "Switch monitor on/off" control key on the lower left edge of the monitor once.
   ⇨ The Sony monitor is switched on.
10. Push the [Control] button on the lower right edge of the monitor.
    ⇨ The setting functions are activated.
11. Press the [PORT A] button at the bottom edge of the Sony monitor once or twice.
    ⇨ Once the [PORT A] button is lit up in green, it is activated.
12. Set the input signal to "SDI1" using the UP and DOWN arrows.
13. Press the [PORT A] button again to exit the menu.
14. Press the [PORT B] button twice.
    ⇨ Once the [PORT B] button is lit up in green, it is activated.
15. Set the input signal at "DVI-D" using the UP and DOWN arrow keys.
16. Push the [PORT B] button again to exit the menu.
17. Push the [Menu] button once.
    ⇨ Once the [Menu] button is lit up in green, it is activated.
18. Select the "Screen Control" menu using the UP and DOWN arrows.

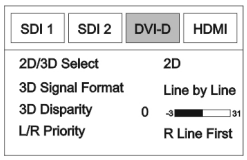
19. Push the [Select] button once.
20. Open the "SDI1" register using the LEFT and RIGHT arrows and set the following parameters:



21. Set the "Flip Pattern" function optionally to 180° (Face-to-Face).
22. Open the "DVI-D" register using the LEFT and RIGHT arrows and set the following parameters:



23. Push the [Menu] button once.
24. Select the "3D Setting" menu.
25. Open the "DVI-D" tab and set the following parameters:



26. Push the [Menu] button again to exit the menu.

Note:
The live image display of the INFRARED 800 with FLOW 800 Option fluorescence application and the QEVO digital exploration tool are superimposed by the white light image of the surgical microscope on the 4K 3D monitor. View these two applications only on the monitors attached to the device.

4.12.3 Connection of the 4K 2D monitor

You can connect the Sony monitor to the device via the SDI connection sockets or via the HDMI connection sockets.

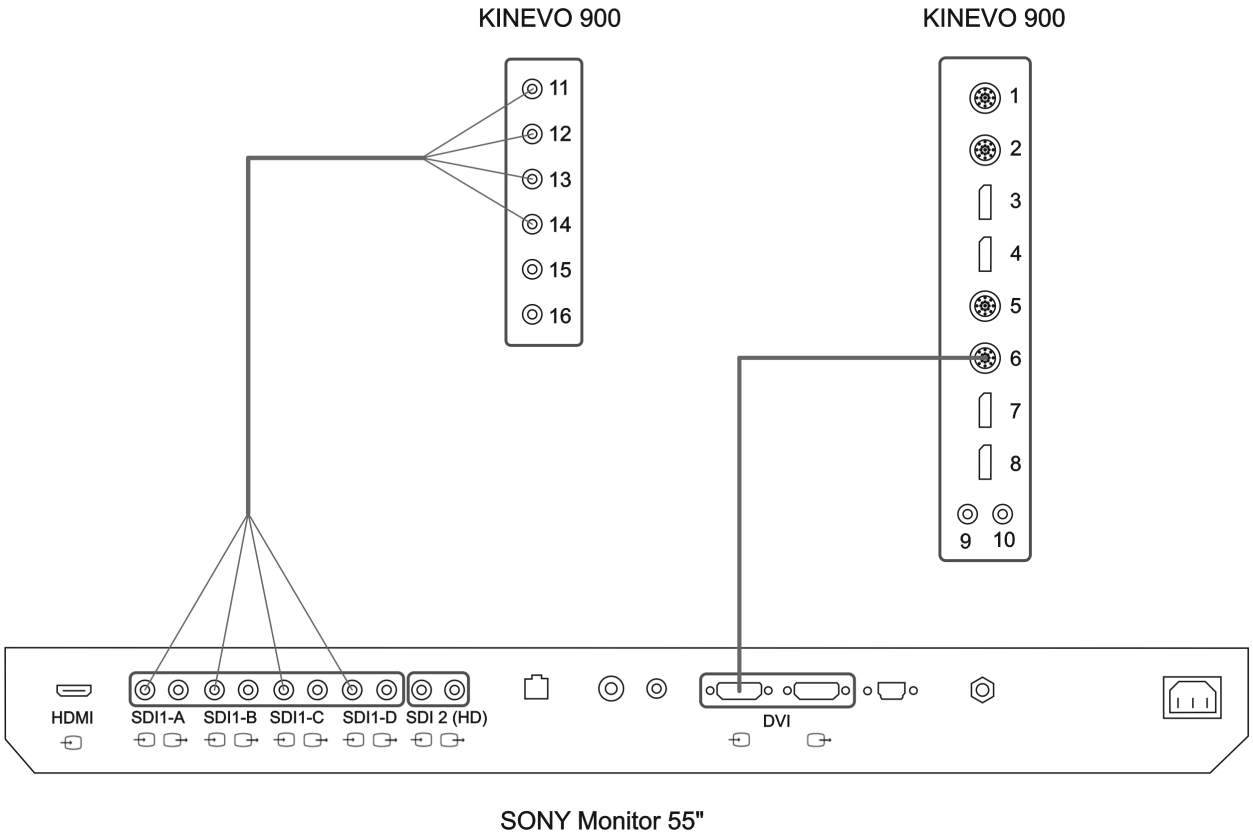


Figure 67: Connection options for Sony 55" 4K 2D monitor (LMD-X550MD), shown without HDMI connection

Connector ports	Device port	Monitor port	Video cable	Output signals
SDI	11 12 13 14	SDI 1-A SDI 1-B SDI 1-C SDI 1-D	Quad SDI cable, 10 m Order no.: 302584-8785-000	QuadSDI 3840x2160 50/60p (4xBNC)
HDMI	1 or 2	HDMI	HDMI cable, 5 m Order no.: 302584-8758-000	HDMI 2.0 3840x2160 50/60p (ODU)
DVI	6	DVI	DVI cable, 5 m Order no.: 305989-8698-000 DVI cable, 10 m Order no.: 305989-8667-000	DVI-D 1920x1080 50/60p (Lemo)

Table 4: Connection options for Sony 55" 4K 2D monitor

Connecting the device to the Sony 55" 4K 2D monitor

Prerequisite

☑ The device and Sony monitor are switched off.

☑ An approved video cable is available.

Action

1. Connect the device to the Sony monitor either via the SDI connection sockets or via the HDMI connection sockets.
2. Also connect the device to the Sony monitor via the DVI connection socket.

Setting the KINEVO 900

3. Switch the device on.
4. Tap on Settings → Displays.
5. Activate the "Application-specific" function in the "External monitor output" field.
6. Activate the "2D" function in the "Video format" field.

Setting the Sony 55" 4K 2D monitor

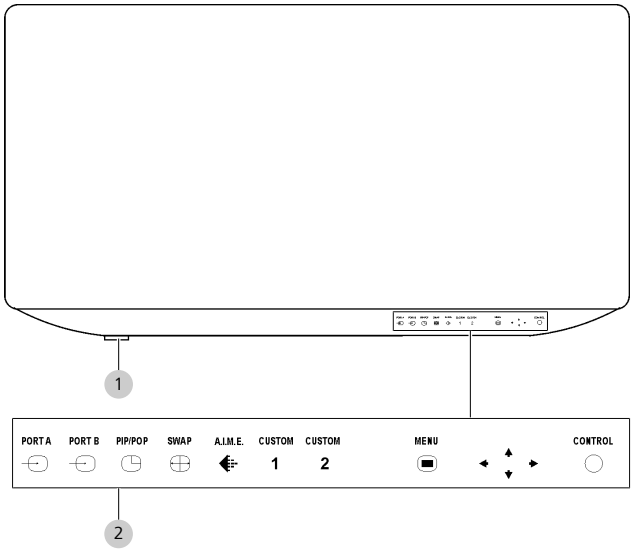


Figure 68: Sony 55" 4K 2D monitor control elements

1	"Switch monitor on/off" control key	2	Setting functions

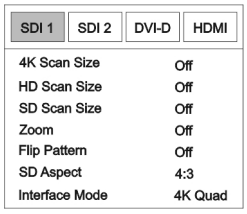
7. Push the green main switch on the top of the stand pillar of the monitor cart once.

   ⇨ The power supply for the Sony monitor is switched on.
8. Push the black "Switch monitor on/off" control key on the lower left edge of the monitor once.

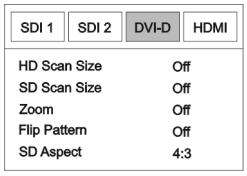
   ⇨ The Sony monitor is switched on.
9. Push the [Control] button on the lower right edge of the monitor.

⇨ The setting functions are activated.

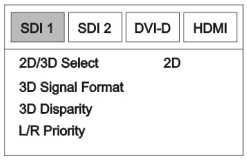
10. Press the [PORT A] button at the bottom edge of the Sony monitor once or twice.
    ⇨ Once the [PORT A] button is lit up in green, it is activated.
11. Set the input signal to "SDI1" using the UP and DOWN arrows.
12. Press the [PORT A] button again to exit the menu.
13. Press the [PORT B] button twice.
    ⇨ Once the [PORT B] button is lit up in green, it is activated.
14. Set the input signal at "DVI-D" using the UP and DOWN arrow keys.
15. Push the [PORT B] button again to exit the menu.
16. Push the [Menu] button once.
    ⇨ Once the [Menu] button is lit up in green, it is activated.
17. Select the "Screen Control" menu using the UP and DOWN arrows.
18. Push the [Select] button once.
19. Open the "SDI1" register using the LEFT and RIGHT arrows and set the following parameters:



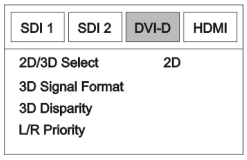
20. Set the "Flip Pattern" function optionally to 180° (Face-to-Face).
21. Open the "DVI-D" register using the LEFT and RIGHT arrows and set the following parameters:



22. Push the [Menu] button once.
23. Select the "3D Setting" menu.
24. Open the "SDI1" tab and set the following parameters:



25. Open the "DVI-D" tab and set the following parameters:



26. Push the [Menu] button again to exit the menu.

Note:
The live image display of the INFRARED 800 with FLOW 800 Option fluorescence application and the QEVO digital exploration tool are superimposed by the white light image of the surgical microscope on the 4K 3D monitor. View these two applications only on the monitors attached to the device.

4.12.4 Connection of the HD 3D monitor

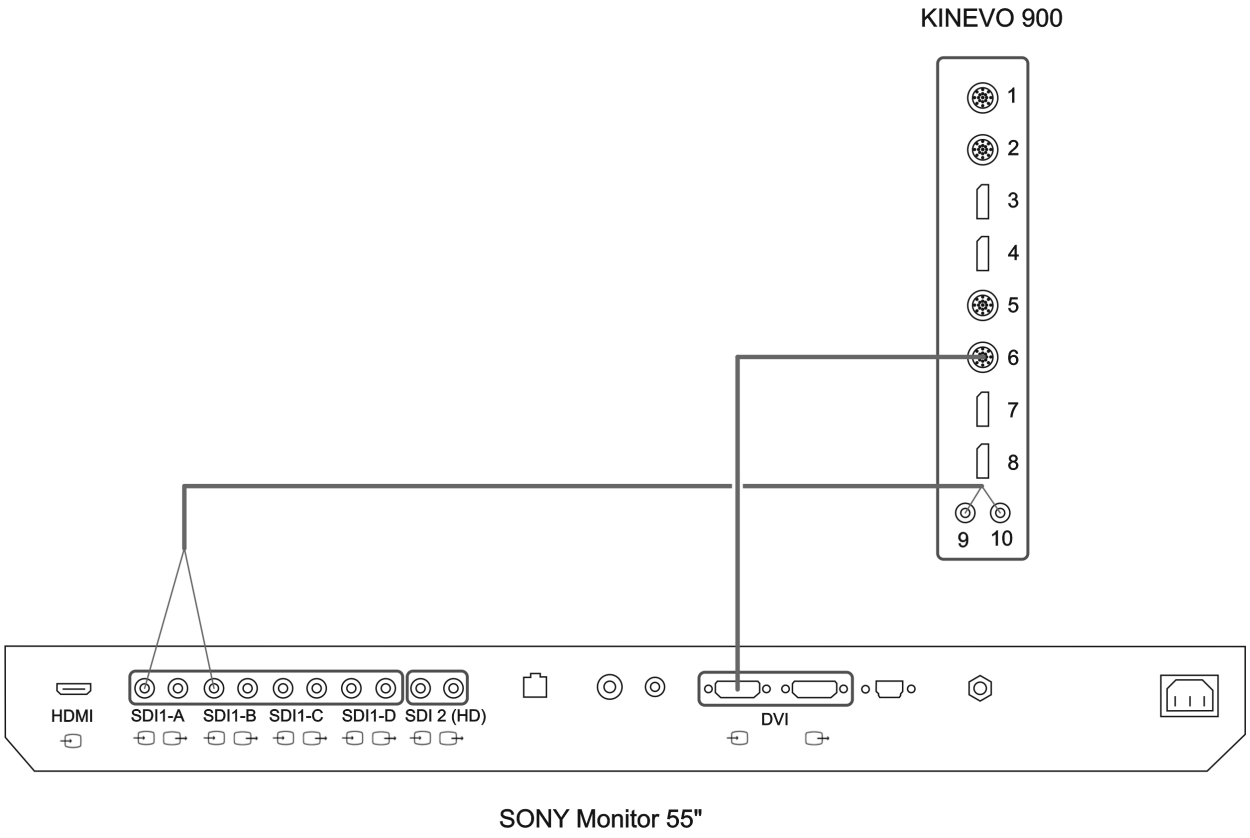


Figure 69: Connection options for Sony 55" HD 3D monitor

Connector ports	Device port	Monitor port	Video cable	Output signals
SDI	9 10	SDI 1-A SDI 1-B	SDI cable, 10 m Order no.: 305989-8764-000	3G-SDI or HD-SDI 1920x1080 50/60i/p ("Interlace" or "Progressive", selectable), 2xBNC
DVI	6	DVI	DVI cable, 5 m Order no.: 305989-8698-000 DVI cable, 10 m Order no.: 305989-8667-000	DVI-D 1920x1080 50/60p (Lemo)

Table 5: Connection options for Sony 55" HD 3D monitor

Connecting the device to the Sony 55" HD 3D monitor

Prerequisite

☑ The device and Sony monitor are switched off.

☑ An approved video cable is available.

Action

1. Connect the device to the Sony monitor via the SDI connection sockets.
2. Also connect the device to the Sony monitor via the DVI connection socket.

Setting the KINEVO 900

3. Switch the device on.
4. Tap on Settings → Displays [▷ 88].
5. Activate the "Application-specific" function in the "External monitor output" field.
6. Activate the "3D" function in the "Video format" field.

Setting the Sony 55" HD 3D monitor

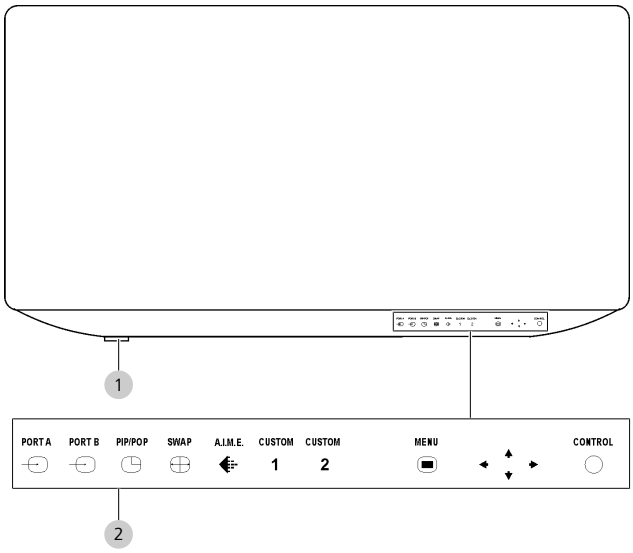
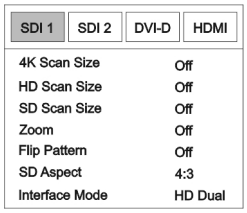


Figure 70: Sony 55" HD 3D monitor control elements

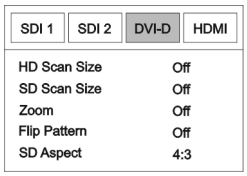
1	"Switch monitor on/off" control key	2	Setting functions

7. Push the green main switch on the top of the stand pillar of the monitor cart once.
   ⇨ The power supply for the Sony monitor is switched on.
8. Push the black "Switch monitor on/off" control key on the lower left edge of the monitor once.
   ⇨ The Sony monitor is switched on.

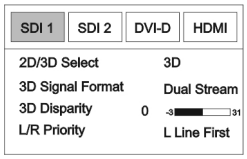
9. Push the [Control] button on the lower right edge of the monitor.
   ⇨ The setting functions are activated.
10. Press the [PORT A] button at the bottom edge of the Sony monitor once or twice.
    ⇨ Once the [PORT A] button is lit up in green, it is activated.
11. Set the input signal to "SDI1" using the UP and DOWN arrows.
12. Press the [PORT A] button again to exit the menu.
13. Press the [PORT B] button twice.
    ⇨ Once the [PORT B] button is lit up in green, it is activated.
14. Set the input signal at "DVI-D" using the UP and DOWN arrow keys.
15. Push the [PORT B] button again to exit the menu.
16. Push the [Menu] button once.
    ⇨ Once the [Menu] button is lit up in green, it is activated.
17. Select the "Screen Control" menu using the UP and DOWN arrows.
18. Push the [Select] button once.
19. Open the "SDI1" register using the LEFT and RIGHT arrows and set the following parameters:



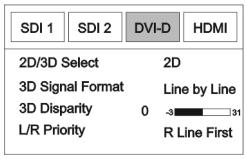
20. Set the "Flip Pattern" function optionally to 180° (Face-to-Face).
21. Open the "DVI-D" register using the LEFT and RIGHT arrows and set the following parameters:



22. Push the [Menu] button once.
23. Select the "3D Setting" menu.
24. Open the "SDI1" tab and set the following parameters:



25. Open the "DVI-D" tab and set the following parameters:



26. Push the [Menu] button again to exit the menu.

Note:
The live image display of the INFRARED 800 with FLOW 800 Option fluorescence application and the QEVO digital exploration tool are superimposed by the white light image of the surgical microscope on the 4K 3D monitor. View these two applications only on the monitors attached to the device.

4.12.5 Connection of the HD 2D monitor

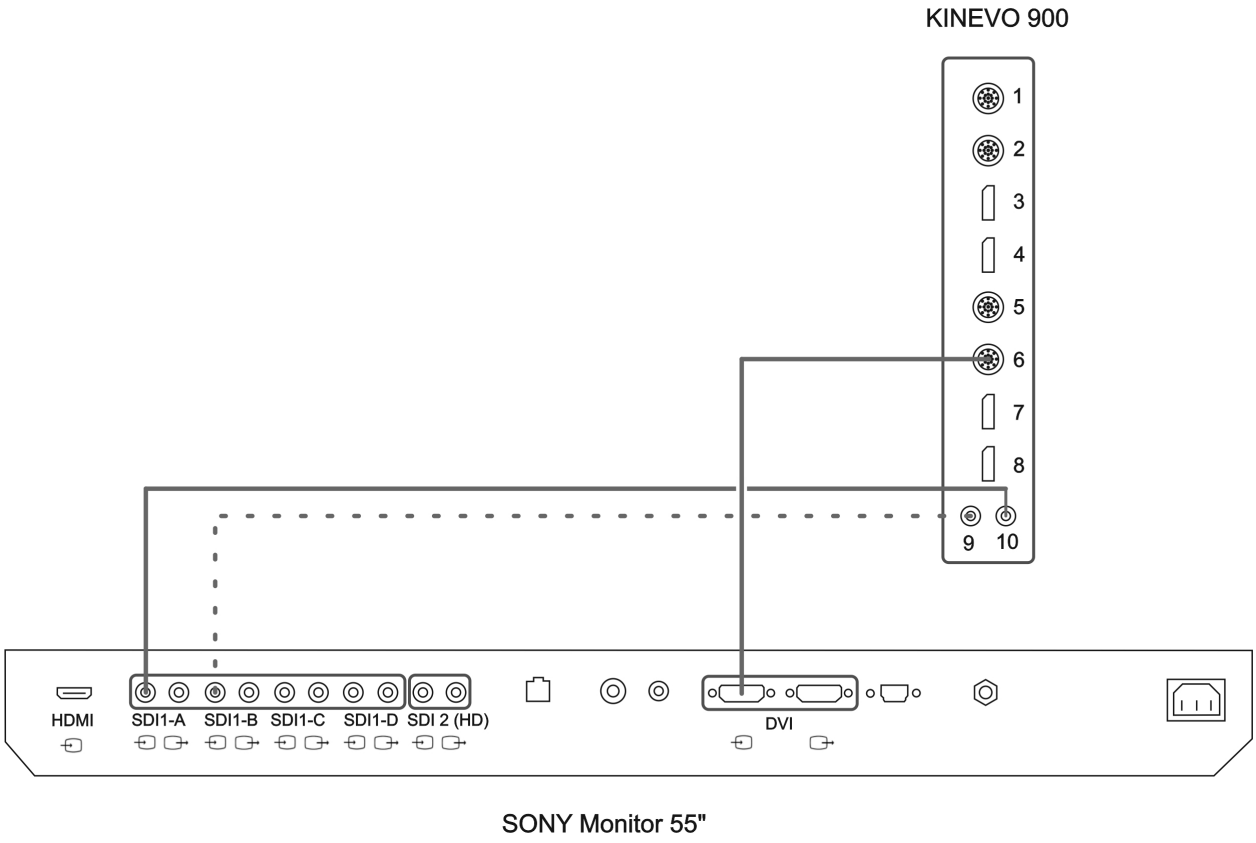


Figure 71: Connection options for Sony 55" HD 2D monitor

Connector ports	Device port	Monitor port	Video cable	Output signals
SDI	9 or 10	SDI 1-A	SDI cable, 10 m Order no.: 305989-8764-000	3G-SDI or HD-SDI 1920x1080 50/60i/p ("Interlace" or "Progressive", selectable), 2xBNC
DVI	6	DVI	DVI cable, 5 m Order no.: 305989-8698-000 DVI cable, 10 m Order no.: 305989-8667-000	DVI-D 1920x1080 50/60p (Lemo)

Table 6: Connection options for Sony 55" HD 2D monitor

Connecting the device to the Sony 55" HD 2D monitor

Prerequisite

☑ The device and Sony monitor are switched off.

☑ An approved video cable is available.

Action

1. Also connect the device to the Sony monitor via the SDI connection socket.
2. Also connect the device to the Sony monitor via the DVI connection socket.

Setting the KINEVO 900

3. Switch the device on.
4. Tap on Settings → Displays.
5. Activate the "Application-specific" function in the "External monitor output" field.
6. Activate the "2D" function in the "Video format" field.

Setting the Sony 55" HD 2D monitor

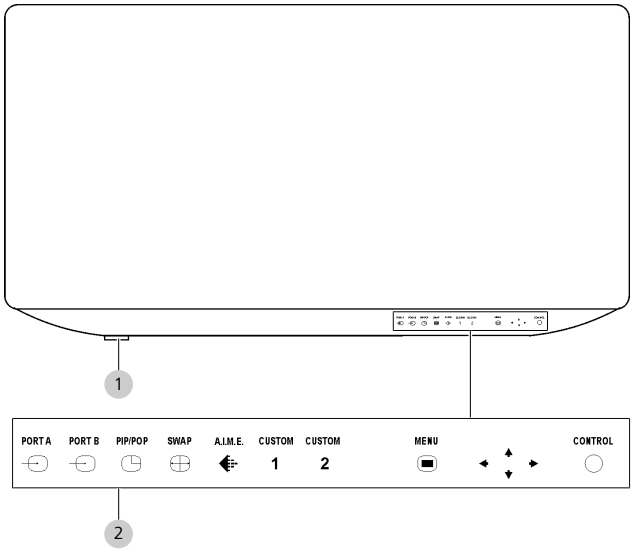


Figure 72: Sony 55" HD 2D monitor control elements

1	"Switch monitor on/off" control key	2	Setting functions

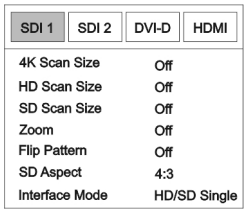
7. Push the green main switch on the top of the stand pillar of the monitor cart once.

   ⇨ The power supply for the Sony monitor is switched on.
8. Push the black "Switch monitor on/off" control key on the lower left edge of the monitor once.

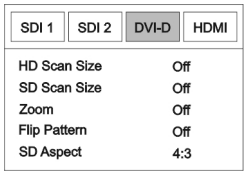
   ⇨ The Sony monitor is switched on.
9. Push the [Control] button on the lower right edge of the monitor.

⇨ The setting functions are activated.

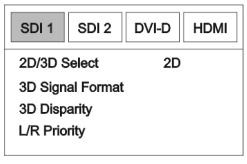
10. Press the [PORT A] button at the bottom edge of the Sony monitor once or twice.
    ⇨ Once the [PORT A] button is lit up in green, it is activated.
11. Set the input signal to "SDI1" using the UP and DOWN arrows.
12. Press the [PORT A] button again to exit the menu.
13. Press the [PORT B] button twice.
    ⇨ Once the [PORT B] button is lit up in green, it is activated.
14. Set the input signal at "DVI-D" using the UP and DOWN arrow keys.
15. Push the [PORT B] button again to exit the menu.
16. Push the [Menu] button once.
    ⇨ Once the [Menu] button is lit up in green, it is activated.
17. Select the "Screen Control" menu using the UP and DOWN arrows.
18. Push the [Select] button once.
19. Open the "SDI1" register using the LEFT and RIGHT arrows and set the following parameters:



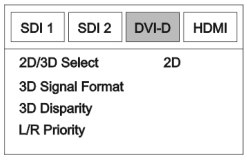
20. Set the "Flip Pattern" function optionally to 180° (Face-to-Face).
21. Open the "DVI-D" register using the LEFT and RIGHT arrows and set the following parameters:



22. Push the [Menu] button once.
23. Select the "3D Setting" menu.
24. Open the "SDI1" tab and set the following parameters:



25. Open the "DVI-D" tab and set the following parameters:



26. Push the [Menu] button again to exit the menu.

Note:
The live image display of the INFRARED 800 with FLOW 800 Option fluorescence application and the QEVO digital exploration tool are superimposed by the white light image of the surgical microscope on the 4K 3D monitor. View these two applications only on the monitors attached to the device.

4.12.6 Connecting the monitor of a third-party manufacturer

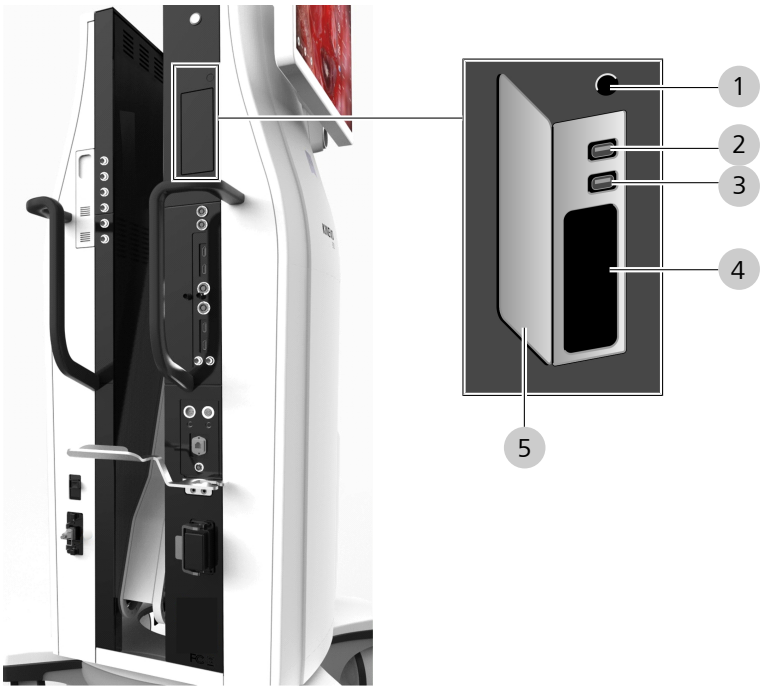
Prerequisite

☑ The device and third-party-manufacturer monitor are switched off

Action

1. Read and observe the monitor manufacturer's documentation.
2. Connect the monitor to the corresponding connection sockets of the device [▶ 48] with approved video cables.
3. Set the monitor to your desired display mode. Read and observe the monitor manufacturer's documentation for this purpose.

4.13 Connecting USB storage media



1	Push button for opening the USB flap	2	USB port (USB 3.0)
3	USB port (USB 3.0)	4	Shelf for USB storage medium
5	Flap		

NOTE

Damage resulting from connecting the device to an external storage device (USB storage device) or an external network.

Connecting the device to external storage devices or networks may permit viruses to be transferred to the device or may grant viruses unauthorized access to the system.

- ▶ Use only ZEISS-approved USB storage media
- ▶ Check that the USB storage medium is free from viruses. The operator is responsible for security.
- ▶ Protect the network by using suitable safeguards (e.g., firewalls) against unauthorized access.

Action

1. Press the push button
   ⇨ The flap opens
2. Connect the USB storage medium to USB ports and deposit the USB storage medium in the shelf.

Note:
The device detects only one USB storage medium if two USB storage media are connected.

3. Make sure that only the USB storage medium to which you want to save your data is connected.
4. To remove the USB storage medium again, tap on the "Status Information" field in the status bar.
5. Tap on the [Eject] button in the "USB" field.
6. Remove the USB storage device.

4.14 Configuring the network (possible only with IT admin password)

NOTE

Damage resulting from connecting the device to an external storage device (USB storage device) or an external network.

Connecting the device to external storage devices or networks may permit viruses to be transferred to the device or may grant viruses unauthorized access to the system.

- ▶ Use only ZEISS-approved USB storage media
- ▶ Check that the USB storage medium is free from viruses. The operator is responsible for security.
- ▶ Protect the network by using suitable safeguards (e.g., firewalls) against unauthorized access.

You can connect the device to your hospital network in order to export patient data to your network or to a DICOM server or in order to import patient data from a DIOCOM worklist.

IT admin system rights

The following settings and configurations can be performed only by authorized users who have the IT admin password required for this purpose. On activation of the rights for IT system administration, an input window is opened where the password for the IT system rights must be entered. The IT ADMIN password is contained in a sealed red envelope included in the scope of supply.
If you have forgotten the IT admin password, contact ZEISS Service. You can find the ZEISS contact person for your country on the Internet at the following website: www.zeiss.com/med.

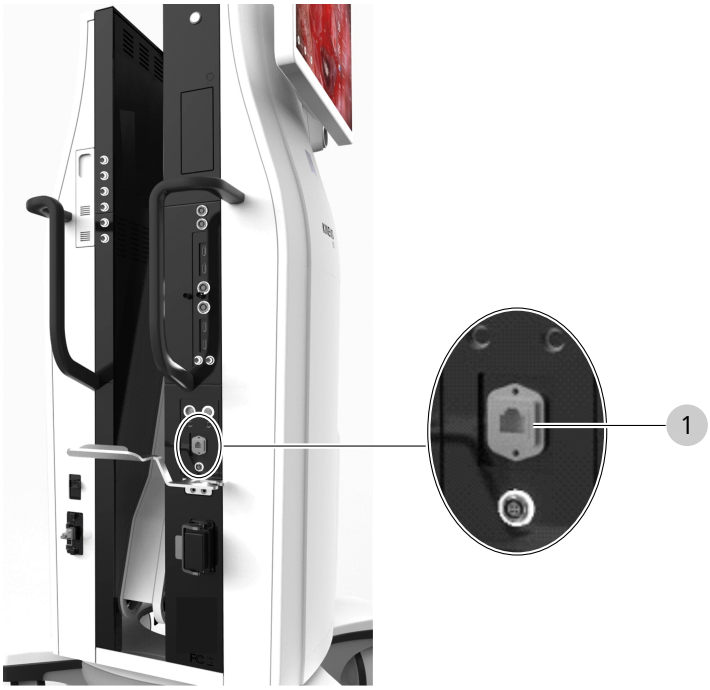
4.14.1 Activating IT admin system rights

Action

1. Tap on the button [User] ⟶ [Admin].
2. Enter the IT admin password.
   The IT admin password is contained in a sealed red envelope included in the scope of supply.
3. Tap on the [OK] button  .
   ⇨ The IT admin system administrator is displayed in the status bar.

4.14.2 Activating the network connection via LAN adapter

The Ethernet port (LAN) on the device contains a network isolator as per IEC 60601-1 that galvanically decouples the Ethernet connection between the network and the device.



1	Network/Ethernet connection (LAN)

Prerequisite

☑ The device is connected to the respective network via a network cable

Action

1. Tap on ⚙ Settings → Service PC → Network.
2. Enter the appropriate data.
3. Tap on the [Apply] button.

Result

✓ The LAN connection is active.

4.14.3 Activate network connection via wireless LAN (option)

As soon as the WLAN adapter has been activated, you can connect the device to your network via WLAN or set up and activate the device as a hotspot [▶ 149].

You only have to enter the IP and DNS address data for your WLAN once, as these values are stored.

Prerequisite

☑ WIFI corresponds to WPA2/PSK

Action

1. Tap on ⚙ Settings ⟶ Scroll down in the Settings menu ⟶ Service PC ⟶ Network ⟶ Scroll down in the Network menu ⟶ WLAN Adapter.
2. Activate the "Activate WLAN" slide switch.
   ⇨ The WLAN adapter is activated.
   ⇨ Now you can connect the device to your network via WLAN (see description below), or set up and activate the device as a hotspot [▶ 149].
3. When connecting the device to your WLAN for the first time, you must enter all of the required values (steps 4-6).
4. Enter the SSID network name and the password for your WLAN.
5. If your network has a DHCP server, activate the [DHCP] button.
   ⇨ The functions "DHCP" and "Obtain DNS server address automatically" are activated together  .
   ⇨ All required values are filled out by the DHCP server.
6. If no DHCP server is currently available, enter all of the required IP and DNS address data manually.
7. Tap on the [Apply] button.

Result

✓ The device connects to your WLAN.

* This option is not available in all countries.

4.14.4 Creating and activating the device as a hotspot

As soon as the WLAN adapter has been activated, you can define and activate the device as a hotspot.

The "IT Admin" user group must activate the hotspot so that the "Default Users" and "Users" user groups can use the device as a hotspot.
When the device is shut down, the hotspot function is switched off again.
After each reboot of the device, the "Default Users" and "Users" user groups can activate the hotspot function on the device [▶ 237].

You only have to set up the device as a hotspot once. The values you have entered will be stored.

Prerequisite

☑ WLAN adapter is activated [▶ 148]

Action

1. Tap on ⚙ Settings ⟶ Scroll down in the Settings menu to ⟶ Service PC ⟶ Network ⟶ Scroll down in the Network menu to ⟶ Hotspot.
2. Activate the [Enable Hotspot] slide switch.
   ⇨ If the device has already been set up as a hotspot, it now can be used as a hotspot [▶ 237]. by the "Default Users" and "Users" user groups.
3. When setting up the device as a hotspot for the first time, enter the SSID hotspot name and the password for this hotspot. Make sure that you assign a separate SSID hotspot name to each device to ensure that the desired hotspot can be correctly controlled.
4. Tap on the [Apply] button.

Result

✓ Now the device can be used as a hotspot [▶ 237] by the "Default Users" and "Users" user groups.

* This option is not available in all countries.

4.14.5 Activating the web interface in the device

If the device is set up as a hotspot and is activated, the "IT Admin" user group can define a password for the web interface which can be used to access patient data from an external device.

Prerequisite

- ☑ WLAN adapter is activated [▶ 148]
- ☑ Device was set up and activated as a hotspot [▶ 149] by the "IT Admin" user group

Action

1. Tap on ⚙ Settings ⟶ Scroll down in the Settings menu to ⟶ Service PC ⟶ Network ⟶ Scroll down in the Network menu to ⟶ Web interface.
2. Enter the password for the web interface.
3. Tap on the [Apply] button.

Result

- ✓ Now the "Default Users" or "Users" user group can connect to the activated web interface [▶ 238] from an external device in order to access patient data.

* This option is not available in all countries.

4.14.6 Network drive (network storage)

Enables the storage of patient data (still images and videos) in a shared network drive folder.

Prerequisite

- ☑ The hospital server supports the "Server Message Block (SMB)" and/or "Common Internet File System (CIFS)" protocols
- ☑ The device is connected to the respective network via LAN or WLAN

Action

1. Tap on ⚙ Settings ⟶ Service PC ⟶ Network ⟶ Scroll down in the "Network menu" ⟶ Network drive.
2. Place a check mark in the "Activate" box.
3. Enter the host name, user name, password, workgroup and share name.
   You will receive this information from your IT system rights administrator.
4. Tap on the [Apply] button.

Result

- ✓ The network connection is active.