SIDICOM PS

Installation and Operator's Manual
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1 General

SIDICOM PS is a plug-in for SIDEXIS XG.
SIDICOM PS enables X-ray exposures to be printed as single and multi-image printouts as well as printing entire odontograms.
In addition to single images, complete examinations and report pages can be printed.

NOTICE

Multi-image print
SIDICOM PS does not support multi-image prints. Examinations can be used as an alternative.
2 Installing and uninstalling the software

2.1 Installing the software

**NOTICE**

Licensing

You will be prompted to license the program by entering your registration number during the installation. If you do not license the program, it starts in demo mode.

You can start the program in the demo mode only 200 times.

1. Insert the CD-ROM included in delivery in the drive.  
   - The installation program starts.
2. Then simply proceed as prompted by the installation program.  
   - SIDICOM PS was installed.

2.2 Update of DICOM Print Interface 1.5

If you have already configured printers in a predecessor version, you can continue using them in SIDICOM PS.

Stopping print servers

1. Right-click the Print Server icon. You can find this icon in the notification area of the Windows taskbar.  
   - The context menu opens.
2. Click on "Shutdown".  
   - Print Server is stopped.

Preparing an update

1. Copy the configuration files (with the cfg extension) from the "config" program folder to your local file system.
2. Select the menu command "Utilities/Configure [s]ystem..." in SIDEXIS XG.
3. Click on the "Service" button.
4. In the database area, click on the "Partners" button.
5. Delete the entry PRNSRV (SLIDA partner).
6. Close the service area.
7. Remove the program from the Windows Autostart folder.
8. Delete the installation path (standard: C:\Sirona\prnsrv).

Installing the software

1. Install SIDICOM PS 2.0 as described in the Chapter "Installing the software" [→ 4].
2. Copy the backed-up configuration files to the new program folder "config".
2.3 Uninstalling SIDICOM PS

1. Delete the folder “SIDICOM PS” at the Windows file level.

NOTICE

New functionalities
The old configurations apply only to a film format or an image type.
3 Configuring printers

You can set the following parameters via the configuration:

- **IP-Adresse**
  - IP address of the printer

- **Port**
  - Printer port

- **SIDICOM PS AE Title**
  - Name of printer server for identification
  - The title is freely selectable

**NOTICE**

The title can generally be freely selected unless your DICOM administrator has assigned other directives in the network.

➢ Contact your DICOM administrator.

- **Printer AE Title**
  - Name of the selected communication partner (printer)
  - Obtain the AE title from the respective printer configuration or ask your DICOM administrator.

- **Priority**
  - Priority of print job
  - Selection possibilities: High, Medium, Low

- **Medium**
  - Printing medium for the print job
  - Selection possibilities: Paper, Clear Film, Blue Film, Current

- **Distination**
  - Magazines for stored films
  - Processor for printed films

- **Printer resolution**
  - Resolution of printer

- **Supports 12-bit**

  The maximum resolution SIDEXIS can offer is 12 bits. Likewise, in SIDICOM PS, a maximum of 12 bits can be processed. When using this option, the bit depth is set and transferred from the SIDICOM PS spooler to the printer.
  - Activated: Printer supports 12 bits
  - Deactivated: Printer does not support 12 bits

- **SIDEXIS Header / Footer**
3.1 Changing the printer settings

1. Click the "Printer" tab.

2. Select an available printer from the "Available printers" list.

3. Edit the settings for "IP-Adress", "Port", "SIDICOM PS AE Title" and "Printer AE Title".

4. Click the "Test DICOM Link" button to test the connection to the printer.

5. Edit the settings for "Priority", "Medium", "Distination" and "Printer resolution".

6. Activate "Supports 12-bit" if necessary.

7. Click the "Save" button.
   The settings are saved.

- Activated: The area for the header and page footer is used by SIDEXIS.
- Deactivated: The area for the header and page footer may also be used by the printer.

- Ensure ruler while printing
  - Activated: When printing, this ensures that a ruler is visible.
  - Deactivated: When printing, a ruler is only also printed if it has been previously activated.
3.2 Changing the film settings

**NOTICE**

Some printers accept printouts that are too large, but do not print them or display an error message. If your printer is accessible ("Test DICOM Link") but refuses to print, check the printing matrix.

**Film formats**

The "Film formats" window displays the possible formats of the printer selected under "Printer".

**Printer Matrix**

Setting the printer: see "Printer matrices".

**Orientation**

The display of the portrait/landscape format depicts the settings in the "Printer Matrix" area.

You cannot change between portrait and landscape format via the displays.

**Film parameters**

Options:

- "Full film size"
- The entire potential print area is taken advantage of.
- "Minimal height (DIN A4)"
- The printout is restricted to DIN A4 format.
- "Minimal height (US Letter)"
- The printout is restricted to US letter format.

**Test printout**

Press the "Print Test Page" button.

A test image with the parameters applied is printed on the respective printer.

1. Click the "Film" tab.
2. Select an available printer from the "Printer" picklist.
3. Select a format from "Film formats".
4. Edit the settings.
5. Click on the "Save" button.
3.3 Adapting the printer matrix

Obtain the values for the printer matrix from the respective printer configuration or ask your DICOM administrator. If these values are not available, first check the values of a comparable printer and a comparable film format. The values set for the printing matrix must be exactly correct in order to ensure high-quality printouts. A deviation of only a few pixels can lead to artifacts and distortions in the printouts. Some printers scale the image if the printing matrix has been set too small or too large. A 1:1 printout can then no longer be ensured. Be sure to check the adjusted values.

**NOTICE**

**X and Y printer matrices**

Check the settings for the X and Y values consecutively according to the principle explained here.

**Checking the printer matrix**

1. Start the SIDICOM PS configuration.
2. Click on the "Print Test Page" button.  
   - The image is printed.
3. Measure the ruler imaged on the film manually.  
   - Check whether 1cm of the imaged ruler equals exactly 1cm of the actual ruler.

**NOTICE**

**Calculating the printer matrix**

If the value measured agrees with the imaged ruler, the printer is properly calibrated.

If the measured length deviates from the actual length, the printing matrix must be adjusted accordingly.

➢ Calculate the new value of the printer matrix.
➢ Correct the value in the film settings.
➢ Check the printer matrix again.

**Calculating the printer matrix**

\[
\text{New value} = \frac{\text{Actual length}}{\text{Measured length}} \times \text{Old matrix value}
\]

**Sample calculation**

- Old value of printer matrix: 2000
- Length measured on film: 0.9cm for 1cm of the ruler
3.4 Manual printer configuration

Opening the configuration file

➢ Open the centrally stored cfg file for the printer affected (in the <PDATA> folder, subdirectory \Plugins\SIDICOM PS\config\).

Editing the configuration file

1. Create a new section in the cfg file [FILM_...].
   (Example: [[FILM_36CMX48CM]])
2. Enter the following values, in accordance with the DICOM Conformance Statement of the printer:
   • ID of film size ("FilmSizeID")
   • Printer resolution in DPI ("ResPrinter")
   • Printer resolution in pixels ("MatrixX" and "MatrixY")
   • Orientation (Orientation): If a value of "MatrixX" > value of "MatrixY", then set to "Landscape", otherwise set to "Portrait".

Example:

Example section for new film size 36cm x 48cm:

[FILM_36CMX48CM]
FilmSizeID=36CMX48CM
ResPrinter=500
MatrixX=8000
MatrixY=6000
Orientation=Landscape

3.5 Setting up a new printer

Version 1/copy an existing printer setting

1. Select an available printer from the "Available printers" list.
2. Click on the "New" button.
   ➔ The selected printer is copied.
3. Select the first entry from the list ("Copy of"...).
4. Change the printer name.

NOTICE

Changing the printer name

The printer name can be edited directly in the "Available printers" list.

5. Click on the "Finish" button.
Version 2/user-specific printer

1. Click on the "New" button.
2. Navigate to the end of the list of printers.
3. Select the "Custom printer" entry.
4. Click on the "Finish" button.

Version 3/accept pre-configured printer settings

1. Click the button. "New"
2. Select the desired printer type.
3. Click on the "Finish" button.
4. Select the desired film sizes ("Film size" area).
5. Click on the "Next" button.
6. Select the alignment for each film size with or without the printer-specific page header and footer ("Portrait with annotation" or "Landscape with annotation").
7. Click on the "Finish" button.
4 Printing via SIDEXIS

You can open the DICOM print dialog box in SIDEXIS. There are several ways to do this:

- Menu command Exam/Print
  - Print to DICOM printer
  - DICOM print preview exam

- Menu command Image/Print
  - Print to DICOM printer
  - DICOM print preview image

4.1 Printing an image

You have the option of printing a 1:1 or a page-filling image:

Print 1:1 The original format is retained. The printout is not adapted to the output format and part of it may be cut off.

Page-filling The printout is adapted to the output format so that the entire page is filled.

Printing SIDEXIS overlays

SIDEXIS overlays must be printed in grayscale. This option can be switched on or off for each printout.

Activation:

➢ Activate the "Print Overlays" check box.

Operation

1. Start printing with the command "Image/Print/Print to DICOM printer". The print dialog box opens.
2. Select a printer from the "Printer" list.

**NOTICE**

Preview
You display a preview before printing.

➢ Click the button. "Preview"

➢ The preview dialog box opens.

3. Select the number of copies to be printed under "Number copies".
4. Select "Print 1:1" or "Page-filling" under Options.
5. Click on the "Properties" button.

➢ The "Print-Properties" window opens.

6. Select the film size and confirm with "OK".
7. **Optional print preview**: Click on the "Preview..." button.

➢ A preview image is displayed (see the "Print preview [→ 13]" section).

8. Click the "OK" button in the print dialog box to start printing.

### 4.1.1 Print preview

**Preview**

The print preview is displayed.

The print preview is okay.

➢ Click on the "Print" button.

➢ The preview closes and the image is printed.

The print preview is not okay.

➢ Click on the "Printer properties..." button.

➢ The preview closes and the print dialog reappears.
Example screens

Standard image

Region of interest (ROI)
4.1.2 Printing a region of interest (ROI)

Prerequisite
A region of interest (ROI) must be set.

Selecting the area

Activating the function
➢ Click the button.
or
➢ Use the "[A]nalysis" menu bar to select the "[D]efine ROI" menu item.

Display of the function
As long as this function is active, the mouse pointer has another shape.

Specifying the area
1. Place the mouse pointer at a corner of the desired region of interest.
2. While pressing and holding down the left mouse button, draw a frame around the desired region of interest.
   ➢ While you are drawing the rectangle, its size is indicated within the selection and on the status bar at the bottom of the window.
3. Release the left mouse button.
The selected region of interest is displayed within a dashed frame.

Example screen

Printout
The printout is executed the same way as the printout of a complete image.

4.2 Printing an exam

You have the option of printing an examination on the desktop or a page-filling image.
Work space  The image displayed on the desktop is what will be printed. Images which are not on the desktop will not be printed.

Page-filling  The printout is adapted to the output format so that the entire examination is printed on the same page.

Operation

1. Start printing with the command "Exam/Print/Print to DICOM printer". The print dialog box opens.

2. Select a printer from the "Printer" list.

3. Select the number of copies to be printed under "Number copies".

4. Click on the "Properties" button. The "Print-Properties" window opens.

5. Select the film size and confirm with "OK".

6. Click the "OK" button in the print dialog box to start printing.
4.2.1 Print preview

The print preview is displayed.

The print preview is okay.
➢ Click on the "Print" button.
➢ The preview closes and the image is printed.

The print preview is not okay.
➢ Click on the "Printer properties..." button.
➢ The preview closes and the print dialog reappears.

Example screen
4.3 Printer queue

You can display, interrupt or delete your current print jobs via the printer queue.

➢ Double-click the SIDICOM PS icon in the notification area of the Windows taskbar.  
   The printer queue dialog box opens.

The current status of your print jobs is displayed in the printer queue dialog box.

Deleting print jobs

1. Select the print job you wish to delete.
2. Right-click the print job.  
   The context menu opens.
3. Select "Delete selected jobs".

4.4 Printing errors

If an error occurs during a print job, the job remains in the queue. SIDICOM PS then attempts to print this job at regular intervals.

Delete the job manually if you would like to delete it from the queue (see Printer queue [→ 18]).

You can refer to the logfile to get more information on the error.

Opening the logfile

1. Select the print job you wish to delete.
2. Right-click the print job.  
   The context menu opens.
3. Select "Display print job logfile".

4.5 Printout with DICOM Accession No.

Explanation

If a DICOM request is executed with SIDICOM WLS, version 3.1 onward, then the DICOM Accession No. used to do so is saved with the examination or the image and this is also printed in the event of subsequent DICOM requests.
Printout

The Accession No. can be found in the respective image title in the following format:

"<Image type> <Date> <Time> Acc.No. <Saved Accession No.>"
5 Additional information

5.1 Printer information (informative character only)

The compatibility with printers is regulated by the corresponding DICOM conformance statements.

**NOTICE**

Informative character

Since not all printers were tested at the Sirona laboratory, no liability whatsoever can be assumed for their successful start-up. The following information is therefore of a purely informative character.

Sirona is aware that the following printers function successfully with SIDICOM PS:

- Fujifilm Drypix 7000 (successfully tested at the Sirona laboratory)
- Kodak 8900
- Kodak 8300 (successfully tested at the Sirona laboratory)
- Agfa Drystar 5302
- Agfa Drystar 5300
- Agfa Drystar 4500
We reserve the right to make any alterations which may be required due to technical improvements.