



Med View

Med Diag

User Manual
6.1 version

6 Indications for use

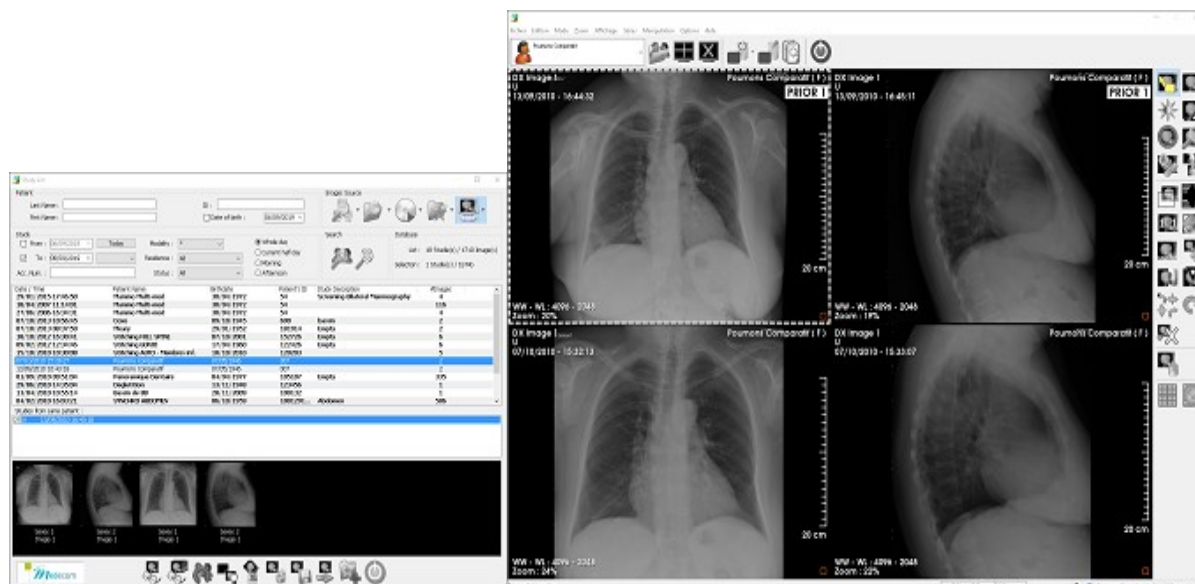
The MEDWS software (MEDVIEW, MEDDIAG, MEDMAMMO) is intended for selection, display, manipulation and media interchange of medical images, including mammograms. It can show images from different modalities and interfaces to various image storage and printing device using DICOM or similar interface standards.

Warning: In the context of FDA, lossy compressed mammographic images are not intended for diagnostic review. Mammographic images should only be viewed with a monitor cleared by FDA for viewing mammographic images. For primary diagnosis, post process DICOM for presentation images must be used.

The MEDWS software (MEDVIEW, MEDDIAG, MEDMAMMO) is typically used by trained professionals including but not limited to physicians, radiologists, nurses, medical technicians and assistants.

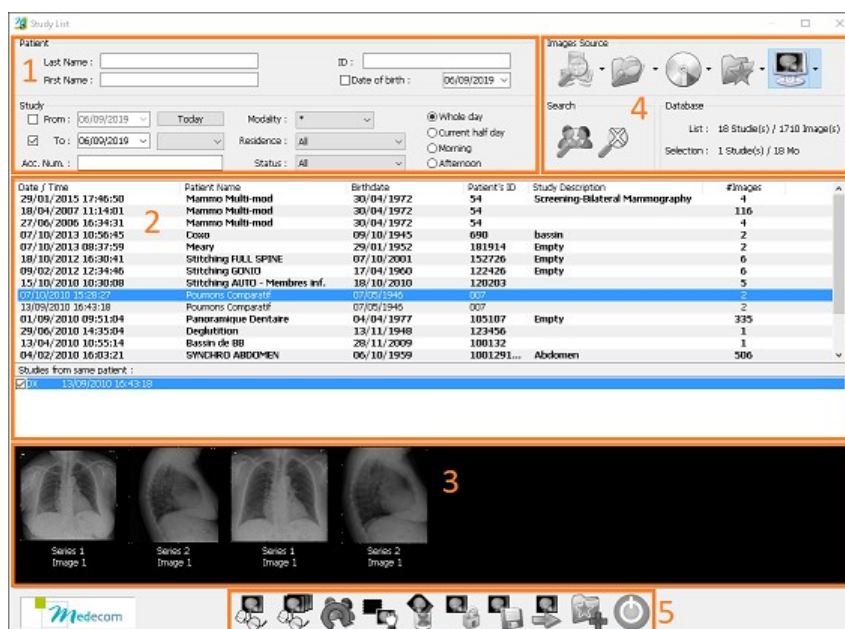
7 Overview

The following illustration presents an overview of the interface when used with two monitors: on the left is the Study List, and on the right the images with the corresponding toolbars.



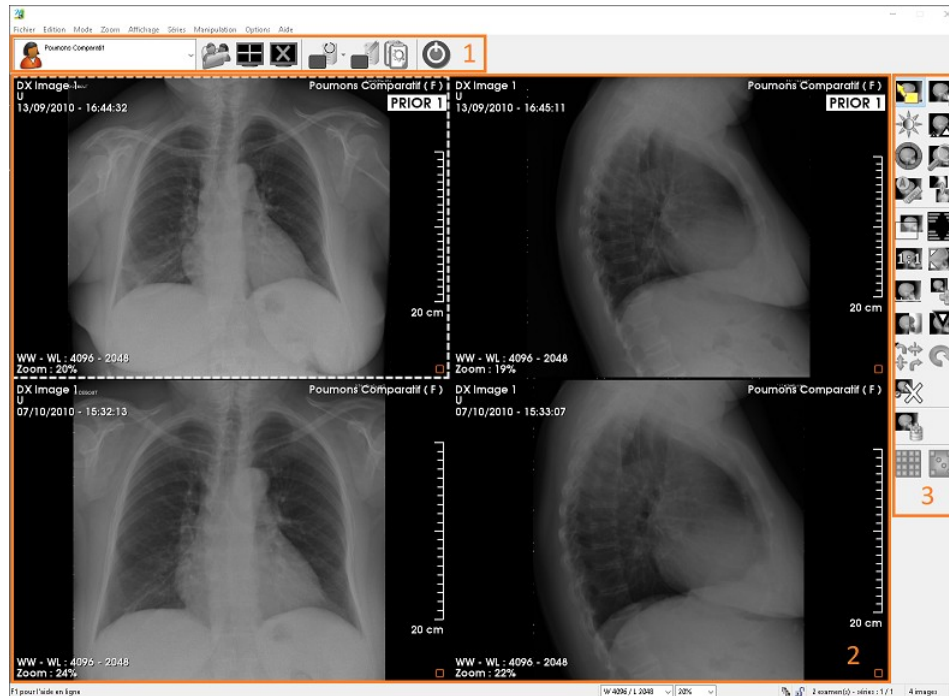
The study list contains the following elements:

1. Search filters for studies,
2. Study list and corresponding information,
3. Pre-visualisation of images from selected studies (only for the studies available in the database),
4. Tools for selection of image source,
5. Tools to handle selected studies (transfer, copy, burn,...).



The image display zone contains the following elements:

1. Toolbar to handle displayed studies,
2. Image visualisation,
3. Toolbar to handle displayed images.



For each image, the following information are displayed:

- Information on study and image,
- Ruler,
- Active image frame, here with a with dot line,
- Image selection box (red square at the bottom-right).



This manual describes MEDWS tools in a teaching mode by explaining simple actions, for example “How to do a video inversion”.

8 Toolbars Description

8.1 Study toolbar

 **VD** : Tool available by default on a new deployment of MedView and MedDiag

 **M** : Tool available by default on a new deployment of MedMammo

				List of the opened series
				Move to previous opened series
				Move to next opened series
				Display the list of available studies
				Open the previous most recent unread studies (or series)
				Open the next most recent unread studies (or series)
				Report module opening
				Activation of multi-series mode (choose the number of displayed series)
				Synchronize series (available according to version)
				Close active series
				List of scenarios
				List of Hanging Protocols
				Opening the study status management window (available according to version)
				Opening the QA controls window (available according to version)
				Opening the QA images
				Activation of print mode
				Activation of the automatic print mode
				Starting the print in Booklet mode (available according to version)
				List of the jobs status: print, burn, import
				Opening of the "image navigator"
				Switching to full screen mode
				Creating a new study
				Logout and user change
				Close software

8.2 Print mode toolbar

List of icons in the print mode toolbar:

		Starting print
		Add a new page (multi-pages)
		List of the printers available (Windows printers and DICOM printers)
		List of the available formats for the selected printer
		Set same zoom for visible images
		Selection of a pre-difined template
		Create or apply a layout template
		Create a user defined template

8.3 Image toolbar

Some icons allow an operating mode to be activated (each mode has a function associated with the mouse):

		Selection Mode (layout of images in required order)
		Panning Mode (movement within an image)
		Windowing Mode (contrast / brightness)
		Zoom Mode
		Shutter Mode
		Measurement and Annotation Mode
		Magnifying Glass Mode
		Inverted Magnifying Glass Mode
		Tile/Stack Mode
		Stitching Mode (option) - Refer to the user manual dedicated to Stitching for more information.
		MPR Mode (Multiplanar Reconstruction) (option)
		Link/Unlink Mode

Some icons allow an action to be taken with the images:

		Display/Hide DICOM Overlays (can be available in DICOM files)
		Changing the display level of Overlays (Patient, Technical, Empty)
		Zoom Full Resolution (1 image pixel = 1 screen pixel)
		True size zoom (1 cm on the monitor or film = 1 cm in real)
		Zoom Fit (fits image in the viewport)

		Duplicate an image
		Open the filtering toolbar
		Open the toolbar for geometric handling
		Video Invert
		Open LUT dialog box
		Open the cinema-loop mode dialog box
		Unstacking a dynamic sequence
		Reload image(s) with the default values
		Move to previous page
		Move to next page
		Display all images on the open series on the screen
		Selection of a display matrix
		Delete active image or selected images from the viewer
		Adding the processed image
		Showing the previous step of the scenario
		Showing the next step of the scenario
		Editing the comment associated with the selected image

Some icons allow an action to be taken with the images (specifically on MedMammo)

		Showing the previous step of the scenario
		Showing the next step of the scenario
		Digital Light Box Mode (Negatoscope)
		Displaying the CAD 2D and 3D (CAD 3D is optional)
		Equivalent Zoom Mode
		Enabling the breast detection
		Displaying the line of the breast detection
		Using the Quad-Zoom: navigate through the image in 100% zoom (1 pixel of the image = 1 pixel of the monitor)
		Display of the "4 Views" hanging protocol, containing 2 CC and 2 MLO
		Display of the "2 CC" hanging protocol
		Display of the "2 MLO" hanging protocol
		Display of the "R CC + R MLO" hanging protocol
		Display of the "L CC + L MLO" hanging protocol

8.4 Manipulation toolbar

		180° rotation
		Horizontal mirror
		Vertical mirror
		Rotate 90 degrees to the right
		Rotate 90 degrees to the left
		Cancel all geometric actions carried out on an image

8.5 Annotation toolbar

		Addition of a text from keyword list or not from keyword list
		Addition of an arrow
		Addition of a single line
		Addition of a line with round end
		Addition of a segment with the middle of this segment
		Addition of a segment and a segment at right angles to it
		Addition of a rectangle
		Addition of a circle drawn from a centre
		Addition of a circle drawn from 3 points on the circle
		Delete all measurements and annotations
		Exit measurement / annotation mode

8.6 Measurement toolbar

		Measure a length
		Measure a length and display middle
		Measure a difference in length between two segments
		Measure the cardio-thorax index
		Measure an angle
		Measure an open angle
		Measure an angle from an intersection
		Measure additional angles
		Measure multiple open angles
		Measure gonometry

		Measure double gonometry
		Measure a difference in height / width
		Measure coxometry
		Measure baby heap displasia
		Measure hallux valgus
		Measure meary
		Measure TA-GT
		Measure an elliptical surface
		Measure a polygonal surface
		Measure density (in Hounsfield units for CT images)
		Calibration of the image
		Measure QA
		Delete all measurements and annotations
		Exit measurement / annotation mode

Warning: Depending on the images being viewed, not all of the above tools are available by default in the measurement and annotation toolbar (depending on the modality of these images). For more details, refer to the following chapter: Measures / Annotations toolbar.

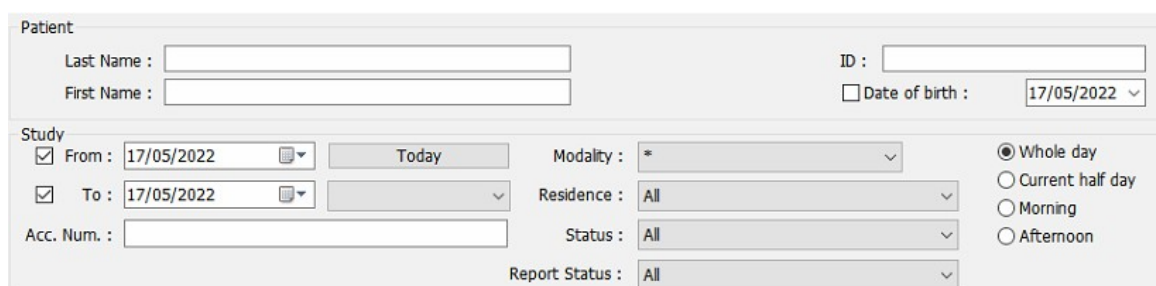
12.6 Retrieving studies from a QUERY / RETRIEVE server

Warning: When no search starting date is selected, « 19000101 » is set to perform the request.

The QUERY/RETRIEVE DICOM (Q/R) function allows a compatible Q/R server to be questioned and to locally retrieve images located on the server, using the search criteria such as the patient's name. It is recommended that the search criteria are restricted to their maximum as the operation may take some time.

12.6.1 Activating the Q/R mode, Searching (QUERY)

- Enter the different search criteria.



The form is divided into two main sections: Patient and Study.

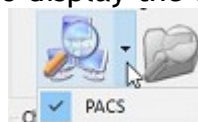
Patient Section:

- Last Name :
- First Name :
- ID :
- ☐ Date of birth :

Study Section:

- ☒ From :
- ☒ To :
- Modality :
- Residence :
- Acc. Num. :
- Status :
- Report Status :
- ☒ Whole day
- ☐ Current half day
- ☐ Morning
- ☐ Afternoon

- Select the server on which the search is to be made: click on the small arrow on the right of the Q&R button to display the list of available servers.



- Press on  to enter Q/R mode and start the search. “Searching...” is displayed while the query is in progress.
- If the images source is not « Query / Retrieve »: select the source « Query / Retrieve »  “Searching...” is displayed while the query is in progress.

- If the images source is already « Query / Retrieve »: click on the button  to refresh the results. “Searching...” is displayed while the query is in progress.

Tip: It is possible to search from a study in the study list by right-clicking on it. For example:

Date / Time	Patient Name	Birthdate	Pat
30/07/2019 10:54:17	Anonymous - 000001	20/10/1970	18
Search for Anonymous - 000001 - 183344 - 20/10/1970 on station Search for Anonymous - 000001 - 183344 - 20/10/1970 on PACS Change Study Info...			

12.6.2 Importing studies (RETRIEVE)

Importing studies may be done in two different ways, either by double clicking on a study in the result list or by pressing on the import button .

12.6.3 Import monitoring

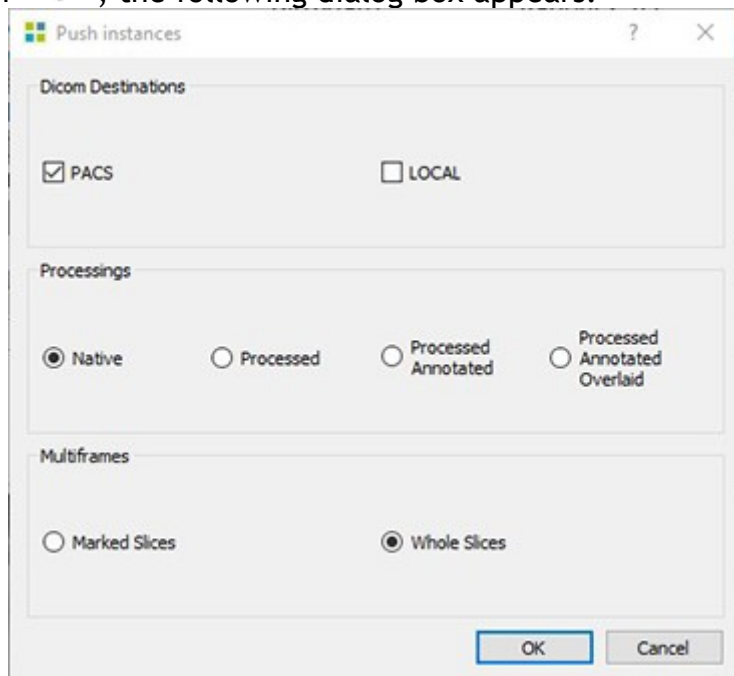
To access to the jobs queues, refer to the chapter 48 Jobs Queue

12.11 Pushing a study to a DICOM station

PUSH mode allows to push selected studies to another station equipped with DICOM C-STORE. The DICOM server configuration is accessible to installation and maintenance technicians.

Select the studies/images to be transferred.

Click on the button  , the following dialog box appears:



Select the destination(s).

If the image source is the database, images may be pushed using several image management modes:

- *Native*: Images are pushed as they have been received
- *Processed*: Images are pushed with all their modifications made on the station (contrast/brightness, orientation, diaphragm, filtering ...), however annotations are not taken into account.
- *Processed annotated*: All actions realized on the image are applied to the pushed image. Measures and annotations are burned in image.
- *Processed annotated overlaid*: All actions realized on the image and the overlays are applied to the pushed image.

For multi-slices images, you can choose to send only the marked slices (as separated files) or all slices.

Click on OK to send the images.

Warning: The modifications are final for “processed”, “processed annotated” and

“processed annotated overlaid” images. It is not possible to return to the original image using an image pushed. For example, it is not possible to delete annotations or cancel a filter.

12.11.1 Push monitoring

To access to the jobs queues, refer to the chapter 48 Jobs Queue

44 Formatting and printing a study on a film [OPTION]

44.1 *Printing on paper or printing on film*

The printing mode gather the printing on paper and printing on film. The scale on paper and on film are respected. In the following chapter the word “printer” will be used for a DICOM printer and Windows printer. The word film will be used for a film print and a paper print.

44.2 *Limitation*

Printing non DICOM images is possible but with some limitations. For example, the print zoom is not available because the image do not contain a pixel size information. Non DICOM images are automatically adjusted to film layout.

44.3 *General matters*

The workstation has 2 operating modes, the visualization mode and the print mode.

To switch to print mode click on . To switch back to the visualization mode, click on the same button.

The last selected mode is selected when opening a new study (except for MG studies on MedMammo which are always opened in visualization mode).

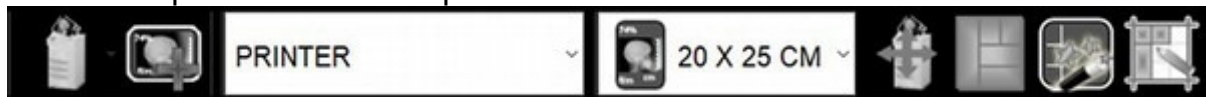
The print mode is dedicated to the film set up. In this mode, the user works directly on the film. For example, the displayed scales correspond to the scales on the final film. Every change, like film format or film orientation are immediately taken into account, the workspace is modified. It is a WYSIWYG mode: 'What You See Is What You Get'.

Note: if 2 monitors are used for viewing, the print mode uses only one monitor (the second one has its background in gray).

Note: when displaying all images (), the images used during the layout appear after the images that have not been used.

44.4 *The print mode tool bar. :*

There is a specific toolbar for print mode:



Note: the print toolbar switch automatically on a second line if there is not enough space left.