

Working with the Interactive Processing screen

The interactive processing screen allows for a number of interactive post-processing functions. The functions are outlined below and further explained in the following sub-sections.

- Mirroring and rotating
- Changing window and level using the histogram of the image
- Using the Burn function
- Applying a different sensitometry
- Modifying individual processing parameters (MUSICA)
- Storing new processing parameters
- Changing examination data
- Collimation border definition
- Invert
- Saving a modified image
- Deleting an image
- Printing
- Zoom
- Measuring histogram and intensity within a selected window
- Measuring distance

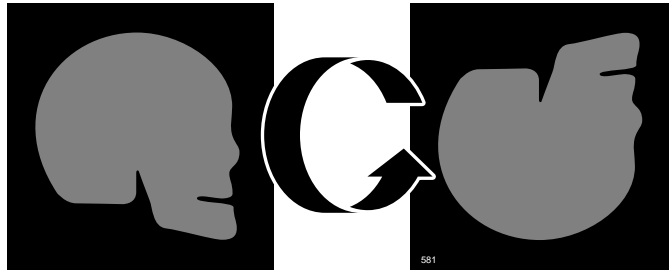
Optional functions provided by the interactive processing screen include:

- On-screen annotation of ADC images
- On-screen analysis of ADC images

Mirroring and rotating

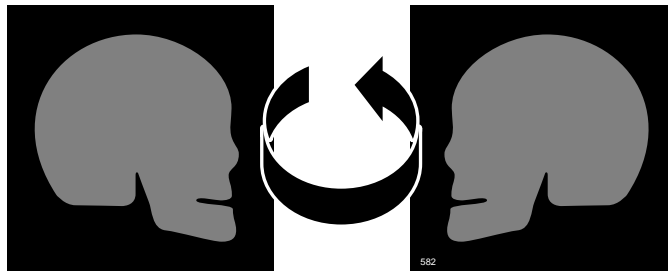
Horizontal reflection

Click 'Flip hor' to produce a reflection of the image over a horizontal axis.



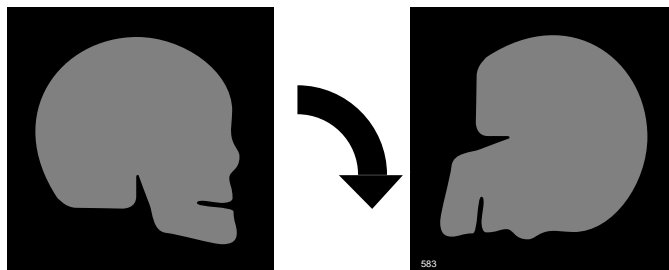
Vertical reflection

Click 'Flip ver' to produce a reflection of the image over a vertical axis.



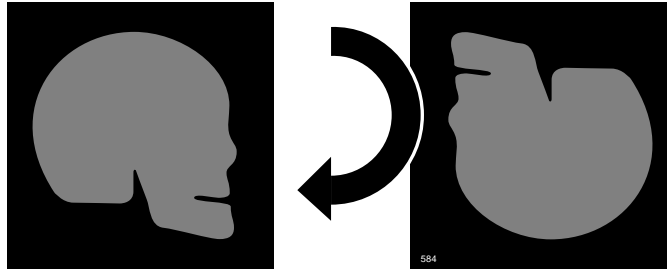
90-degree rotation

Click 'Turn 90' to rotate the image 90 degrees clockwise.



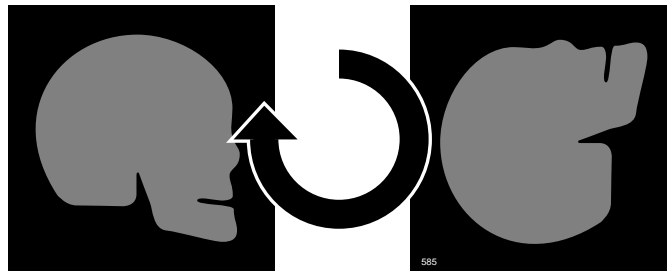
180-degree rotation

Click 'Turn 180' to rotate the image 180 degrees.



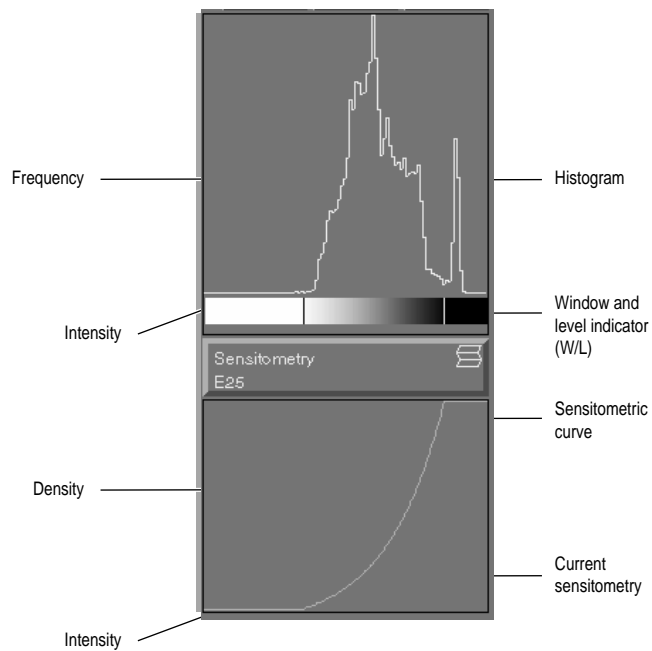
270-degree rotation

Click 'Turn 270' to rotate the image 270 degrees clockwise (90 degrees anticlockwise).



Changing window and level

The interactive processing screen features an additional histogram of intensity values.



The histogram indicates the number of pixels per grey value. On the left side of the histogram you can find the low dose parts of the image and on the right side, the high dose parts of the image. At the bottom of the histogram, there is a contrast and intensity indicator indicating the width of the window. The contrast (Window) and intensity (Level) are also shown in an extra window as numerical values to assure high accuracy. These numerical values change whenever W/L settings are changed to allow accurate W/L positioning.

Click 'W/L' to change the width of the window (contrast) and the level of the window (intensity).

- Move the mouse horizontally to change the level coarsely; the contrast and intensity indicator will move to the right or to the left accordingly.

- Move the mouse vertically to change the window coarsely; the contrast and intensity indicator will expand or contract accordingly.
- Drag the horizontal slider to the left or to the right for fine-tuning the intensity.
- Drag the vertical slider up or down for fine-tuning the contrast.



Using the Burn function

Changing the contrast or the intensity of an image can be difficult since it is hard to decide on a screen which parts of the image are saturated. The human eye can not make a difference between white and a very light grey level on a computer screen. Neither can it detect the difference between black and a very dark level of grey.

The distinction is however very important. If you print the image on film with the wrong settings, the saturated areas become very distinctive and disturb the interpretation of the image.

If you want to adjust the ideal contrast and intensity without losing valid image data, you can use the Burn function. If you click the Burn button when you are adjusting the W/L settings, the saturated parts of the image are inverted. White parts appear as black on the screen and vice versa. In this way, you can easily see if a certain W/L setting leads to the loss of image data.



Applying a different sensitometry

Using the interactive processing screen you can simulate an exposure on a given film by selecting a different sensitometry. You have the choice of 4 sensitometric curves:

- Linear
This sensitometry is meant exclusively for system testing.
- RP1KT
Derived from conventional RP1 Film sensitometry.
- E25
Simulation of an exponential curve, based on the Kanamori curve, which takes into account the non-linearity of the sensitivity of the human eye.
- NK5
This sensitometric curve is a balance between RP1KT and E25.

If you click one of these curves the image will be transformed to simulate the image that would result from exposure on a film with that sensitometric (characteristic) curve.

Modifying individual processing parameters (MUSICA)

MUSICA stands for Multi Scale Image Contrast Amplification. MUSICA makes use of Agfa proprietary advanced image processing techniques.

By selecting appropriate MUSICA parameters, you can have all the useful image information in 1 image with satisfactory contrast.

When you click 'MUSICA parameters', the processing station returns the following window:

MUSICA parameters	
MUSI contrast: (0..5)	5.0 [0] [1] [2] [3] [4] [5]
Edge contrast: (0..5)	0.0 [0] [1] [2] [3] [4] [5]
Latitude reduction: (0..5)	2.0 [0] [1] [2] [3] [4] [5]
Noise reduction: (0..5)	0.0 [0] [1] [2] [3] [4] [5]
Extend window left : (-1..0)	-0.1 [0] [-0.1] [-0.2] [-0.3] [-0.4] [-0.5]
Extend window right: (0..1)	0.0 [0] [0.1] [0.2] [0.3] [0.4] [0.5]

Default Use Cancel

The following image processing parameters are at your disposal:

- **MUSI-contrast**
Determines the amount of detail contrast enhancement. Detail contrast is the magnitude of local image intensity variation. MUSI-contrast boosting will amplify subtle image details whilst attenuating the striking ones.

MUSI-contrast enhancement applies uniformly both to fine grain and coarse image details. In other words, it is not tuned to a specific size of detail; that is why it is called 'multiscale'. It provides excellent visibility of image features across the entire image.

- **Edge contrast**
Determines the amount of edge contrast enhancement. Edge contrast is the magnitude of fine grain image intensity variation. Applying edge contrast boosting will emphasize small spots, edges and fine textures in the image. As most of the noise in the image is also fine-grained, noise too will be amplified with this kind of enhancement. Edge contrast must be applied carefully (always smaller or equal to 3) to avoid the risk of artefacts. It is preferable to use MUSI contrast instead of Edge contrast.

 - **Latitude reduction**
Attenuates the larger scale intensity variations across the image in order to emphasize the medium and small scale details. This way, good visibility of features is obtained in those examinations which typically exhibit an important density shift across the image, without causing saturation into white or black in large portions of the image.

 - **Noise reduction**
Attenuates fine grain detail contrast, thus reducing noise impression in those image regions where noise is more prominent, without significantly affecting the contrast of image features like spots, edges and textures. A slight decrease in overall crispness can be compensated for by using some additional edge contrast enhancement. Using this processing option, however, will slow down the system significantly.
- You can set each of the above parameters to a value from 0 to 5 by clicking a button (0 = parameter inactive; 5 = heavy image treatment). You can also enter decimal numbers manually for fine-tuning.
- **Extend window right (Optional)**
Use this parameter if you think that the calculations of the processing station always make the images too dark and if you always have to change the Window manually. Using this MUSICA parameter extends the Window to the right, i.e. more lighter grey levels are used. Hence, the image becomes lighter and has less contrast.

- 2 Type the name for the new submenu.



- If you want this submenu to be part of a menu other than the current, click 'Menu' and make your choice from the list.
 - If you want to change the radiologist, click 'Radiologist' and select one from the list.
- 3 Click 'Store' to save the new menu.



Note

This new menu will only be available on the processing station where it was created. If you want to make it available on the ID Station or on the Digitizer, ask your Agfa application engineer who has all the tools to configure the parameters.

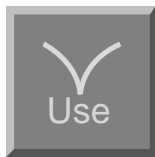
Changing examination data

This feature enables you to correct inaccurate identification of a cassette in the ID Station.

- 1 Click 'Examination' to change examination data. You can change the following entries:
 - Radiologist
 - Examination type (corresponds to 'Menu' in the ID Station)
 - Examination subtype (corresponds to 'Submenu' in the ID Station).

The default value is the value that was entered during identification in the ID Station.

- 2 After having changed the entries, click 'Use'. The image is re-processed with the newly entered default parameter settings for 'Radiologist', 'Examination type' and 'Examination subtype'.



Collimation border definition

The ADC Compact System is equipped with automatic collimation border detection. For an explanation on how to get good automatic collimation detection results, refer to the section "Application aspects" in the ADC Compact System Overview manual.

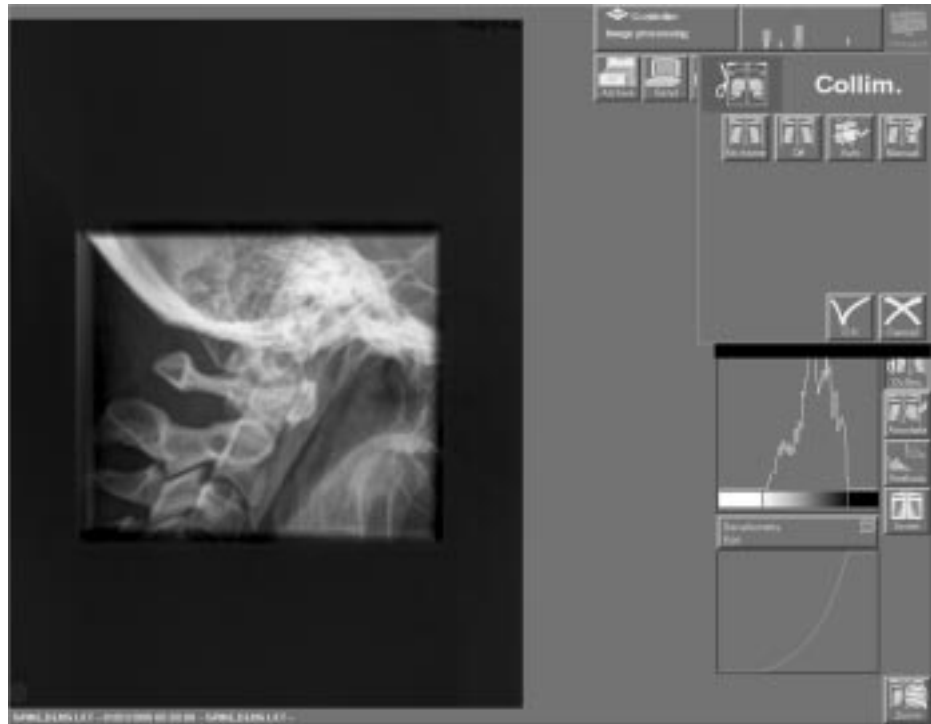
The automatic collimation detection is necessary:

- to avoid taking the white parts into account in the Window/Level calculation. This would result in a poorly contrasted and dark image.
- to mask the collimation borders by means of a certain film density to prevent disturbance by ambient light when viewing the film for diagnosis. This feature is available as optional 'ADC Compact Black Border' software.

Proceed as follows to use the collimation feature:

- 1 Click 'Collimation' in the Interactive Processing Screen.

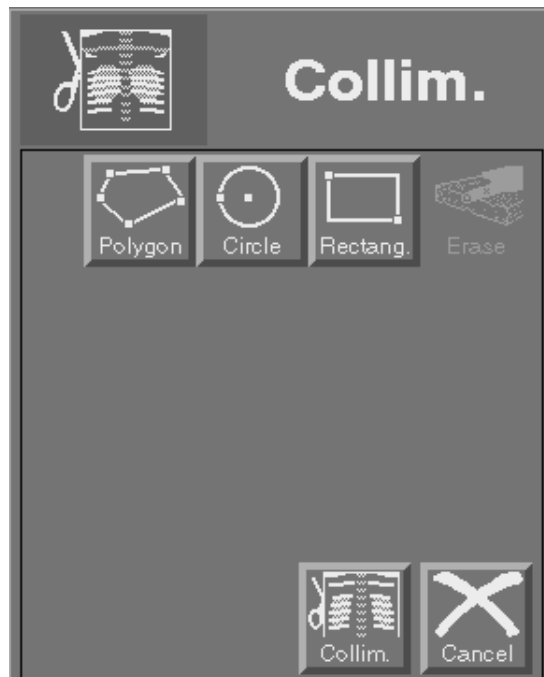
- 2 Click 'Auto' or 'Manual'.



If you clicked 'Automatic' the processing station will automatically detect the collimation borders and take into account only the useful image area.

If you clicked 'Manual', carry on with step 3 in this procedure.

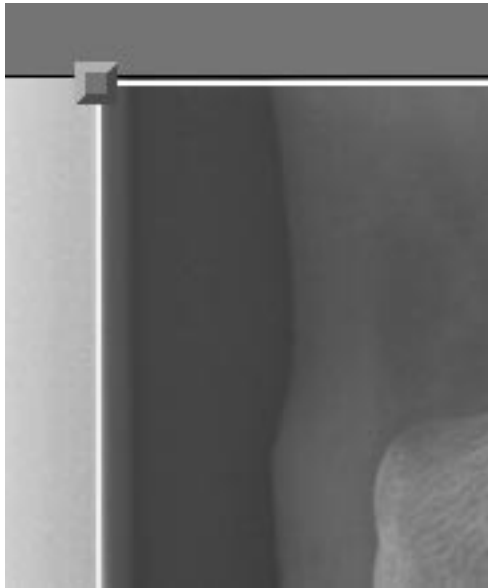
- 3 Select polygon, circle or rectangle.



- If you selected 'Circular', proceed with step 4 to mark the collimation area.
 - If you selected 'Polygon', proceed with step 5 to mark the collimation area.
 - If you selected 'Rectangle', proceed with step 6 to mark the collimation area.
- 4 Click the mouse to mark the centre of the circle you want to specify; then move the mouse and click to specify the radius.

You now have still the opportunity to move the collimation area. To do so, click in the circle and drag it across the screen. Carry on with step 7.

- 5 Click the mouse to specify any point of the polygon; then move the mouse and click each time you want to specify a point.
 - You can specify a maximum of 20 points for each polygon.
 - Always close the polygon by clicking the first point again as shown below.



- You now have still the opportunity to change the collimation area. To do so, click any point in a polygon and drag it. Carry on with step 7.
- 6 Click the mouse to mark the topmost left angle of the rectangle; then move the mouse and click to mark the diametrically opposed angle.

You can now still move the specified collimation area. To do so, click in the rectangle and drag it across the screen.
 - 7 Select another collimation area if you want to select multiple collimation areas within one image.

Observe the following rules in case you create overlapping collimation areas:

- If you draw a new collimation area which entirely covers a previously created one, the latter will not be erased. In such case the system issues the following message and the overlapping region disappears:



- If you create multiple collimation areas, you also obtain multiple histograms. The histograms are displayed in the order in which the areas were created.

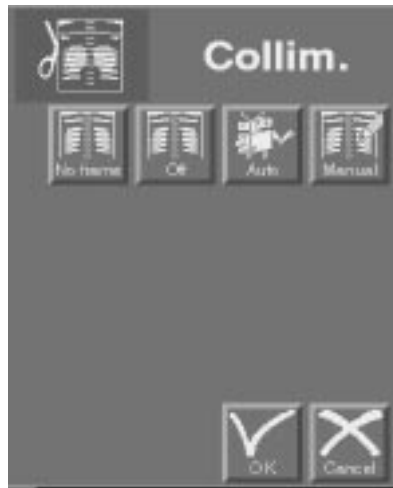
- 8 Click OK again to confirm the selected collimation area and to make the collimation calculations. The example below shows an image with a polygon collimation area, ready to be calculated.



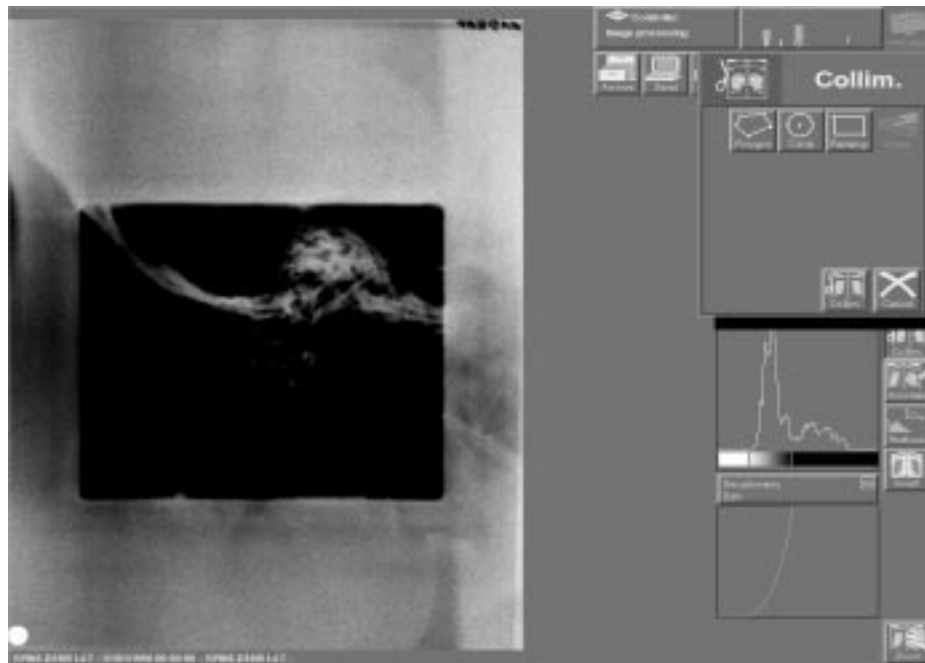
If you click 'Cancel' at this point, you revert to the previously specified collimation area.

Caution *If you click 'Erase' at any point in this procedure, all regions are erased.*

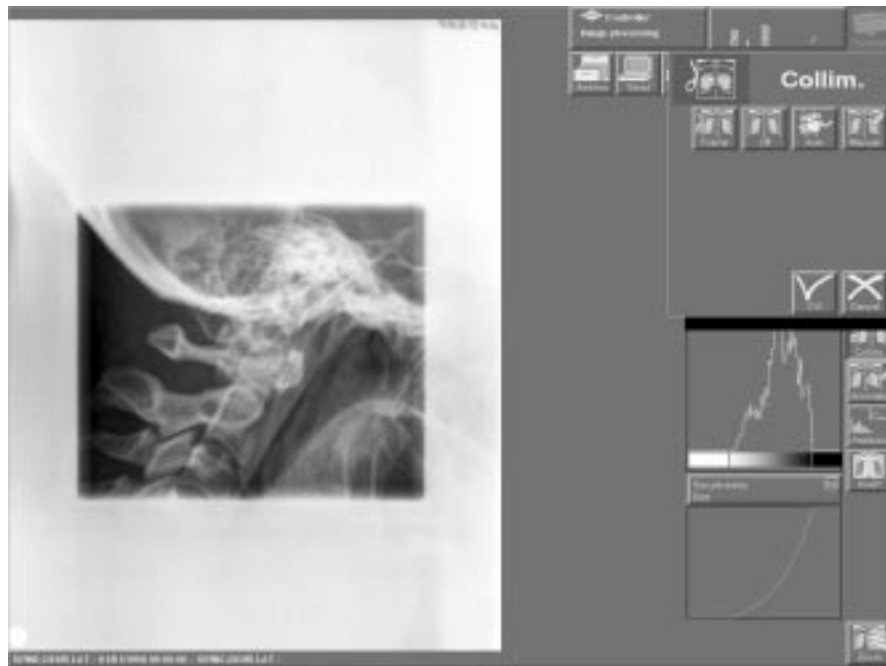
- 9 Click OFF to turn collimation off. When the automatic collimation is turned off, the image and associated histogram change, as also non-diagnostic border area information is taken into account.



The screen below displays an image with automatic collimation turned OFF.



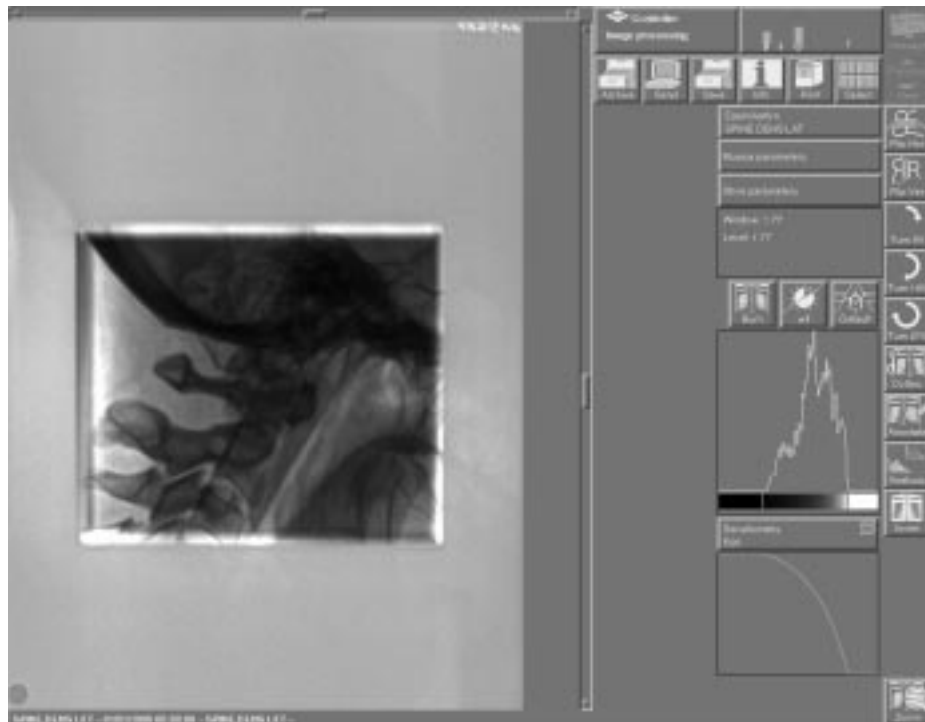
When the No Frame button is selected, as in the screen shown below, the black border background is shown in its original whitish grey value and the diagnostic information in the image and associated histogram remains unaffected.



In case the image was not collimated initially, the OFF and No Frame buttons cannot be activated in the collimation mode.

Invert

The Invert toggle button inverts the image and the associated sensitometric curve window by converting the brightness value of each pixel to its inverse value, as shown in the sample screen below.



Note The system allows for the printing and networking of inverted images.

Saving a modified image

Click 'Save' to save an image after you have made changes to it.

You have 2 options:

- **INPLACE**
This option overwrites the original image and replaces it by the modified one. This is selected by default.
- **AS NEW**
Saves the modified image and leaves the original image intact.

After you have chosen an option, click one of the following buttons:

- **SAVE**
Clicking this button overwrites (INPLACE) or creates a new image (AS NEW) of the selected image.
- **ALL**
Clicking this button overwrites (INPLACE) or creates new images (AS NEW) of all the selected images.
- **CANCEL**
If you click this button, no images are saved.

If a series is derived from the same image, the most recently saved one is displayed at the head of the list in the browser screen.

Deleting an image

To delete a selected image, click the 'Delete' button.

The processing station returns the 'delete' submenu displaying the first selected image and 3 additional buttons:

- 'Delete'
If you click this button, the originally selected image will be deleted from the system.
- 'All'
If you click this button, all selected images will be deleted.
- 'Previous/next'
If you click this button, the next image is displayed, provided you selected more than one image before you clicked 'Delete'.

When you **double-click** the, Delete button, the selected image will be deleted without the processing station returning the 'delete' submenu described above. Whenever you are going to delete a raw image, the following message appears:

Are you sure to delete the
last reference to this image?

Click 'Cancel' to leave the 'delete' submenu without deleting images. Deleted images are stored in the waste bin. If you have accidentally deleted an image, you can recover it by removing it from the waste bin. This is explained in the section 'Waste bin management' on pages 71 and following of this manual. Remember that the waste bin is automatically and periodically cleaned when the system runs out of free disk space.

Printing

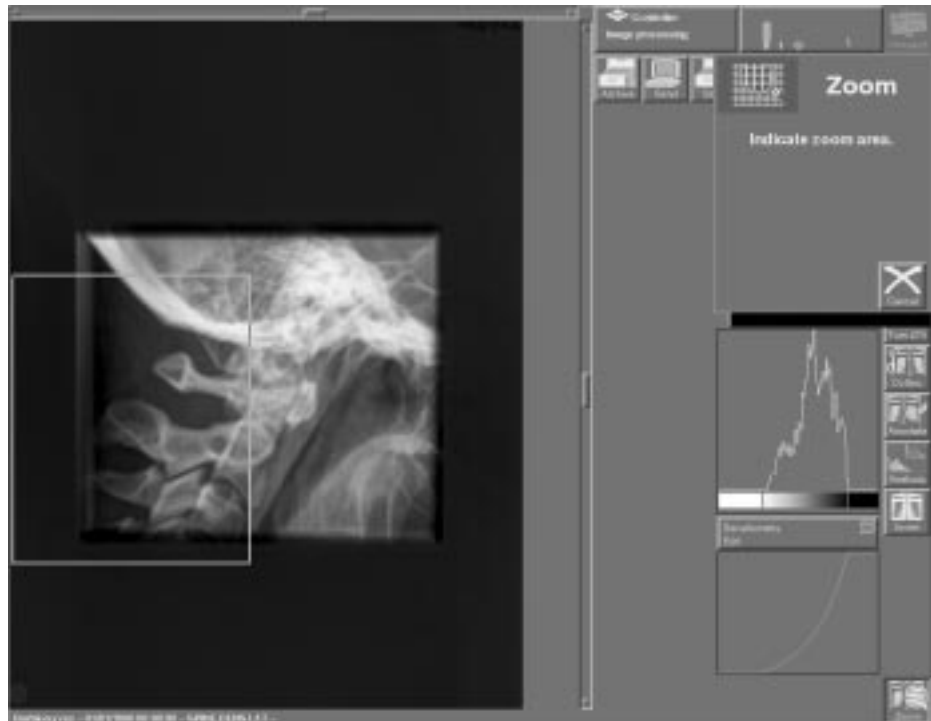
Click 'Print' to print a hardcopy of the currently open image.

Zoom

To zoom in on a part of the image, proceed as follows:

- 1 Click 'Zoom'.

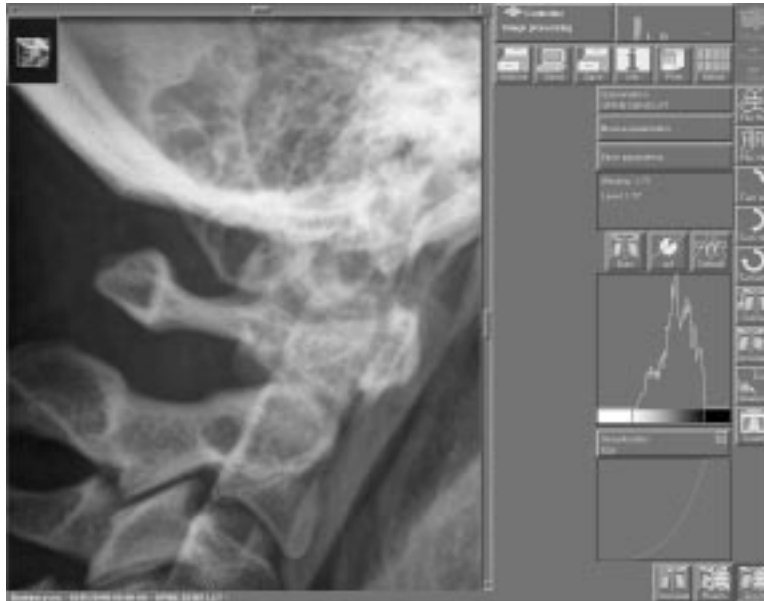
Move the mouse pointer into the image part of the screen. A square of a fixed size appears.



- 2 Drag the square over the area you want to have a closer look at.

- 3 Click the mouse button.

The example below shows a part of your screen:



Note Images can be annotated in the Zoom mode, provided the ADC Compact Annotation software has been installed. After detailed annotations are made in the Zoom mode, they are re-scaled to correct proportions in the Zoomed-out mode.

Note The zoomed image can be printed, provided the ADC Compact Annotation software has been installed.

- 4 Click the Overview button.



When you click the Overview button, the overview image box will shift from its default lower left position to the topmost left corner, indicating the selected area of the image.



Each time the overview button is clicked, the overview image box moves clockwise and one position at a time to the upper right, lower right and lower left corner of the image screen.

When the Overview button is clicked a fourth time, the overview image box disappears from the screen. When clicked a fifth time, it shows up in its default lower left position.

- 5 Click the Roam button next to the Zoom button.



Moving the mouse in the Roam mode you can “skim” through the entire image, the mouse pointer acting as a magnifying glass.

When the Overview button is activated as well, the overview image box will show the location and movement of the mouse pointer across the image.

- 6 Click 'Cancel' to zoom out.

Zooming is a complex operation. Therefore the processing station may need some time to zoom out to the entire image.

Measuring histogram and intensity within a selected window

From the interactive processing screen you can measure the intensity within a selected window the ('Region of interest'-ROI) and the histogram of a selected window.

Proceed as follows:

- 1 Select 'Measure' from the interactive processing screen.
- 2 Select 'ROI'.
- 3 Click inside the image to specify one corner of the region of interest; move the pointer and click again to specify the position of the opposite corner.

The histogram of the region of interest appears now as a dotted line, superposed on the histogram of the entire image.

- 4 Select 'ROI' again to remove the selected Region of interest.

Measuring distance

This function is only available in case the ADC Compact Annotation software has not been installed. If installed, use the ADC Compact Annotation software for measuring distances.

From the interactive processing screen you can measure the actual distance between two points of an image.

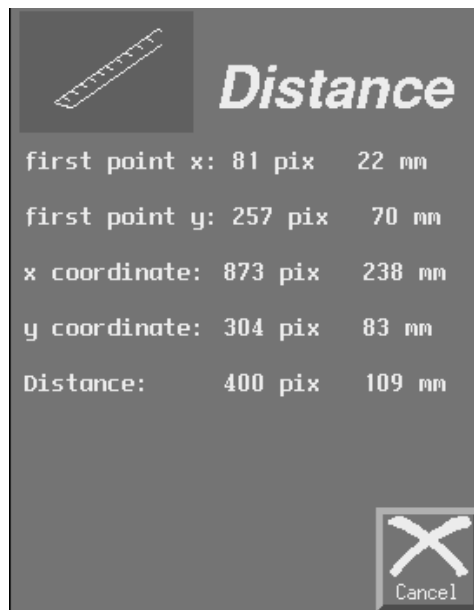
To do so, proceed as follows:

- 1 Click 'Measure' from the interactive processing screen.
- 2 Click the 'Distance' button.

Rulers appear at the top and right sides of the image.

- 3 Click within the image to specify the point you want the measurement to start from.
- 4 Move the cursor.

As you move the cursor, the displacement from the origin is displayed in a separate 'Distance' field as you can see from the illustration below:



- 5 Click to freeze the measurement.

Note

If you want to change the measure from millimetres into inches, ask your Agfa service engineer.

System Monitoring

Disk management

From the general System Monitoring screen, click the button labelled 'Disk' in the upper left corner.



Clicking this button opens a window with information about the disk structure.



The system gives you the number of stored images on your system and the amount (in Megabytes) used. Since, as an option, you can install more than one disk, the window shows the name of the disk.

Undelete images

- 1 From the general System Monitoring screen, click the button labelled 'Waste'.
The waste bin window pops up.
- 2 Select the image that you want to undelete.
The selected image is highlighted.
- 3 Click the button labelled 'Undelete'.
The selected image is removed from the waste bin. The images are again available for re-processing, printing and diagnostics.
- 4 Click 'Cancel' to return to the general System Monitoring screen.

Empty the waste bin

Caution

If you empty the waste bin, you permanently lose the images. There is no possibility to recover the contents of an emptied waste bin.

To empty the waste bin, proceed as follows:

- 1 From the general System Monitoring screen, select the button labelled 'Waste'.
The waste bin window pops up.
- 2 Select the button labelled 'Empty'.
A dialog box appears.
- 3 Select 'Cancel' if you have changed your mind and you want to cancel the request.
Select 'OK' to confirm to empty the waste bin.
- 4 Click 'Cancel' to return to the general System Monitoring screen.

Note

The waste bin is automatically emptied as the system needs storage space for new incoming images.

Input queue management

Input queue window

From the general System Monitoring screen, click the button labelled 'Input' in the upper left corner. Clicking this button opens a window with information about the incoming images. An example of this window is shown below:



The screenshot shows a window titled 'Input' with a table of patient and examination data. The table has the following columns: ID, SEX, TIME, AP/PA, VIEW, PTYPE, NAME, EXAMTYPE, PTYPE, STATUS, and STATUS. The data rows are as follows:

ID	SEX	TIME	AP/PA	VIEW	PTYPE	NAME	EXAMTYPE	PTYPE	STATUS
0001	M	00:01:01	AP	100	100000	FT-000	0001	0000	getTrend
0002	M	00:01:02	AP	100	100000	FT-000	0002	0000	getTrend
0003	M	00:01:03	AP	100	100000	FT-000	0003	0000	getTrend
0004	M	00:01:04	AP	100	100000	FT-000	0004	0000	getTrend
0005	M	00:01:05	AP	100	100000	FT-000	0005	0000	getTrend
0006	M	00:01:06	AP	100	100000	FT-000	0006	0000	getTrend
0007	M	00:01:07	AP	100	100000	FT-000	0007	0000	getTrend
0008	M	00:01:08	AP	100	100000	FT-000	0008	0000	getTrend
0009	M	00:01:09	AP	100	100000	FT-000	0009	0000	getTrend
0010	M	00:01:10	AP	100	100000	FT-000	0010	0000	getTrend
0011	M	00:01:11	AP	100	100000	FT-000	0011	0000	getTrend
0012	M	00:01:12	AP	100	100000	FT-000	0012	0000	getTrend
0013	M	00:01:13	AP	100	100000	FT-000	0013	0000	getTrend
0014	M	00:01:14	AP	100	100000	FT-000	0014	0000	getTrend
0015	M	00:01:15	AP	100	100000	FT-000	0015	0000	getTrend
0016	M	00:01:16	AP	100	100000	FT-000	0016	0000	getTrend
0017	M	00:01:17	AP	100	100000	FT-000	0017	0000	getTrend
0018	M	00:01:18	AP	100	100000	FT-000	0018	0000	getTrend
0019	M	00:01:19	AP	100	100000	FT-000	0019	0000	getTrend
0020	M	00:01:20	AP	100	100000	FT-000	0020	0000	getTrend

The screen shows the patient demographics and the examination data of the images that are currently queued for the processing station.

Clicking the 'Cancel' button returns you to the general System Monitoring screen.

Changing the job priority

Normally, every job has a priority of 5. The processing station reads jobs according to the first-in-first-out rule. However, you can change the sequence.

If you want a job to jump the queue, proceed as follows:

- 1 From the general System Monitoring screen, select the button labelled 'Input'.

The Input window pops up.

- 2 Select the job that you want to give a higher priority.

The selected job is highlighted.

- 3 Click the 'Emergency' button

The job moves to the first place in the queue and its priority changes from 5 to 0.

- 4 Click 'Cancel' to return to the general System Monitoring screen.

Holding jobs

The normal status of a job is 'queued'. If the processing station is actually reading the image, the job status changes into 'active'.

If you select a job and click the 'Hold' button, the job status becomes 'hold'. The processing station will not read the image unless you select it again and click the 'Unhold' button.

Cancel jobs

If you want to cancel a job, proceed as follows:

- 1 From the general System Monitoring screen, select the button labelled 'Input'.

The Input window pops up.

- 2 Select the job that you want to remove from the queue.

The background of the job becomes white.

- 3 Click the 'Delete' button.

The status changes in 'Cancelled'.

Caution

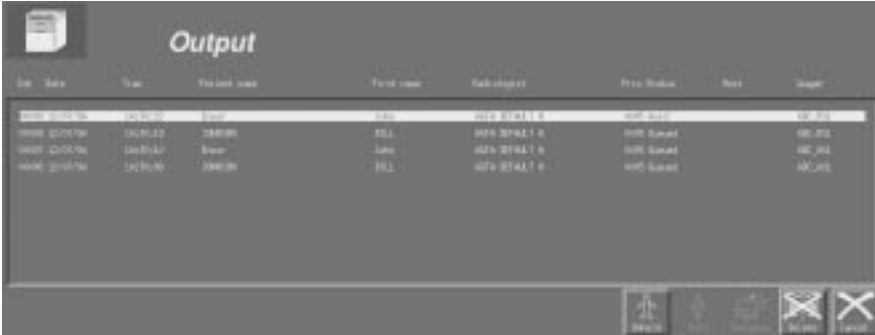
If a job status is 'Cancelled', you can, by no means, retrieve the job.

- 4 Click 'Cancel' to return to the general System Monitoring screen.

Output queue management

Output queue window

From the general System Monitoring screen, click the button labelled 'Output' in the upper left corner. Clicking this button opens a window with information about the images in the output queue. An example of this window is shown below:



The screenshot shows a window titled "Output" with a table of image jobs. The table has columns for Job, Date, Time, File name, Print name, Sub-image, Print Status, and Job ID. There are three rows of data.

Job	Date	Time	File name	Print name	Sub-image	Print Status	Job ID
1000 2017/04	14/04/17	10:00:00	1000	1000	1000	1000	1000
1001 2017/04	14/04/17	10:00:00	1001	1001	1001	1001	1001
1002 2017/04	14/04/17	10:00:00	1002	1002	1002	1002	1002

The screen shows the patient demographics of the images that are currently queued for the different output devices such as printers, archive stations and review stations.

Clicking the 'Cancel' button returns you to the general System Monitoring screen.

Changing the job priority

Normally, every job has a priority of 5. Consider, as an example, a Laser Imager. Jobs are printed according to the first-in-first-out rule. However, you can change the sequence.

If you want a job to jump the queue, proceed as follows:

- 1 From the general System Monitoring screen, select the button labelled 'Output'.

The Imager window pops up.

- 2 Select the job that you want to give a higher priority.

The background of the job becomes white.

- 3 Click the 'Emergency' button.

The job moves to the first place in the queue and its priority changes from 5 to 0.

Holding jobs

The normal status of a job is 'queued'. If an output device is actually processing the image, the job status changes in 'active'.

If you select a job and click the 'Hold' button, the job status becomes 'hold'. The output device will not process the image unless you select it again and click the 'Unhold' button.

Cancel jobs

If you want to cancel a job, proceed as follows:

- 1 Select the job that you want to remove from the queue.

The background of the job becomes white.

- 2 Click the 'Delete' button.

The status changes in 'Cancelled'.

Caution

If a job status is 'Cancelled', you cannot retrieve the job.

Setup

From the general System Monitoring screen, click the button labelled 'Setup'. Clicking this button opens a window that allows you to configure the system. An example of this window is shown below:



Clicking the 'Save' button stores the currently configured settings whereas clicking 'Cancel' returns to the general System Monitoring screen.

Selection criteria

The selection criteria that you configure are used by default to select the images in the main screen. Select four different criteria from the following list:

- by identification date
- by patient ID
- by patient name
- by patient last name

- by radiologist
- by examination type
- by examination subtype
- by RIS ID
- by Digitizer ID
- by User Info (i.e. a user configurable data field)
- by 'Sent'

In case 'Sent' has been configured as a selection criterium in the Set-up menu, the system gives you a choice from among six options:

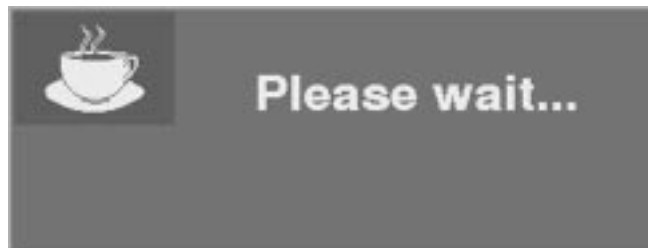
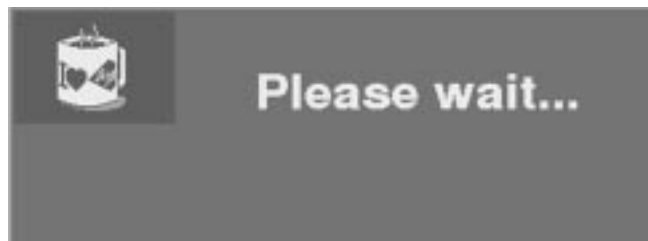


The 'sent' and 'archived' options only comprise images that have been sent respectively archived manually, whereas the 'printed' option also includes the autorouted images.

Wait-message Icons

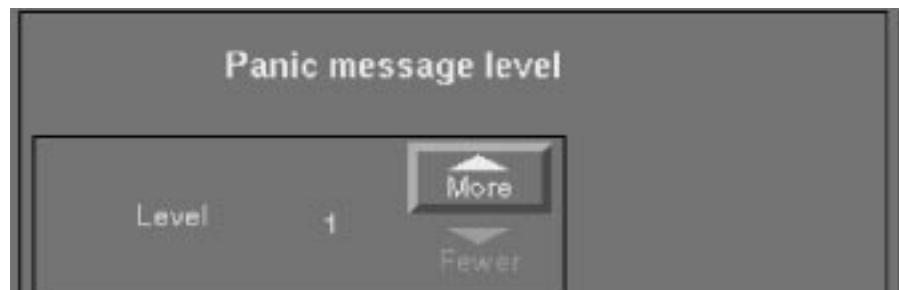
You are offered a choice between 'Simple' and 'Fancy' wait-message icons.

By default the wait-message icon assumes the shape of an egg-timer. By clicking the 'Fancy' button in the Set-up menu, you can turn the icon into a more fanciful shape, like the ones displayed below:



Panic message level

The panic message levels can be set by clicking the 'More' respectively 'Fewer' buttons in the Panic message level field of the Set-up menu, as shown in the screen below.



A selection can be made between three different levels:

- Level 1
When the system is set to level 1, any warning or error message irrespective of its importance is displayed and highlighted on the screen.
- Level 2
When panic message level 2 is selected, the system displays warnings or error messages, whenever errors of a somewhat higher priority than in level 1 occur.
- Level 3
When level 3 is selected in the Set-up menu, the system only displays and highlights messages of the highest priority.

Max. number images



The maximum number of storable images is calculated on the basis of the disk space available in the system.

This configurable number of storable images can be raised (never lowered), as the initial system calculations are based on storage capacity required for storing original exposed images and as subsequently processed images account for far less storage space.

Num. selectable images

The number of selectable images can be configured (5-10) using the More vs. Fewer button in the 'Num. selectable images' field.



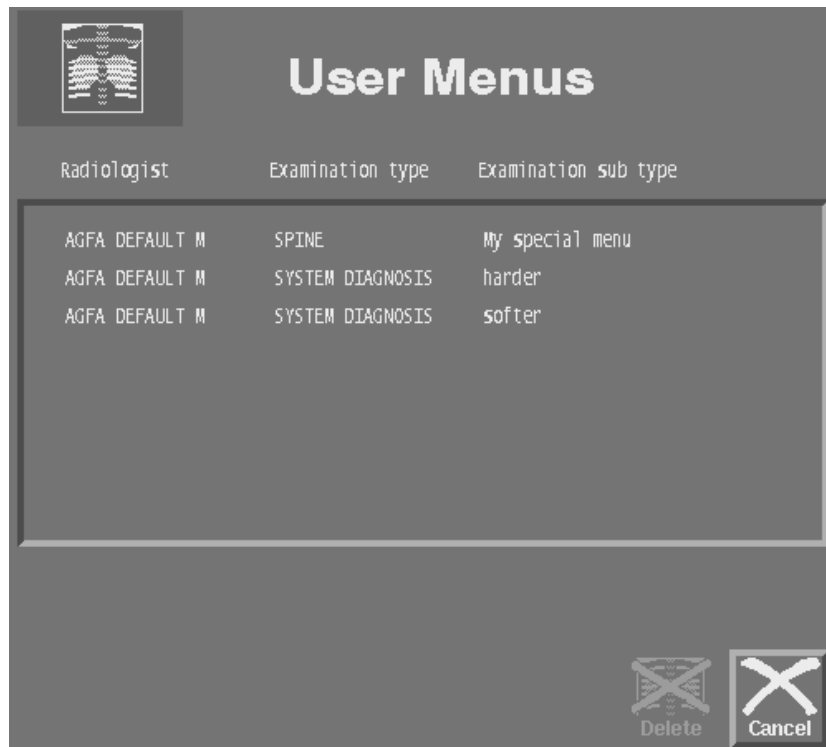
Caution

Changing the number of selectable images requires a reset of the user interface.

Increasing the number of selectable images can adversely affect the throughput of the background and on-line processing. It may be necessary to plug in additional memory.

User menu management

From the general System Monitoring screen, click the button labelled 'Menus'. Clicking this button opens a window that allows you to delete user-defined menus. An example of this window is shown below:



To delete a user menu from the list, proceed as follows:

- 1 Select the menu that you want to delete.

The background of the menu becomes white.

- 2 Click the 'Delete' button.

The menu is deleted from the list.

- 3 Click 'Cancel' to return to the general System Monitoring screen.

Note

To create a user menu, refer to 'Working with the Interactive Processing screen', section 'Storing new processing parameters'.

Queues

Using the Queues option in the Set-up menu, you can define periods for transmitting both the Archive and Review/Softcopy queues. In case the queues are not set by the user, the system sends the images to the archive and/or review stations continuously, by default.

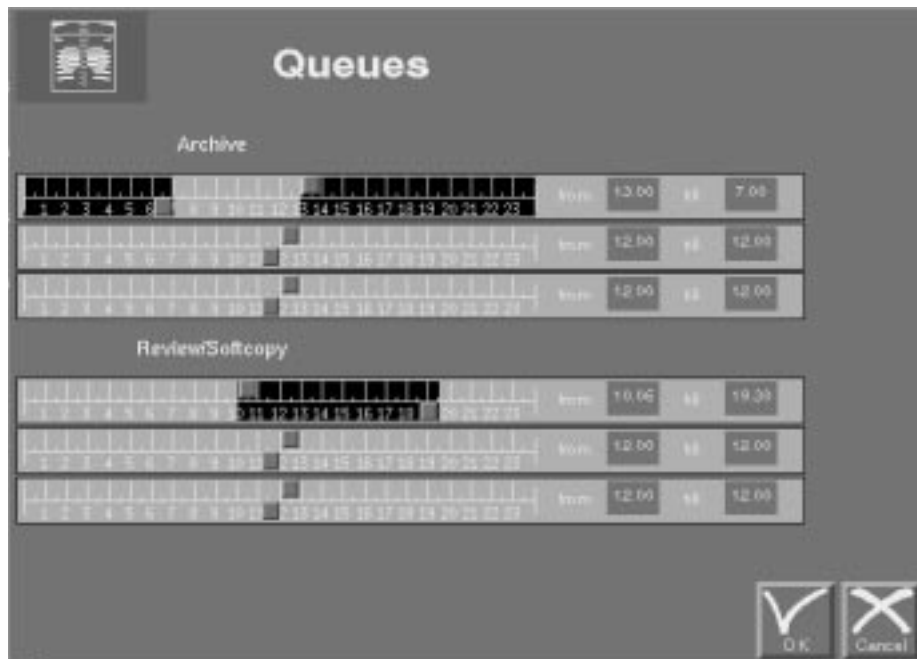
For both queues you can pre-set three different off-peak periods during which you want images to be archived or sent to a review station.

In order to do so proceed as follows:

- 1 Click the Queues button in the Set-up menu.
- 2 Click and drag the pointer across the period you want the images to be sent to the Archive respectively Review destinations.

The period can also be indicated by keyboarding the time of day in the appropriate boxes.

The system displays the indicated off-peak period(s) on a black background.



Devices

Using the Devices option in the Set-up menu, you can consult a table showing the last known status of all devices in the system, as displayed in the following sample screen.



Troubleshooting

Automatic anticipation

The processing station is programmed to anticipate problems. The actions taken are fully automatic and most of them are transparent to the operator of the processing station. The automatic actions are explained below:

- Every night, the processing station automatically makes a consistency check between the Oracle database of the images and the files of the images to anticipate database errors.
- If an internal software problem occurs during operation, the processing station automatically restarts the application.

General procedures in case of malfunctions

Although the processing station is programmed to anticipate problems and to correct malfunctions automatically, a user intervention is sometimes required. If you face a problem that is not automatically solved you can take one of the following actions:

- Reset the user interface
- Reset the background
- Reboot the system.

Always try to reset the user interface first. If this does not solve the problem, reset the background. Rebooting the system is the ultimate action you can undertake. If this does not solve the problem, contact a service engineer.

Reset and stop the user interface

If the application performs slower than normal or faces a deadlock, resetting the user interface is the most appropriate action. To reset the user interface, proceed as follows:

- 1 Make sure the main screen is displayed.

If not, click 'Select' in the upper right corner of the current screen.

- 2 Click 'Controller'.

The processing station returns the controller menu.



- 3 Select 'Reset User interface'.

If the previous actions did not solve the problem, then continue with step 4.

- 4 Click 'Controller' again.
- 5 Select 'Stop User Interface'.

The processing station displays the Log-out menu.



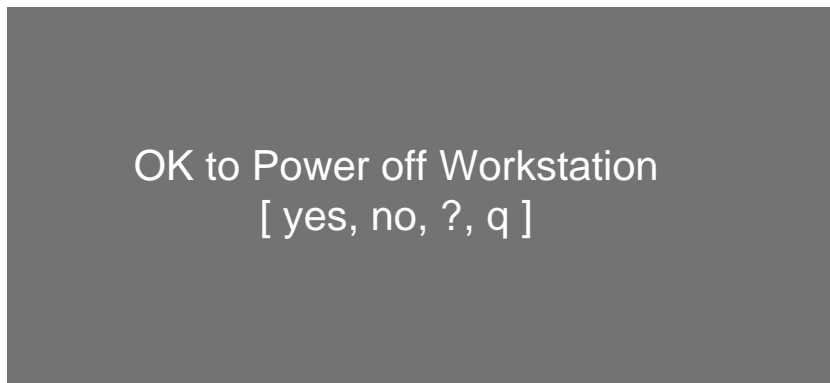
- 6 Click either the Log-out button or Power Off button.



If you click the Log-out button and then the OK-button, the system asks you for confirmation and then returns to the Log-in prompt.



If you click the Power Off button and then the OK-button, the system returns the following screen:



- 7 Type 'yes' and press [ENTER].

The system informs you that the Shut-down procedure has started and then returns the OK prompt. Switch off the computer, or type 'boot' to start up the system again.

Reset the background

This action solves typical background problems. To reset the background, proceed as follows:

- 1 Make sure the main screen is displayed.
If not, click 'Select' in the upper right corner of the current screen.
- 2 Click 'Controller' in the right corner of the screen and select 'Reset Background' to reset the software.

Check System

This function clears the system of corrupt data, if any. To check the system, proceed as follows:

- 1 Make sure the main screen is displayed.
If not, click 'Select' in the upper right corner of the current screen.
- 2 Click 'Controller' in the right corner of the screen and select 'Check System'.

Software Version

When selecting 'Software Version' in the 'Controller' roll-down menu, the system displays the software version and the operating system.

Performance Requirements of the processing station

Hardware

- SUN ULTRA 1 model 170
- 128 MB RAM
- 1 internal disk 2.1 GB
- 5 GB DAT tape drive (optional)
- 1 internal CD ROM drive
- 1 floppy drive 3.5 inch
- 1 keyboard (Country specific)
- 1 mouse + mousepad

Software

- Operating system Unix (Sun Solaris 2.5)
- Graphic User interface: Xwindows
- Relational data base: Oracle 7.2.2
- Motif
- ADC Compact Autoprocessing software
- ADC Compact Interactive processing software

Application software

- Chest
- Abdomen
- Skeleton

Optional application software

- Uro / Tomo
- Dental (in development)
- Paediatrics (in development)
- Full Leg / Full Spine (in development)

The following applications are not yet supported by the ADC Compact System:

- Angiography
- Mammography.

Performance Requirements - Monitors

Standard Brightness Monitor

Synchronization

Horizontal Scan Rate	48 to 108 kHz (automatic adjustment)
Vertical Scan Rate	60 to 80 Hz (automatic adjustment)

Input Signals

ECL Digital	D-Sub 25 pin connector (1, 2 or 4 bits per pixel)
Analog	3 BNC connector (composite on video or separate sync.)
	13W3 and other connectors optional

CRT

Screen Size	21" FS
Phosphor	P104 (other options available)
Non-glare AR Panel	Optional
Display Mode	Non-interlaced

Display Area

Horizontal Width	16" max (user adjustable)
Vertical Height	12" max (user adjustable)

Video

Video Band Width	200 MHz (up to 300 MHz optional)
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Resolution

Horizontal	1024 to 2048
Vertical	768 to 1536
Brightness	65 Footlamberts nominal HRMS™ allows the monitor to adjust automatically to a range of horizontal and vertical scan frequencies, providing compatibility with many hi-res display controllers for PCs, PS/2s, MACs, Sun, Apollo, DEC, Silicon Graphics and other workstations.

User Controls

Side	Power, Brightness and Contrast Controls
Rear	Height, Vertical Position, Width, Horizontal Position

Dimensions

Height	16.5" (19" with tilt-swivel base)
Width	19.5"
Depth	19"
Weight	48 lbs. (55 lbs. with tilt-swivel base)

Power Supply

Power Consumption	100 Watts
Input Voltage	90 to 130 VAC, 220 to 250 VAC
Input Frequency	47 to 63 Hz

High Brightness Monitor

Greyscale Monitor SMM 2183 L

Power requirements

Input Voltage	90 - 264 V wide range power supply
Power Frequency	47 - 65 Hz
Power Consumption	Max 150 Watts
Power factor control	according to IEC 1000
Power saving	according to VESA DPMS

CRT specifications

Size	21" Flat Square
Deflection Angle	90°
Light Transmission	30%
Phosphor Type	P45, cadmium free
Surface	Multicoated conductive panel (AR/AS)
Gun System	Dispenser Cathode (long life)
Focusing	static and dynamic

General performance

Horizontal Frequency	30 to 83 kHz
Vertical Frequency	50 to 120 Hz
Formats	19 Max, self recognizing and autoscaling

Display performance

Display Area (WxH)	400 mm x 300 mm
Non-Linearity	≤ 2%
Raster stability	0.05 mm Max swim&jitter
Maximum Brightness	≥ 175 ftL @ 1 Vp-p Input Signal
High Voltage Regulation	0,2% Max size change

Video amplifier, inputs

Bandwidth	140 MHz @ 80 V Modulation
Rise & Fall times	3 ns
Connectors	BNC Type
Impedance	75 ohms
Video Level	0.75 to 1.2 Vp-p
Sync Level	0.1 to 0.6 Vp-p

Front panel controls

Controls	Power on/off, Contrast/Brightness
Geometry	H/V-phase, H/V-amplitude, pin & barrel, raster rotation
Ambient light sensor	for automatic contrast control

Operating conditions

Temperature	
- Operating	+ 10 °C...+ 35 °C
- Storage	- 25 °C...+ 70 °C
Humidity	
- Operating	20% - 80% rel. humidity
- Storage	20% - 80% rel. humidity

Mechanical specifications

Dimensions (WxDxH)	499 x 520 x 476 mm
Weight	approx. 30.5 kg

Approvals

Safety	UL 1950, CSA, IEC 950, EN 60 950, DHHS
EMC	IEC 601-1-2
Radiation	MPR II
Others	CE mark TÜV-Ergo (optional) ISO 9001 certified plant



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