

CliniView 5.1

User Manual



Copyright

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1 Introduction

1.1 General

CliniView software is complete solution for dental digital image acquisition, processing, viewing and storing. CliniView image acquisition supports II's Sigma intraoral sensor, Orthopantomograph® OP100 D and Orthopantomograph® OC100 D digital units and intraoral videocameras. Images can also be imported from another digital sources. CliniView stores images and patient information in SQL database and provides tools for image archiving.

This user manual covers the use of CliniView. The Installation Manual describes how to install the CliniView software and use of CliniView Manager software. Refer to your equipment manuals before installing or using the equipment. See your Windows manuals for further information about the Windows environment.

When the software has been installed, you can perform the following operations, assuming that all the other equipment is ready for use:

- Create a new patient and store patient information in a database.
- Capture and store digital X-ray images with exposure values from the device.
- Capture and store intraoral photographs.
- Export and import digital images.
- Process images to enhance their diagnostic value with dental specific tools.
- Analyse the image with application specific measurement tools.
- Build an environment with multiple workstations using a database shared over a network.
- Printing images and image information.

CliniView works Windows® 2000, Windows® XP and Windows® 98 operating systems. In order to take full advantage of the diagnostic software, you have to be familiar with the functionality of the operating system.

CliniView allows you to import and export image files. Supported file formats are DICOM, JPG, TIF, BMP and PNG. Images are saved in the database in PNG formats.

CliniView can be used in a network environment. If CliniView is installed in several computers, the patient and image database can be shared and used from different workstations.

Instrumentarium Imaging recommends that you read this manual before using the software.

1.2 Manufacturer's liability

As manufacturer, we can only assume liability for safe and reliable operation of this software when the CliniView PC software is installed and used according to the CliniView Installation and User Manuals.



NOTE

For PC systems: Instrumentarium Imaging can guarantee OP100 D PCI card and CliniView compatibility with other PC hardware and software only if that configuration has been tested by Instrumentarium Imaging. Any later changes to the hardware and software may void this test.

1.3 Markings and abbreviations

The following symbols may be used in this manual:



NOTE

Contains useful information for the reader about the unit and its use.



CAUTION

Contains important instructions. If these instructions are not observed, the unit may malfunction or the unit or other property may be damaged.



WARNING

Contains warnings and instructions about the safety of the unit. If these warnings are not observed, the patient and operator may be exposed to serious risks and/or injury.

1.4 Manual

All CliniView functions can be selected from the menu bar. In addition, there are graphical symbols on the toolbar for some of the functions most used. This manual primarily describes the procedure by using graphical symbols, but it also describes the procedure through menubar. The user can choose either of them. The use through menubar is instructed as in this example: *File* ⇒ *Save*. Graphical symbols used stand beside the text.



NOTE

Clicking means pressing the left mouse button once. Double-clicking means pressing the left mouse button twice in rapid succession.

2 Patient management

2.1 Start CliniView

- 1 To start CliniView, double click the CliniView icon on the desktop or open program from Start menu *Programs* ⇒ *CliniView 5*.

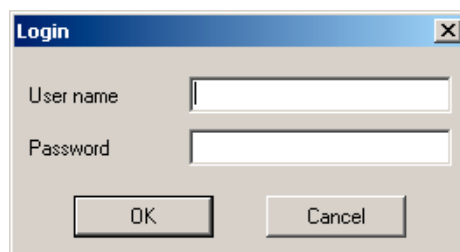


NOTE

CliniView checks the computer resources when it starts. If there is less than 300 MB of space on the hard disk, CliniView notifies you. If there is less than 200 MB of space on the hard disk, CliniView will not allow image capturing but it will start. If there is less than 100 MB of space on the hard disk, CliniView will not start.

2.2 Login

If the login option is activated you need to enter the user name and password.



Click **OK**. CliniView starts after successful login. Login is defined in CliniView Manager application. See *Installation Manual* for details.

2.3 Patient management

In CliniView patient information is stored in database and image always belongs to patient. Image capturing is not possible without patient selection.

2.4 Patient search

The *Patient search* dialog opens automatically when you start the program (If the option is selected). If the program is running, dialog can be opened by clicking the *Open patient button* in the toolbar. You can choose the fields to fill in the search criteria. You can also use * mark to expand the search area. For example by writing C*, you can search all the patients whose name starts with letter C. In PatientID field you can choose from dropdown menu: Patient ID, social security ID number or PatID (Bridge) fro search criteria. Click **Search**. All patients that met your criteria will appear on the list. Select the patient and click **Open** to enter the patient's image folder.



Other way to open the *Patient search* dialog is to select *Patient* \Rightarrow *Open*.

Last name	First name / Initials	Date of birth	Patient ID	Last visit
No search criteria applied.				

2.5 Add a new patient

To add a new patient to the database, click **New** on the Patient search dialog. Fill in the information to the free fields. Mandatory fields are bolded.

Patient ID field is mandatory field. In case user do not fill the patient ID, CliniView will create unik Patient ID. PatID (Bridge) is shown in case CliniView has connection to practise management software. PatID (Bridge) can not be edited in CliniView.

Date of birth can be filled by writing. Format of the date depends on settings in windows. If you want to use the calendar to define the birthday Click the *calendar button*. To select year click the left mouse button on top of the year in the calendar. The year becomes gray and you can use the arrow buttons to select the year. Use the left and right arrow buttons to define month and click the appropriate day. To close the calendar click the left mouse button anywhere outside the calendar.

Other way to open the dialog is to select *Patient* \Rightarrow *New*.

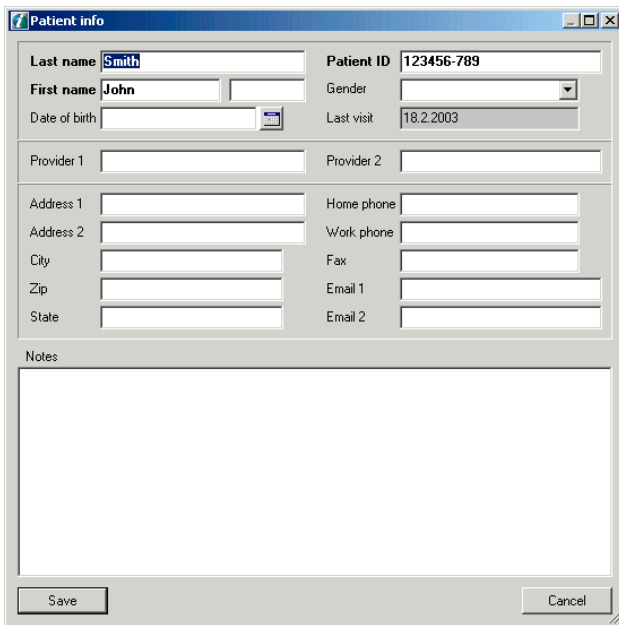
The screenshot shows a 'Patient info' window with the following fields and values:

Last name	Doe	Patient ID	12345
First name	John	Social Security	
Date of birth		PatID (Bridge)	
Gender		Last visit	14.5.2003
Provider 1		Provider 2	
Address 1		Home phone	
Address 2		Work phone	
City		Fax	
Zip		Email 1	
State		Email 2	
Notes			
Save		Cancel	

Click **Save** to finish adding the information. Click **Cancel** to abort the action; the patient information is not saved.

2.6 Edit patient information

To edit the patient information Click the *Open patient button* and click **Info** in the *search dialog*. Patient information dialog opens.



Click **Edit** in the *Patient info dialog*. Input fields changes white and can be edited. To save the edited information click **Save**. To exit the Patient info dialog without saving click **Cancel**. Other way to enter the Patient info dialog is to select *Patient* \Rightarrow *Info* and click **Edit** or *Patient* \Rightarrow *Edit*.

2.7 Delete patient

In patient search-dialog, patient can be moved to recyclebin by selecting patient and clicking **Delete**. Patient and patient information will disappear from Cliniview but will remain in the database.



NOTE

Patient information and images will not be deleted from the database. You can delete those finally or restore them back to patient list by using *CliniView Manager* program. See *CliniView Installation Manual* for details.

2.8 No patient selected-mode

CliniView can be open without any patient selected.

To enter no patient selected-mode click **Close** in the patient search dialog (before selecting a patient).

If you want to get to no patient selected mode when having patient open press the *Open patient button*. Other way to go to no patient mode is to select *Patient* \Rightarrow *Close*.



You see from the Cliniview statusbar if there is patient selected. Image capturing is not possible if there is no patient selected.

3 Taking panoramic exposures



WARNING

Do not run other programs while taking x-ray images. The system software uses all the resources of the workstation.

Prepare the operation according to the OP100 D User Manual and position the patient.



WARNING

Do not touch the PC during image acquisition.



Press the *Start OPD/OCP image capturing button* in the Main window to take an exposure. The exposure button is not visible if CliniView has been installed as a ViewStation. Other way to start the image capturing is to select *File ⇒ Capture ⇒ Panoramic image*.

A status bar at the bottom of the screen indicates if the system is warming up and when the system is ready for image acquisition.

Take the image with the x-ray unit.

Proceed to the chapter Saving images.



WARNING

Turning off the x-ray unit or the workstation during the exposure may cause the image to be lost.



NOTE

In order to take an exposure, check that the optical fibres are properly connected and that the OP100 D unit is ON. If this does not help, call your local dealer.



To discontinue the image capturing press the *Abort the image capturing button*.

4 Taking intraoral exposures

4.1 Procedure



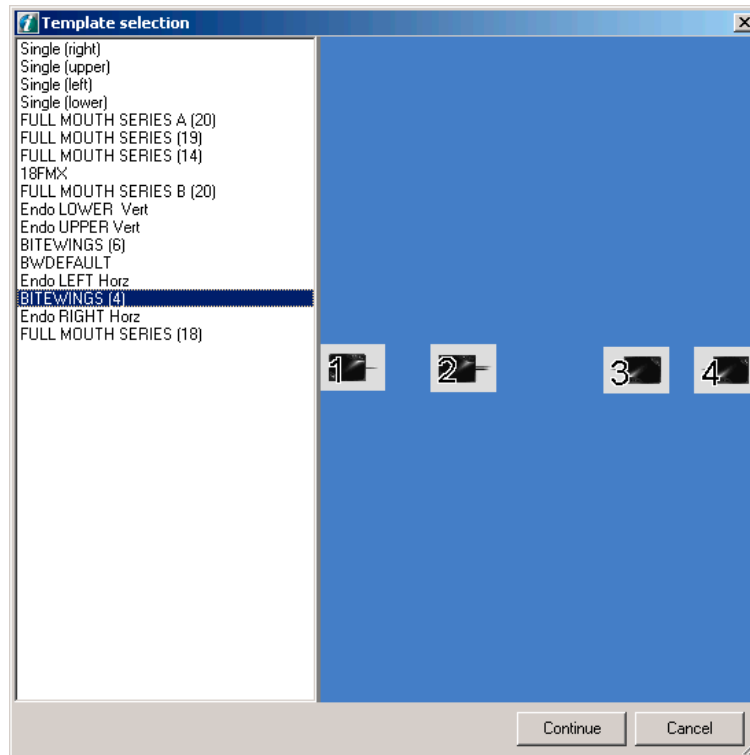
WARNING

Close all other programs while taking x-ray images so that the software is able to use all the resources of the workstation.



Capture an intraoral exposure by clicking the *Start intraoral image capturing button* on the main window. The button is not visible if CliniView has been installed as a ViewStation.

Various intraoral image acquisition methods can be chosen. Select one of the options from the list on the left side of the Template Selection dialog. The preview shows what kind of image/images will be taken and the order of the capturing.



Click **Continue**.



CAUTION

Avoid keeping the electronics ready for an exposure unnecessarily. The image cannot be taken if CliniView indicates that the electronics box battery is too low. If necessary, refer to the Battery refreshment section.

A status bar at the bottom of the screen indicates if the system is warming up and when the system is ready for image acquisition.

Position the sensor exactly the same way as it is displayed on the screen so that the AUTO-ROTATION of images functions properly.



WARNING

Turning off the x-ray unit or the workstation during the exposure may cause the image to be lost.

Press the exposure button when the system is in a Ready state. The exposure must be made within the time-out (1...10 min.); otherwise, the image capture times out (see the USB settings section). To take several images in a row, press the exposure button repeatedly.

Click the *Abort the image capturing button* to stop the image capture and deactivate the sensor.



To ensure the optimum exposure time, the exposure level of the sensor can be verified from the image info. The exposure level should be between 80-100% to obtain best image quality with minimum patient dose.



NOTE

CliniView starts to beep intermittently five seconds before timing out. When an imaging capture time out occurs, CliniView beeps continuously for a short period of time; warning you about the interrupted examination and a warning appears on the screen.

4.2 Quick start

To capture a single intraoral image directly, click the *Quick start button*. After taking the image, proceed to chapter *Saving images*.



5 Taking cephalometric exposures



WARNING

Do not run other programs while taking x-ray images. The system software uses all the resources of the workstation.

Prepare the operation according to the OC100 D User Manual and position the patient.



WARNING

Do not touch the PC during image acquisition.



Press the *Start OPD/OCD image capturing* button in the Main window to take an exposure. The exposure button is not visible if CliniView has been installed as a ViewStation. Other way to start the image capturing is to select *File ⇒ Capture ⇒ Panoramic image*.

A status bar at the bottom of the screen indicates if the system is warming up and when the system is ready for image acquisition.

Take the image with the x-ray unit.

After acquisition, the image is automatically processed.

Proceed to the chapter Saving images.



WARNING

Turning off the x-ray unit or the workstation during the exposure may cause the image to be lost.



To discontinue the image capturing press the Abort the image capturing button.

5.1 PA/AP image position on the screen

When a PA image is taken, the patient's nose is pointed towards the camera/sensor. The image appears on the screen so that the patient's left side is also the left side of the screen.

When an AP image is taken, the patient's occipitis is pointed towards the camera/sensor. The image appears on the screen so that the patient's left side is on the right side of the screen.

The Orthopantomograph® -text is always in the left lower corner of the image, if the image is not flipped.

6 Intraoral camera

6.1 Taking intraoral photographs

The intraoral camera function is for intraoral and extraoral digital video scanning and shots.



To start the video display, click the *Start intra oral camera button* (or press the left pedal).

The intraoral camera window appears on the screen and live display starts.

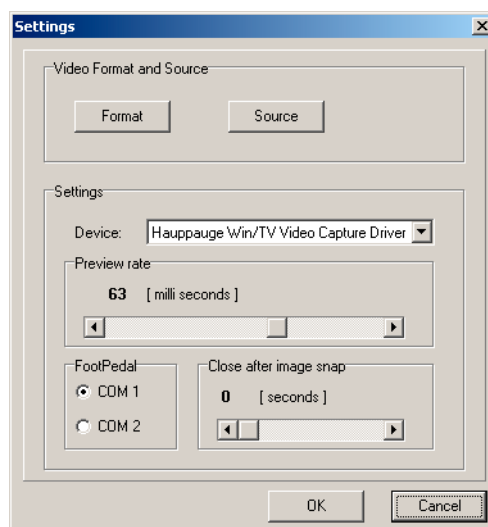


To capture images with the camera, click the *Capture button* (or press the midmost pedal). The captured photo stays on top of the screen for a few seconds. The time can be defined.

6.2 Settings for the camera device



To achieve the best possible image quality, it is recommended that the camera device is checked. Click the button to open the settings dialog.



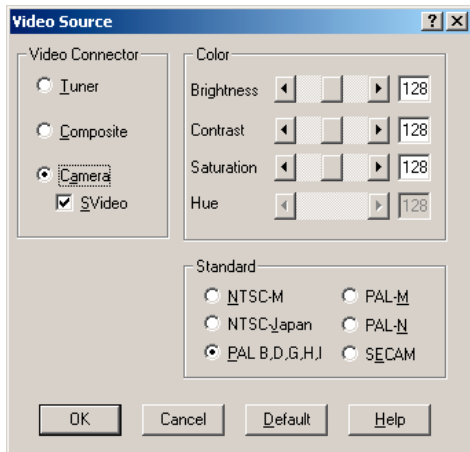
Normally device is selected automatically.

You can select the update rate of the intra oral camera window with the Preview rate slide bar.

Use the slide bar to specify how many seconds a captured image will stay top of the screen after it is captured.

6.2.1 Video source dialog

Open the Video source dialog by clicking the *Source* button.

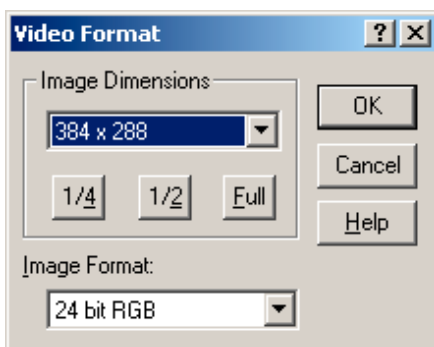


When the intraoral camera is used, check that the Camera and SVideo alternatives are chosen. The alternatives for the video standards are in the Standard box. These alternatives vary by camera manufacturer and country. Europe mostly uses PAL.

You can also adjust the brightness, contrast and saturation in the Video source dialog.

6.2.2 Video Format dialog

Click the *Format* button to open the window.



Select the requested dimensions for the camera window from the drop-down list or click one of the “size” buttons underneath it. Select the requested color setting from the bottom-most drop-down list. It is recommended that 24-bit RGB is selected.

7 Saving images

After an exposure, the image appears on the screen and can be saved either manually or automatically. By default, images are saved manually but an auto save function can be set.

7.1 Saving image manually

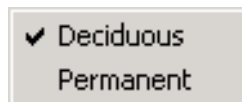


Ctrl+s

To save the captured image press the *Save button* or select *File* \Rightarrow *Save*. Save dialog appears on the screen. If the image is imported fill in the date, time and other desired information. Free notes can also be added to Notes sheet. Click **Save**. If the information is obtained automatically during normal image capture, you are not allowed to change the values.

For intraoral images there's also tooth map for tooth numbers. The tooth map can also be changed to represent *deciduous* teeth.

Press the right mouse button on the top of the tooth map.



Popup dialog opens and you can select the *Deciduous*.

**NOTE**

When saving image, make sure that you have selected the correct patient from the database. If the wrong patient has been selected, the image can be transferred to the correct patient. See the Move image to another patient section. **Shift+Ctrl+s**

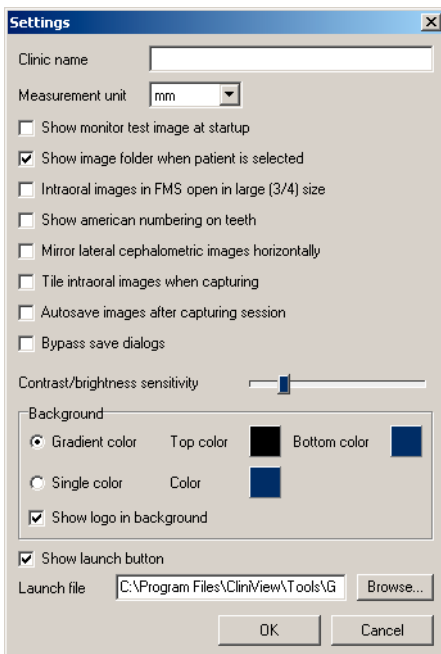
7.2 Save all

If you have several images open at the same time you can save them all at once. Click the *Save all button*. Image save dialog appears for each new and edited images.



7.3 Autosave option

To choose the auto save option, select *Tools* \Rightarrow *Settings*. Select Autosave images after capturing session from the list and click OK.



If the auto save option is set, the image is saved automatically after capturing in PNG-format.

**NOTE**

Autosave function does not work for imported and scanned images.

Images can also be saved without any dialogs appearing on the screen. This function is activated if Bypass save dialogs is selected.

CliniView allows more than 25 intraoral images to be open and unsaved after image capture. However, it is not recommended that images are kept open without saving them.

Exposure parameters can be added to the image if the image is imported to CliniView.

8 Image folder

8.1 Open image



Ctrl+o

To open an image, first select the patient whose images you want to view. After the patient has been selected, the image folder opens automatically. In other occasion open the image folder by pressing the *Open image* button or select *File* ⇒ *Open image*.

All images related to the selected patient can be seen in the Image folder. Choose the image/images and press **Open** or double click the image.



Each modality has own category. Height of the categories can be increased or decreased by dragging the horizontal lines. Move the mouse on the top of the border line. When the cursor turns to double-ended arrow press the left mouse button down and move the mouse up or down.

You can also change the size of the image folder.

8.2 Move the image to another patient

Images can be moved to another patient. Open image folder, select image to be transferred and click **Move**. Select the right patient from the dialog and click **Move**. Open image can also be moved to another patient by selecting *Image* ⇒ *Move to another patient*.

8.3 Delete image

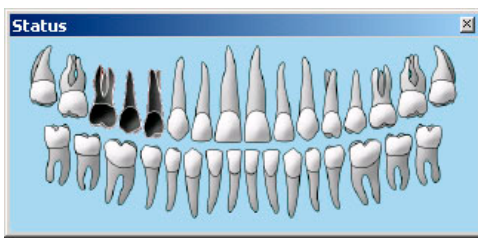
Selected image/images can be moved to recyclebin by clicking the **Delete**. Images will disappear from the Image folder. You can also delete open image by selecting *Image* ⇒ *Delete*.

**NOTE**

Images can be deleted finally or restored back to image folder with *CliniView Manager program*.

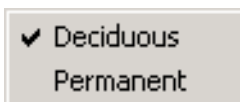
8.4 Status window

Status window has two purposes; it tells which teeth patient has intraoral x-ray images (black tooth) and also you can open intraoral image by clicking the black tooth in Status window. Status window can be showed and hidden from View \Rightarrow *Status view*.

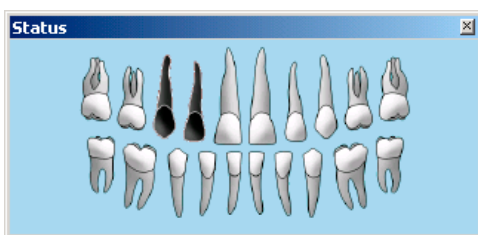


There is two ways to add teeth numbers to images. You can drag and drop the image with **right** mouse button to Status window; press the right mouse button on the image and hold it down. Move it to Status window and release the mouse button when you are on the top of the right tooth. The tooth turns black. If the image contains more than one tooth you can drag the same image to as many teeth as needed. You can also insert teeth numbers in directly to image save dialog. Refer to chapter *Saving image manually*.

The Status window can be changed to represent *deciduous* teeth press the right mouse button on the top of the Status window.



Popup dialog opens and you can select the *Deciduous*.



You can change the numbering to American numbering from *Tool* \Rightarrow *Settings*.

9 Image processing

9.1 Diagnostic tools

After the image has been saved, you can enhance images with diagnostic tools. To open the diagnostic tools menubar select *View* \Rightarrow *Toolbars* \Rightarrow *Diagnose*.



9.1.1 Zoom



Press the *Zoom button*. To zoom in the image, click the left mouse button on the image. To zoom out the image, click the right mouse button on the image.

Other way to activate the Zoom is to select *Diagnose* \Rightarrow *Zoom*.



9.1.2 Zoom by fitting the view



With Fit to view function images can be zoomed so that the whole image is seen on the screen. Press the *Fit to view* button and zoom in and out with left and right mouse buttons (zoom tool has to be selected).



NOTE

When the fit to view function is on there is limitation to zoom. To zoom beyond the limits release the fit to view function.

9.1.3 Navigator

When the image is zoomed it is possible to see the zoomed area of the image on Navigator window.



To open the Navigator window select *View* \Rightarrow *Navigator*.

9.1.4 Pan

Click the left mouse button and drag the mouse on the image to move the image view. This is working when the whole image is not seen on the screen.



Other way to activate the Pan is to select *Diagnose* \Rightarrow *Pan*.

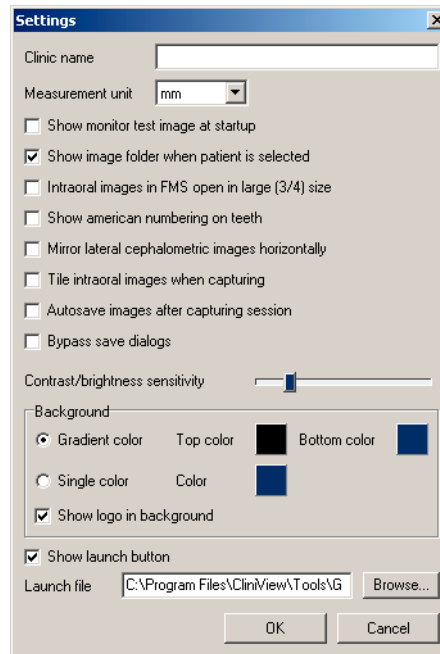
9.1.5 Adjust contrast and brightness

The contrast and brightness of the selected image can be adjusted by clicking the *Contrast button* and then clicking the left mouse button and dragging the mouse on the image according to the following table.



Dragging direction	Function
↑	Increases CONTRAST
↓	Decreases CONTRAST
→	Increases BRIGHTNESS
←	Decreases BRIGHTNESS

To adjust the Contrast/Brightness tool sensitivity, select *Tools* \Rightarrow *Settings*. The bigger the value, the more contrast/brightness is changed when the mouse is dragged.



9.1.6 Invert



This function inverts the white areas to black and the black areas to white. Gray shades are also inverted.

Other way to activate the Invert tool is to select *Diagnose* \Rightarrow *Invert grayscale*.

9.1.7 Noise reduction



This function reduces the image noise. There are two ways to reduce the noise; average and median.

Other way to activate the Noise reduction is to select *Diagnose* \Rightarrow *Noise reduction* and select *Average* or *Median*.

Noise reduction can also be set as default for each captured image. Refer to chapter *Settings* for further information.

9.1.8 Edge enhancement/embossment



This function emphasizes image edges. Click the icon and select the emphasizing direction on the pop-up dialog.

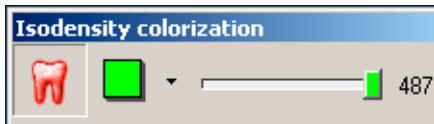
Other way to activate the Edge enhancement/embossment is to select *Diagnose* \Rightarrow *Edge enhancement*.

Edge enhancement can also be set as default for each captured image. See chapter *Settings* for further information.

9.1.9 Isodensity colorization tool



Chosen gray tone can be colored with isodensity colorization tool so that the selected gray tone dyes in whole image area. You can select the range of the gray tones with slider by pressing the left mouse button on the slider and moving it. Range of the selected gray tones is shown on the right side of the slider. The middle most gray scale can be chosen by clicking the left mouse button on the desired spot on the image. other way to activate the Isodensity tool is to select *Diagnose* \Rightarrow *Isodensity*.



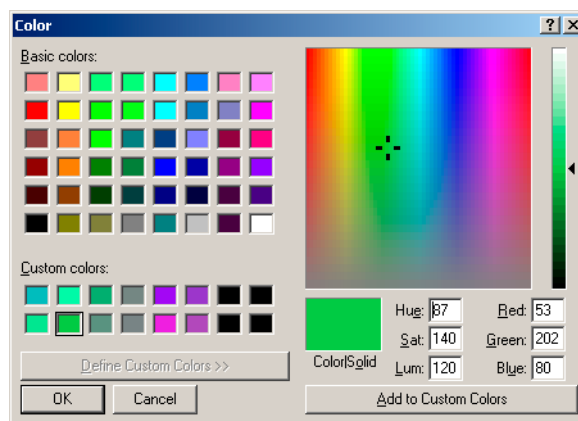
To delete isodensity color select range = 0.

With Toggle transparency button you can choose the color to be transparent or covering.

Isodensity color can be hidden with show/hide button or by selecting *View* ⇒ *Show/hide graphics*.



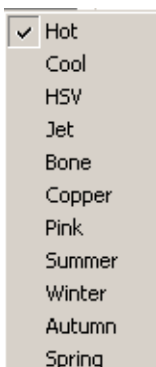
Choose the color from the drop down list which opens by pressing the button on top of the arrow. If you want to have more color alternatives click the left mouse button on top of the *color* button.



You can customize your favorite colors by pressing the *Define custom colors* button. Select colors from grid or select from the color area. Press the *Add to custom colors* button.

9.1.10 Pseudo color

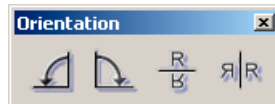
To colorize the whole image, choose desired color combination from the list.



9.1.11 Orientation

To open the orientation toolbar click the orientation button.





9.1.11.1 Rotate

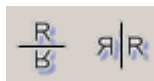


To rotate the image clockwise, click the *Right rotate button*. To rotate the image counterclockwise, click the *Left rotate button*.

The image rotates 90 degrees at a time.

Other way to Rotate is to select *Diagnose* \Rightarrow *Rotate left* or *Rotate right*.

9.1.11.2 Flip



To make a horizontal mirror image of the current image, click the *Left flip button*. To make a vertical mirror image of the current image, click the *Right flip button*.

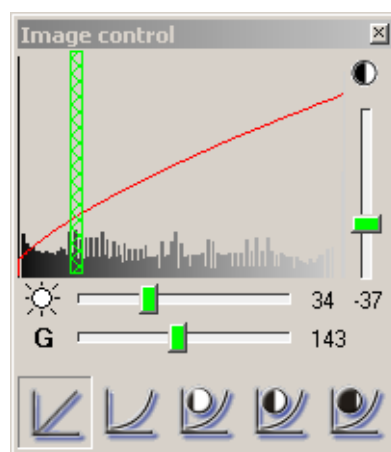
Other way to flip the image is to select *Diagnose* \Rightarrow *Flip vertically* or *Flip horizontally*.

9.1.12 Image control

A histogram is a graph that shows the distribution of grayscales in the image. Image control can be used to adjust the image of the grayscales to find optimum appearance for active image. The horizontal axis (pixel values) indicates the darkness of a grayscales from dark to light (left to right). The vertical axis shows the number of pixels in each gray scale.



To open the Image Control window press the button. Other way to open the window is to select *View* \Rightarrow *Image Control*.



Adjust the contrast by pressing the left mouse button down and moving the mouse vertically on the top of the histogram. Contrast can also be adjusted from the slide bar on the right. Adjust the brightness by pressing the left mouse button down and moving the mouse horizontally on the top of the histogram. Brightness can also be adjusted from the slide bar on the bottom of the histogram.



The brightness adjusts automatically if you press the *Toggle auto brightness button* down before controlling contrast.

Gamma curve can be adjusted from the slide bar beside the **G**.

On the bottom of the Image Control window are histogram base operation buttons. The default contrast, brightness and gamma values for each base operation can be defined in Default image settings. Refer to chapter *Default image settings*.

Contrast, brightness and gamma values can be adjusted from the keyboard with arrow keys. Activate the adjustment by clicking on of the slide bar levers with left mouse button. Then you can use the arrow keys to guide the slide bar.



Linear curve.



Logarithmic curve.



Equalization curve with low contrast.



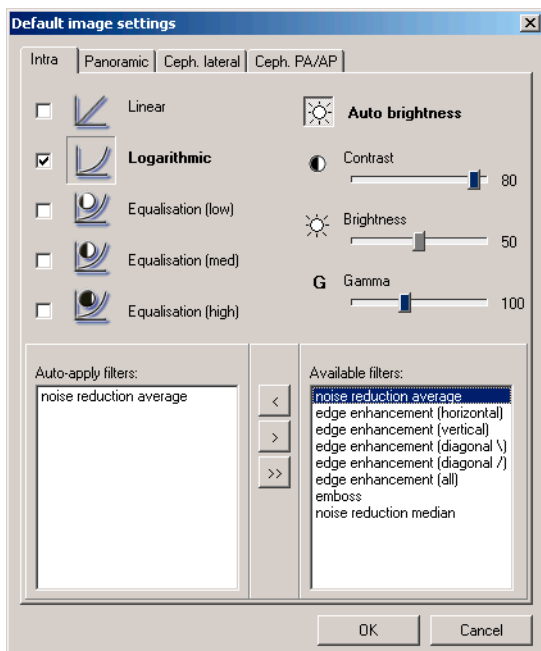
Equalization curve with medium contrast.



Equalization curve with high contrast.

9.1.13 Default image settings

In the Default image settings you can select the default gray scale conversion method for every modality. Select *Tools* \Rightarrow *Default image settings*.



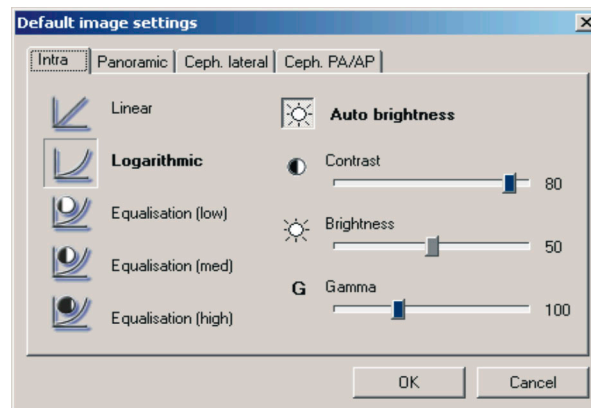
Ctrl+z

You can adjust the contrast, brightness and gamma curve from the slide bars and select histogram base operation. Auto brightness can also be selected. The default gray scale conversion is used when the image is displayed for the first time.

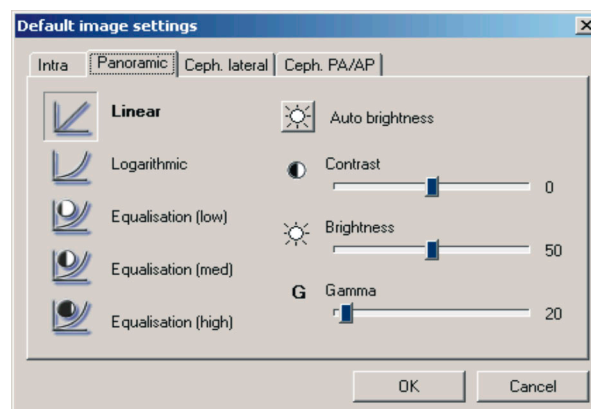
Also different filters like none reduction, edge enhancement etc. can be set as automatic pre processing functions. Select the operation from right side column and move it with arrow-button to left column. The prefuctions work only after image capturing.

Default factory settings for these adjustments are:

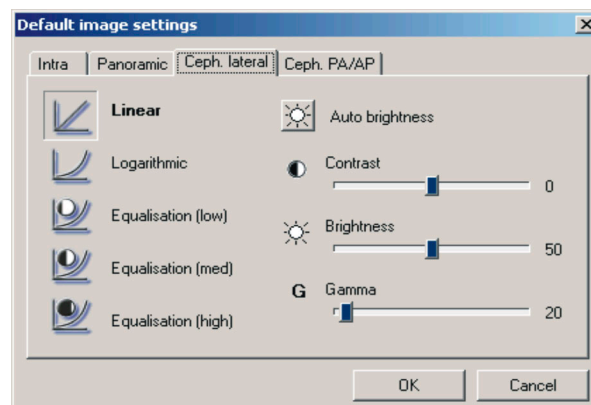
1 For intra oral imaging:



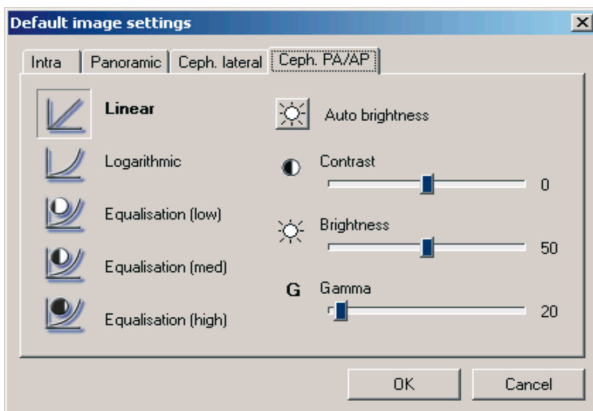
2 For Panoramic imaging:



3 For Cephalometric lateral imaging:



4 For Cephalometric PA/AP imaging:



These settings only apply to images that are acquired with CliniView software. These settings do not apply to imported or scanned images.

9.1.14 Undo

Operations can be cancelled step by step with the *Undo button*. Undo works only until saving image.



9.1.15 Restore original image

This function removes filters (noise reduction, edge enhancement, embossment, invert) from saved image and reads the image with default image settings.



Other way to restore original image is to select *Diagnose* \Rightarrow *Restore original image*.

9.1.16 Default

Diagnose \Rightarrow *Default*. This function reads the image with default image settings.

9.2 Overlay graphics tools

9.2.1 Select tools

You can open the Select toolbar by choosing *View* \Rightarrow *Toolbars* \Rightarrow *Select*.



Select the point tool and left-click on a non-active image to activate the image. After the image is activated it can be manipulated. Point tool is also for selecting objects.



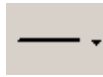
Selected object can be deleted by pressing *Delete* button. You can delete all overlay graphics by selecting *Graphics* \Rightarrow *Delete all*.



Choose the color from the drop down list which opens by pressing the *Color button*.



If you want to have more color alternatives click the left mouse button on top of the *color button*. You can customize your favorite colors by pressing the *Define custom colors button*. Select colors from grid or select from the color area. Press the *Add to custom colors button*.



Choose the line width from the drop down list which opens by pressing the button.



You can choose the graphics, measurements, isodensity or/and rois to be visible or invisible with *show/hide tool*.



You can make the measurement toolbar visible or invisible by pressing the *Show/hide measurement toolbar button*.



You can make the drawing toolbar visible or invisible by pressing the *Show/hide drawings button*.



NOTE

Overlay graphics are saved in a separate file so that the original image is always available.

9.2.2 Drawing tools

Open the Drawing toolbar by selecting *View ⇒ Toolbars ⇒ Drawings*.



You can draw lines, arrows, squares, circles and write text with drawing tools. Other way to select the drawing tools is to choose *Graphics menu* and select the tool from the drop down list.

9.2.2.1 Draw line



Click the icon to draw a straight line on the image. Click the mouse at the starting point and click it again at the end point of the line.

9.2.2.2 Draw arrow



Click the icon to draw an arrow on the image. Click the mouse at the starting point and click it again at the place that the arrowhead should point at.

9.2.2.3 Draw rectangle



Click the icon to draw a rectangle on the image. Click the mouse on the starting corner and click it again on the point of the opposite corner.

9.2.2.4 Draw circle



Click the icon to draw a circle on the image. Click the mouse on the centre point and click it again when the circle is of the desired size.

9.2.2.5 Draw free hand

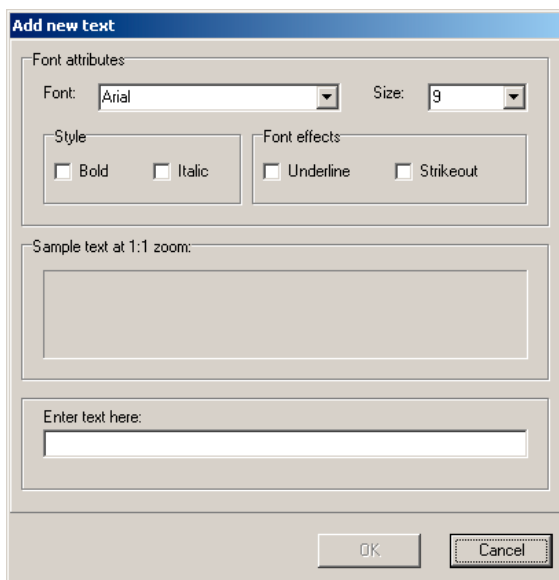
Click the icon to draw a free-hand line on the image. The line will follow the movements of the mouse after the mouse is clicked at the starting point. To finish the line, click the mouse again.



The size, shape, line width and color of the drawn objects can be changed with select tools after activating the object.

9.2.2.6 Insert text

Click the icon to add text to the image. Show the starting point for the text by clicking the left mouse button on the image. The Add new text window appears on the screen.



You can choose font and font size from the drop down menus. You can also select style and font effects for the text. Write the text to the box. If you click right mouse button over the text-edit field, there will be popup menu, where you can choose to copy or paste text.

To add the text click **OK**.

Written text can be edited afterwards. Select *Point-tool* and double click the text you want to manipulate or click the *Text button*; and text dialog opens.

Text objects can be moved by dragging. Select the object by clicking the left mouse button. Keep the mouse button down when the object follows the mouse movement.

9.2.3 Measurement tools

Open Measurement toolbar by selecting *View* \Rightarrow *Toolbars* \Rightarrow *Measure*.



9.2.3.1 Inaccuracy in length measurements

Measurements can only be made for original images taken with CliniView. Measurements of imported images etc. are not reliable without manual calibration.

The results of the measurements might be inaccurate due to incorrect calibration, projection magnification errors and projection changes. The system also must be serviced as requested regarding this modality.

In panoramic images the horizontal and vertical magnifications are the same only in the focal trough. Horizontal measurements from panoramic images are unreliable. The angulation of the object being imaged affects the dimensional accuracy of the image.

If the object deviates from the sharp image layer by 3 mm, the affect is a 0.8% fault in the image if measured from the centre area of the image. If measured from the edge of the image, the inaccuracy is 5.0% maximum.

Program	Measure inaccuracy
P1-P4, P8	+/- 0.18 mm (=2 pixels) or 5% whichever is bigger *
P5	+/- 0.18 mm (=2 pixels) or 7% whichever is bigger *
P6-P7	+/- 0.18 mm (=2 pixels) **
P9	+/- 0.18 mm (=2 pixels) *
Sigma	+/- 1 pixel

*At the focal trough

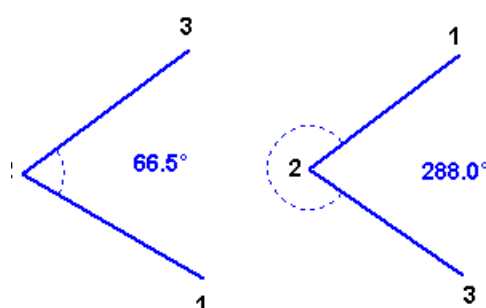
**At the plane perpendicular to the beam and coinciding with the centre of the object (i.e., the mid sagittal plane on the Lateral Ceph)

The manufacturer assumes no liability for the accuracy of the measurements from the x-ray image if the measurement has been made in some other way.

9.2.3.2 Three point angle



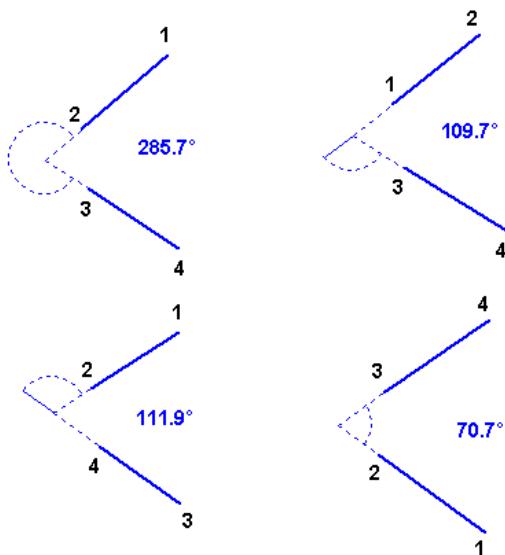
Click the icon to measure the angle between the two lines. Angle is measured counterclockwise between the **first** and the **second** drawn lines. Lines can be drawn by clicking the left mouse button three times to create the angle to be measured. The order of the clicking's defines the angle to be measured as in the example below.



The size of the measurement text can be changed by double clicking the text with point tool. Choose the desired font size from the drop down list.

9.2.3.3 Free angle

Click the icon to measure the angle between the two lines. Other way to activate the free angle tool is to select *Measure* \Rightarrow *Free angle*. Angle is measured counterclockwise between the **first** and the **second** drawn lines. Lines can be drawn by clicking the left mouse button four times to create the angle to be measured. Lines do not need to intersect, angle can also be measured from apparent intersection. The order of the clickings defines the angle to be measured as in the examples below.



The size and shape of the angles can be changed. Click the object from the movement point and drag it to desired place. Movement points are all the endpoints of the lines which become red when activating the object.

Object can be moved by activating it and dragging it with the mouse.

Angle objects can also be manipulated with select tools.

The size of the measurement text can be changed by double-clicking the text with point tool. Choose the desired font size from the drop down list.

9.2.3.4 Measure tool

You can measure distance between two points with measure tool. Click the *Measurement button* and move the cursor to the point where to start the measurement and click the left mouse button. Double-click with left mouse button to end the measurement or press the left mouse button once and press Esc on the keyboard. If you want to continue measuring click the left mouse button only once and continue to the third point, end with ESC or double-click.



Other way to activate the Measure tool is to select *Measure* \Rightarrow *Measure*.

The length and direction of the measurement lines can be changed. Click the object with point tool from the movement point and drag it to desired place. Movement points are all the endpoints of the lines which become red when activating the object.

Object can be moved by activating it and dragging it with the mouse.

Measurement objects can also be manipulated with select tools.

The distance is marked with an approximate symbol (~25,5 mm) if the measurement is not calibrated. Measurement can be calibrated after which the distance is marked with an equals sign (=25,5 mm). See the Calibrate section.



NOTE

Only calibrated measurements are reliable.

The size and the font type of the measurement text can be changed by double clicking the text. Choose the desired font size from the drop down list.

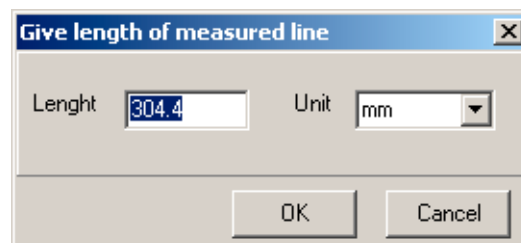
9.2.3.5 Calibration tool



Measurements made from the image can be calibrated if there is a reference object visible on the image. When using the Calibrate function, all distances will be calibrated according to the last measurement.

Press the Calibrate button and draw a line by pressing the left mouse button at the starting point and at the endpoint of the calibration line. Calibration window appears on the screen and you can fill in the accurate length. Select the measuring unit from the drop down list and press OK.

Other way to activate the calibration tool is to select *Measure* \Rightarrow *Calibrate*.



If you want to use existing line for calibration activate the line and press the Calibrate button.

Default measurement unit can be selected from the *Settings* dialog.



The size of the measurement text can be changed by activating the text and pressing the Text button. Choose the desired font size from the drop down list.

Measurement objects can also be manipulated with select tools.



CAUTION

The distance is marked with an approximate symbol (~25,5 mm) if the measurement is not calibrated. Measurement can be calibrated after which the distance is marked with an equals sign (=25,5 mm).

9.2.4 Region of interest (ROI) tools

There are three different tools for optimizing contrast in selected area. To open the ROI toolbar select *View* \Rightarrow *Toolbars* \Rightarrow *ROI tools*. Click one of the three buttons to display a circle on the image that enhances contrast. Move the mouse to move the circle. Click the right mouse button and drag the mouse at the same time to adjust the size and shape of the circle. Press the left mouse button once to leave the circle in some place. ROI's can also be deleted with *Delete* button.



Magnification ROI.



Magnification ROI with equalization.



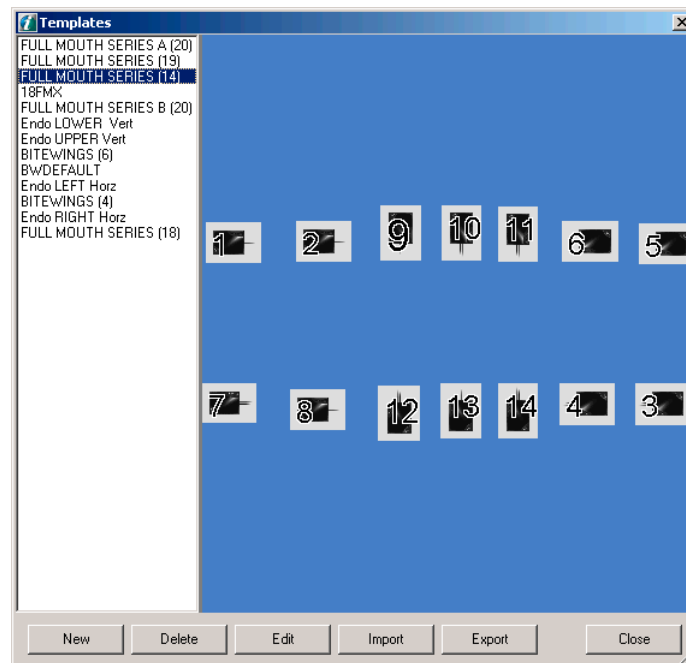
Equalization ROI.

ROI-objects can also be moved and resized afterwards by dragging with mouse.

10 Templates

Template guides enable you to take images in the right order and location in the patient's mouth. Templates can be designed for various purposes such as bitewing series, full mouth series or any other customized image series. You can also import or export templates which have been made with CliniView software and edit existing templates.

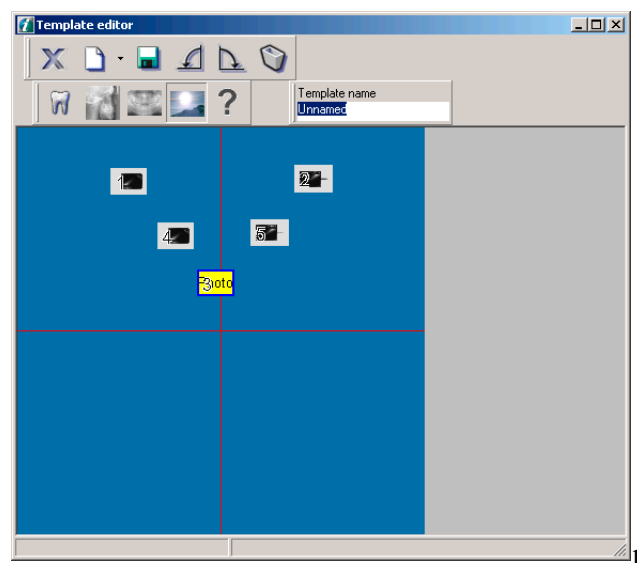
To open the **Template** dialog select *Image* ⇒ *Edit template*.

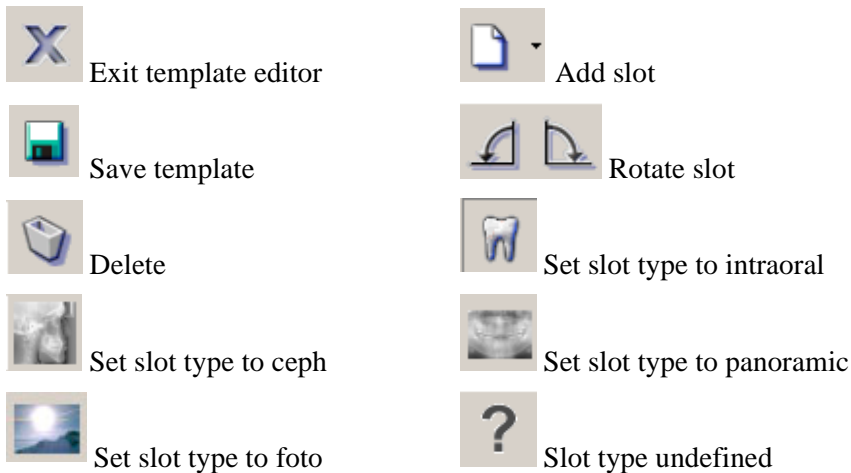


10.1 Creating new template

You can create new intraoral template, panoramic template, cephalometric template or combination template with different modalities by using template editor.

Click **New** to create new template.





Start by selecting the modality. Click the *arrow* beside the Add slot button. Select the desired modality from the appearing drop down list. The first slot appears on the screen for the chosen modality.



You can add more slots by Clicking the *Add slot button*. Slots appear to the upper left corner and you can arrange them on the screen by dragging.



10.1.1 Changing the slot type

You can manipulate any slots on the screen. Select the slot to be manipulated by clicking it. To change the slot type click one of the *slot type buttons*.

10.1.2 Rotate the slot

You can rotate the slot to left or right by clicking the *rotate buttons*.



10.1.3 Undefined slot type

You can create template with undefined slots. It means that when the template with undefined slots is used, this undefined slot can be used for any of the four modalities. For example, when using template with four intraoral slots and one undefined, after the four intraoral exposures the last undefined slot can be used for panoramic image.



10.1.4 Delete slot

To remove created slot select the slot and click the *Delete button*.



10.1.5 Saving the created template

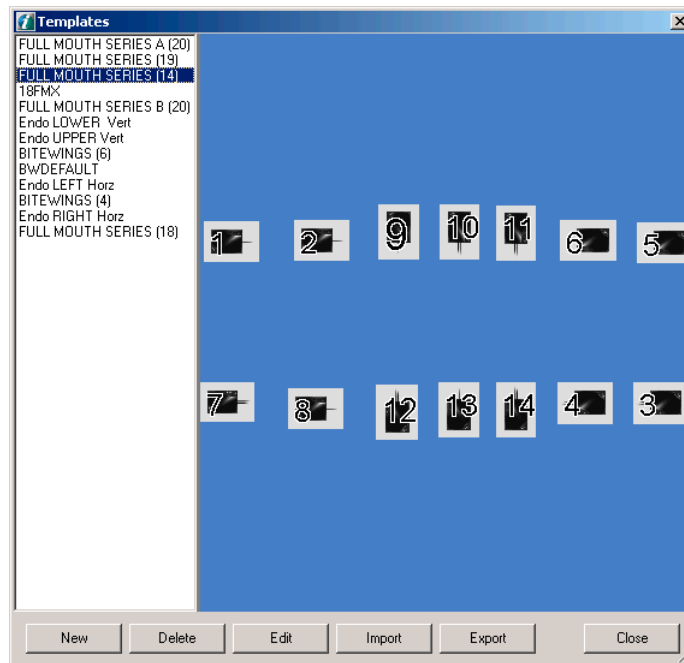
When the created template is ready write name for the template and click the *Save button*. Template will be saved to the template database and it will be seen directly on the list in template dialog.



Close the template editor by pressing the button. If you close the editor before saving the changes will be lost.



10.2 Delete template



You can remove template from the list. Click the name of the template and click **Delete**.

10.3 Edit template

You can edit one of the templates on the list in Template dialog. Select the template to be edited and click **Edit**. Template editor opens with the selected template.

After selecting the slot to be manipulated, you can use all the tools in the dialog.



After you have edited the template click the Save button.



NOTE

The original template will be replaced!



Close the template editor by pressing the button. If you close the editor before saving the changes will be lost.

10.4 Import and export templates

Templates which have been made with CliniView 5 version can be exported and imported.

10.5 Copy template

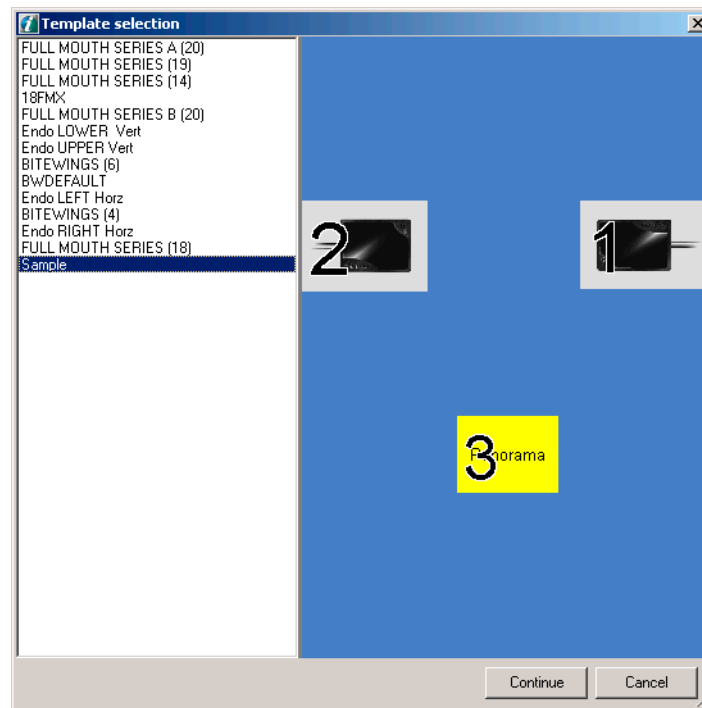
Click right mouse top of the template list and pop-up menu with copy-command appears.

11 Creating series

With this function you can add real images to templates. Templates with real images are called series.

You can combine different images from patient's image folder and thereby group them for study and comparison.

To create series select *Image* \Rightarrow *Create Series*.



Select the desired template from the list and click **Continue**.

Now you can drag and drop open images to template by pressing right mouse button and dragging the image to its place.

Also you can drag the image out from template and change the slot.

You can import image to series. Press the right mouse on the slot and the import dialog will appear.

Image in the slot can be edited by clicking the left mouse button on the image. The image will appear on the screen "independently" and can be edited.

Images that are in the series are also shown in image folder as separate images.

If you delete image from the image folder the image will disappear also from the series. If you delete series, all images which were included in series will remain in image folder.

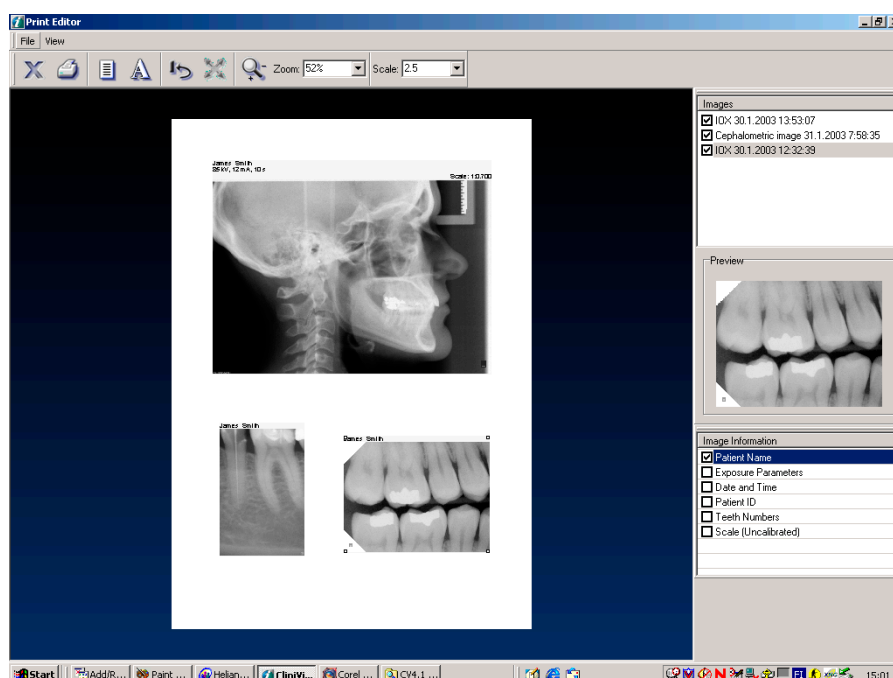
12 Printing

With CliniView print editor you can print single or multiple images on same page. Print editor will print OPEN images as they are seen on screen. This means that if you have drawings or measurements visible, those will be printed also. If you have zoomed only part of the image, that part will be printed.



To open the print editor press the print button. Other way to start the print editor is to select *File* ⇒ *Print*.

Ctrl+p



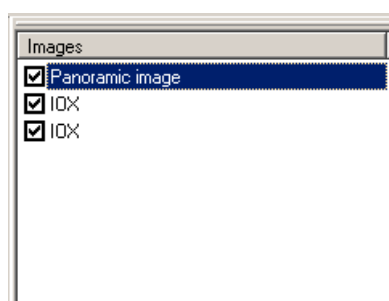
You can use the print editor to position the images to the paper and add all the necessary image information.

12.1 Image size in printing

If the image is calibrated in CliniView, it will appear in print editor preview in 1:1 size. You can see the scale in upper field.

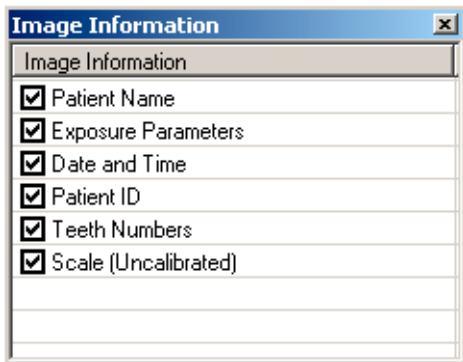
12.2 Image list

From image list you can choose the images to be printed.



12.2.1 Image information

Image information list is on the lower right corner.



The list shows the alternative information which can be printed with the image from the database. When selected, the information appears on the top of that image. To remove the selected information remove the selection from the list. Notes will be printed below the image.

12.3 Tools



Exit print editor



Start printing



Page setup



Header and footer



Restore image size



Fit to page



Zoom the print preview

12.4 Zoom

With zoom tool you can change the size of the print preview on the screen. Press the button and move the cursor on the paper preview. To enlarge the preview press the left mouse button. To reduce the preview press the right mouse button. You can also choose the zooming percentage from the drop down list beside the zoom button.



On the upper right there is a list of open images. Select from the list all the images you want to print. Images appear cascade on the paper preview.

12.5 Arranging the images on the print preview

You can move the images to arrange them. Activate the image by clicking the left mouse button on the image and drag the image to desired place.

12.6 Resizing the images on the print preview

You can resize the images steplessly. Press the left mouse button on the image to activate it. Move the mouse on some point in any of the four corners so that

the cursor turns to double-ended arrow. Press the left mouse button down and drag the corner to reduce or enlarge the image.

You can also use the scale field to determine the scale for image. Use the dropdown list or write the scale to the field. You can use dot or comma in decimal numbers.

12.6.1 Fit to page



You can resize the image to use the whole paper area by pressing the Fit to page button. Fit to page function works only when printing single image.

12.6.2 Restoring the image size

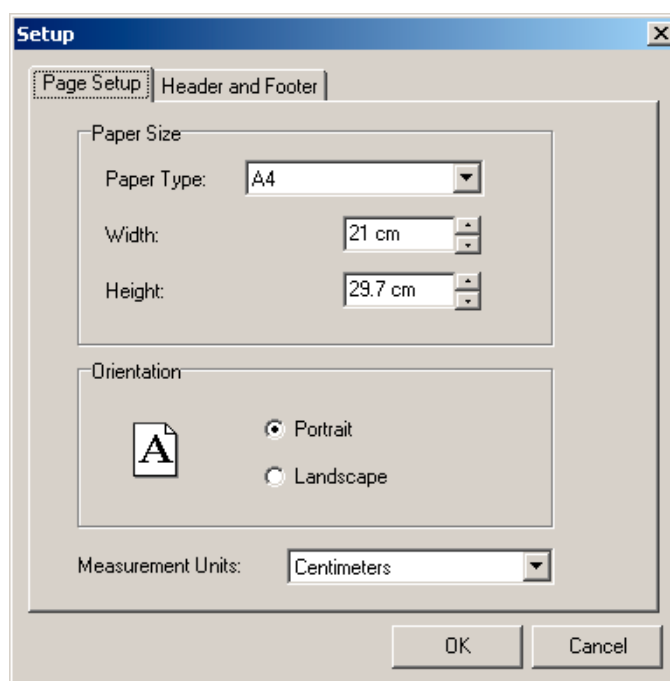


You can restore the image to its original size on the paper preview by pressing the Restore button. If several images are on the print preview the activated image will be resized.

12.7 Page setup



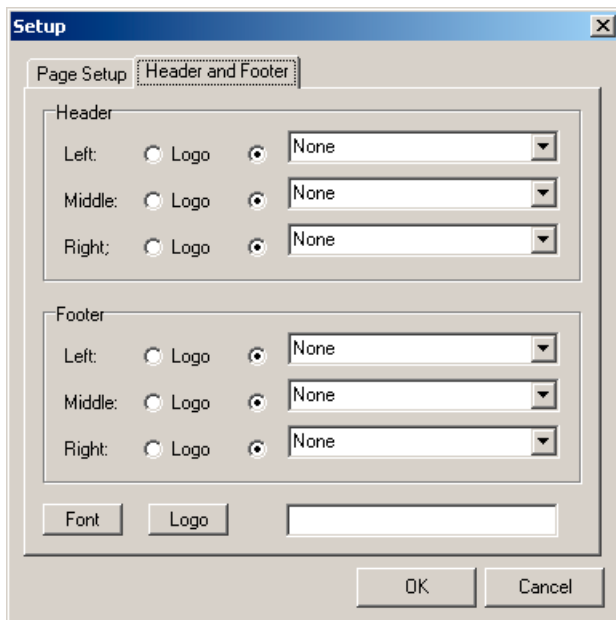
Press button to open the page setup dialog.



You can select the paper size or define the exact measures to the edit boxes. Orientation can be portrait or landscape. You can also define the measurement units for the paper size.

12.8 Header and footer on the print

Open the setup dialog for the header and footer by pressing the button.

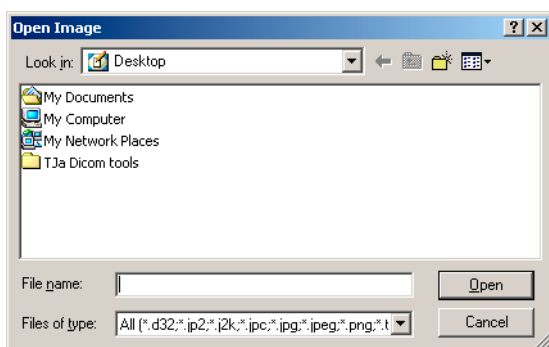


You can define information text for the header and/or the footer. Items to be added are patient's name, patient's ID, date and time, clinic name, print date or you can write free text. Clinic name is defined in setting dialog. Refer to chapter *Settings*. To add free text click left mouse button on the white field in drop down list.

The basic setting is printing without any markings on header or footer. Choose the place where you want to add the information and select the information from the drop down list. The information is added from the database.

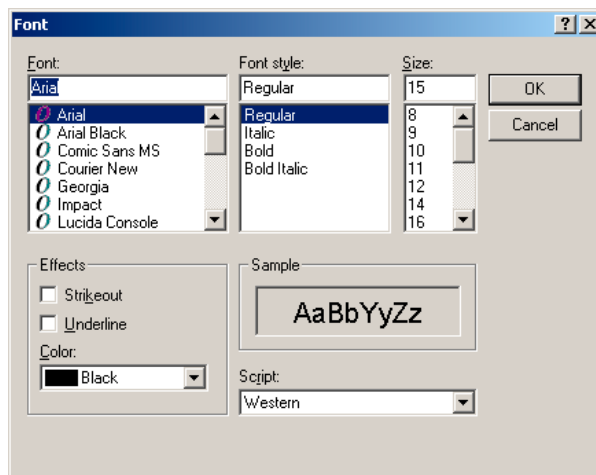
12.8.1 Print logo

To add logo to the print click **Logo** and browse the image to be printed.



12.8.2 Font type

To define the font type click Font.



Define the font style and click **OK**.

12.9 Start printing



Start printing by pressing Print button or select *File* ⇒ *Print*.

You can also make the Image information list and the Images list visible or invisible from *View* ⇒ *Show/Hide Image List* or *View* ⇒ *Show/Hide Image info*.

12.10 Exit print editor



Press the *Close button* to close the print editor. Other way to close the print editor is to select *File* ⇒ *Close*.

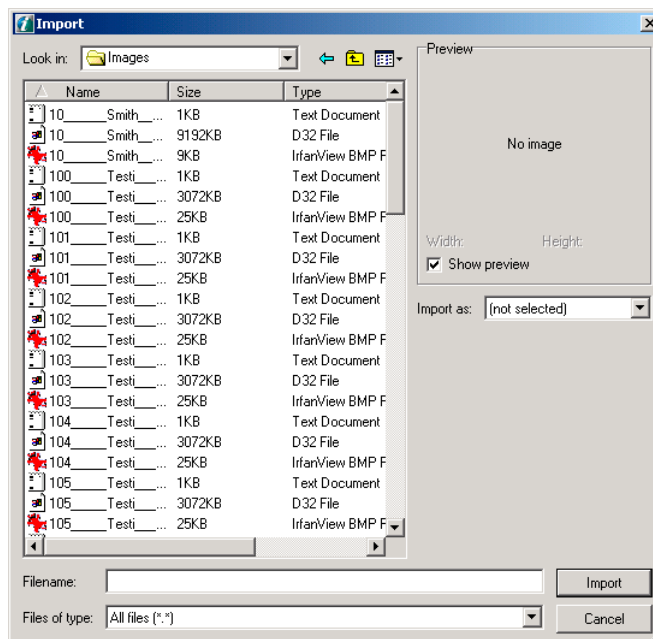
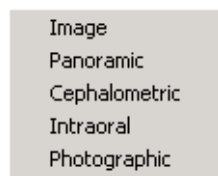
13 Import and export

13.1 Import

When using the Import function, patient must be selected.

Images can be imported from different data sources like CD-rom. Image file formats can be: d32, jp2, jpeg, png, tiff or bmp. To import images select *File* ⇒ *Import*.

Select the image type/modality from the list.



Select the data source and the image. Press Import.



NOTE

When the imported image is saved, it will be saved in to the patient's folder which has been open at the time of the import. The image will be saved in the modality it has been imported.

13.2 Export

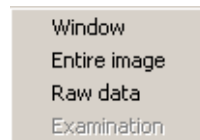
Images can be exported to selected destination in following formats: DICOM, jp2, jpg, jpeg, png, tiff and bmp.

To export the image select *File* \Rightarrow *Export*.

Select the export mode from the list.

WINDOW

Image has the same size as the image window in CliniView. Modifications will be exported with the image.

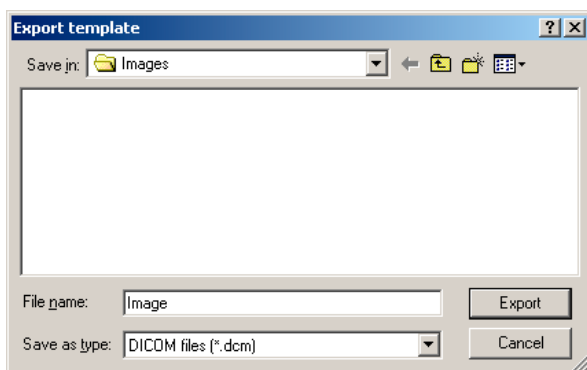


ENTIRE IMAGE

Entire image with original size will be exported. Modifications will be exported with the image.

RAW DATA

This function is for moving images with full 12-bit gray scale to another CliniView installation. Image is exported with original full pixel size.



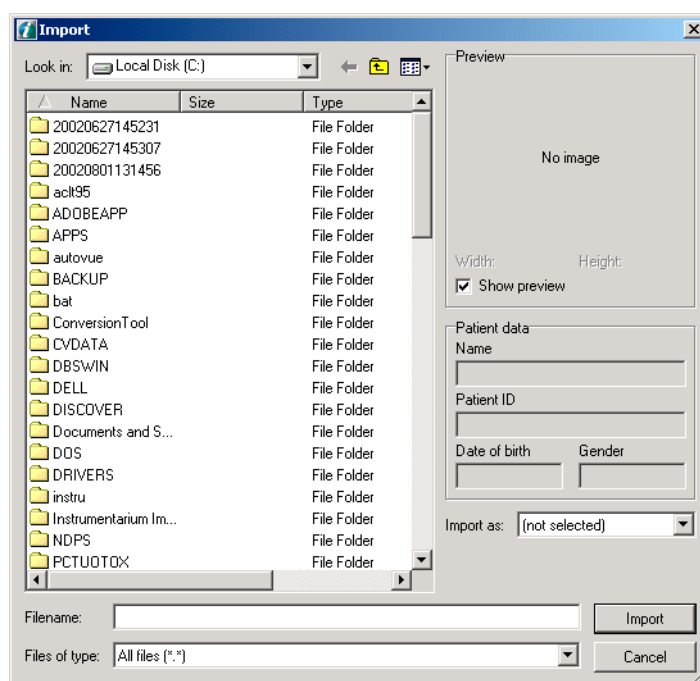
Select the export destination and click **Export**.

13.3 DICOM import/export

13.3.1 DICOM import

If you import the image in DICOM format it is possible to bring the patient data along with the image. In case the patient data is selected CliniView creates new patient to the patient database. When importing image with patient data, patient must not be selected.

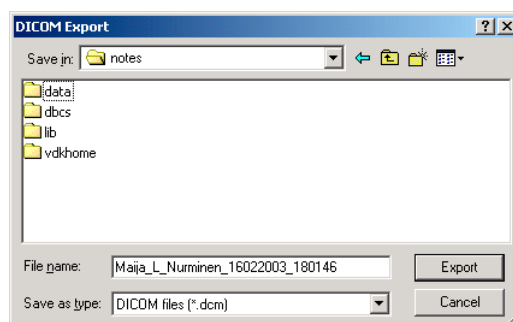
To use DICOM import select *File* \Rightarrow *DICOM* \Rightarrow *Import* or select Import with patient data. You can select multiple images of one patient by pressing Ctrl-key during selection. Images that are imported at the same time have to be the same modality.



13.3.2 DICOM export

Images and patient data can be exported in dicom format.

To export the image select *File* \Rightarrow *Dicom* \Rightarrow *Export*.



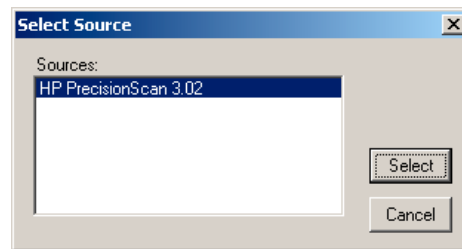
Select file type and destination and click *Export*.

14 Scanning

CliniView can capture images from any TWAIN- compatible source, such as scanners and digital cameras. TWAIN is standard for linking applications and image acquisition devices.

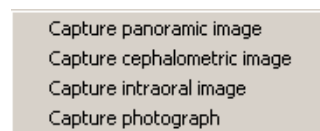
First install scanner according to scanner manufacturer instructions.

Select scanning source first. Select *File* ⇒ *TWAIN* ⇒ *Source*.



Select the source and click **Select**.

To start scanning select *File* ⇒ *TWAIN* ⇒ *Capture* ⇒



Scanner dialog will appear. Use scanner dialog according to the manufacturer instructions.



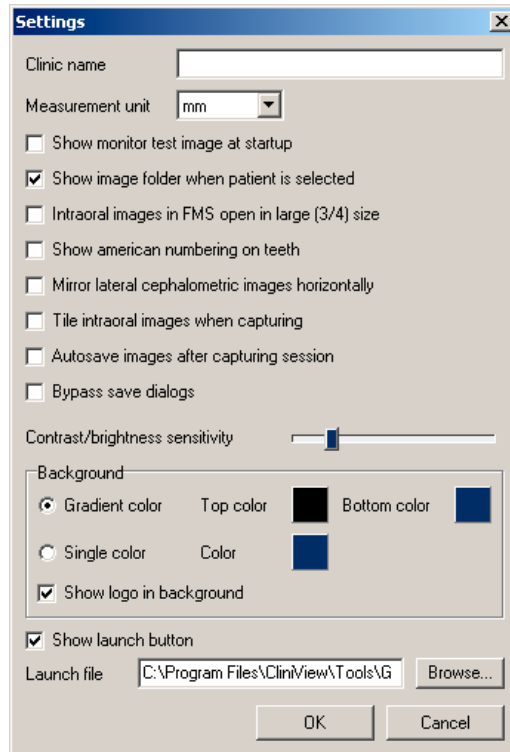
NOTE

CliniView uses scanner provider's own image capturing software. Study the use of that from scanner manual.

15 General settings

15.1 Settings

To open settings select *Tools* \Rightarrow *Settings*.



You can add the clinic name to the edit box. The name of the clinic will be seen on the image printout.

The measurement unit can also be selected.

Show monitor test image at start-up

Opens the test image for monitor brightness and contrast adjustment.

Show image folder when a patient is selected

Automatically opens the image folder after selecting the patient.

The images in a FMS open in large (3/4) size

The image enlarges in FMS.

Show American numbering on teeth

Shows either American or European numbering on teeth.

Autosave images after capturing session

Saves images automatically after image capturing.

Mirror lateral images horizontally when captured

Mirrors lateral image automatically after capturing.

Show launch button

You can launch this button to upper toolbar to have quick connection/start to another program.

Tile intraoral images when capturing

Places images horizontally next to each other during image capturing.

Bypass save dialogues

If the Bypass option is selected, images can be saved without any dialogs appearing on the screen.

In the Settings dialog you can also adjust contrast and brightness sensitivity and select the background color.

15.2 Contrast and brightness of the monitor

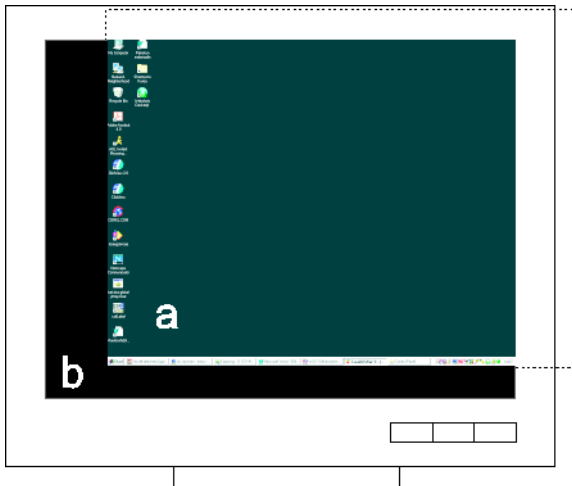
In order to be able to view images optimally, the contrast and brightness of the monitor must be set. The procedure is as follows:

Set the contrast to its maximum (100%).

Set the background color of the Windows desktop to black and minimize all open windows.

Set the brightness of the monitor to its maximum.

Shift desktop area a so that it is distinguishable from area b.



Decrease the brightness until the difference between area a and b cannot be seen. Normally the brightness value of the monitor is between 30 and 45.

Put the desktop area back in its place and set the background color as desired.

**NOTE**

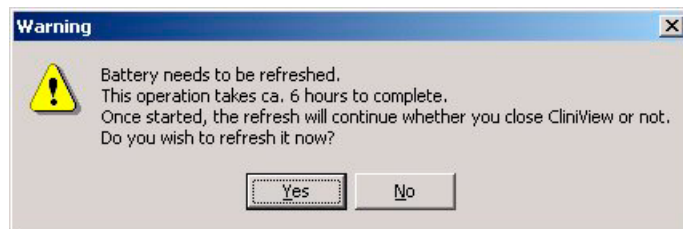
The monitor can be adjusted quickly with CliniView's own monitor test. Click **Tools/Monitor Test** and adjust the monitor settings so that the test image is seen properly.

15.3 Battery refreshment

**NOTE**

These battery refreshment instructions concern only those Sigma systems which have no external power supply. Units from s/n 1954 have external power supply.

The Sigma electronics box battery should be refreshed when CliniView advises you to do so. The battery refreshment dialog appears on the screen.



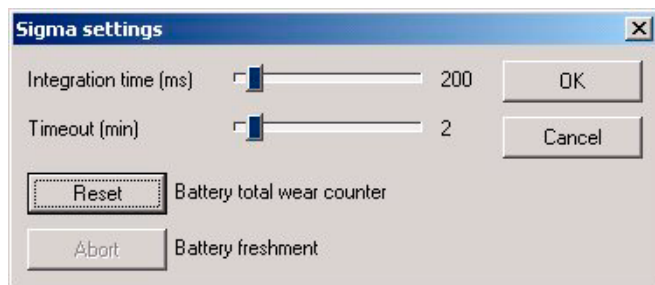
Click **Yes** to start refreshing the battery. In refreshing, the battery is first discharged for approximately 5 hours after which the actual charging starts. The charging time depends on whether an external power supply is installed or not. The operation takes approximately 3 hours when an external power supply is used and 9 hours when only USB charging is used.

It is a good idea to refresh the battery after the workday and leave the battery charging overnight.



Click **OK**.

However, one hour of charging after the 5 hour discharging period is enough to start capturing images. To do this, select Tools ⇒ *Sigma settings*.



To discontinue the battery refreshment click **Abort**.

When the battery is changed to new one you need to **Reset** the battery total wear counter.



NOTE

During refreshment, images cannot be taken. If the refreshment cannot be started when it is suggested, click **No**. CliniView suggests refreshment again when exiting the program.

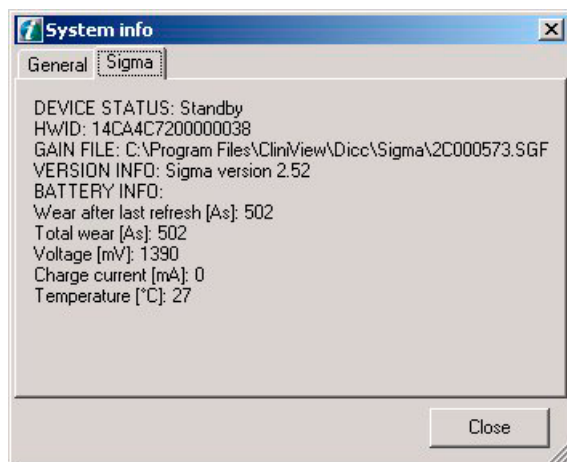


NOTE

When refreshing the battery, the PC must be on.

When the battery is refreshed, CliniView will reset the battery wear counter.

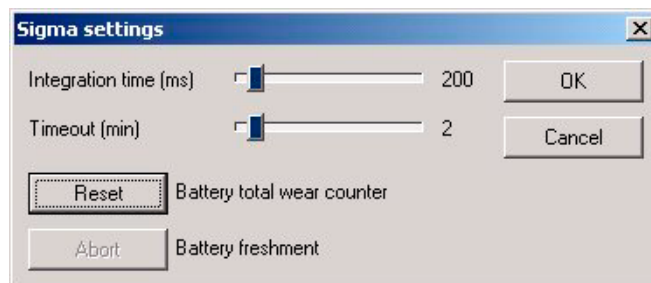
To see the battery info select *Help* ⇒ *System info*.



To abort the System info click **Close**.

15.4 Sigma settings

To make modifications to the Sigma default settings, select *Tools* \Rightarrow *Sigma settings*.



Time limits

Use the slide bars to adjust the Integration time. This is the time the sensor is activated for image acquisition. The integration time must be longer than the exposure time. The recommended integration time is twice the exposure time.

Use the slide bars to set the proper time-out value. This is the time CliniView waits for the exposure after the systems warm up.

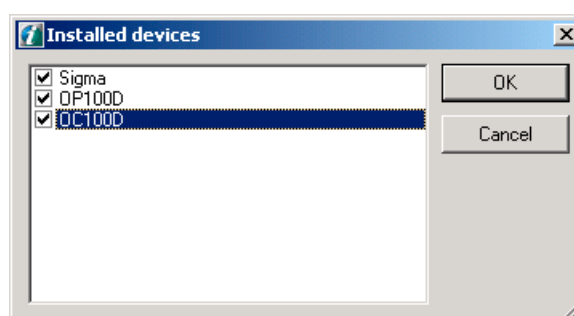


NOTE

Avoid keeping the sensor active unnecessarily. It may affect the image quality.

15.5 Adding modalities

You can add modalities (Sigma, OPD®, OCD®) in CliniView software. Select *Tools* \Rightarrow *Installed devices*, and select the devices.



NOTE

to use the modality you need to install gainfiles. Refer to *Installation Manual* chapter *Gain installer*.

16 Other features

16.1 Copy image to clipboard

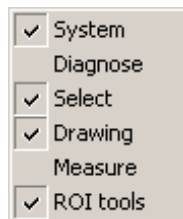
Images can be copied to the clipboard either as it is seen on the screen or with their actual size.

Ctrl+c To copy image to the clipboard as it is seen on the screen select *Image* ⇒ *Copy view to clipboard*. Image modifications such as brightness, contrast and overlay graphics will also be copied.

Shift+Ctrl+c To copy an image to the clipboard with original size select *Image* ⇒ *Copy full image to clipboard*.

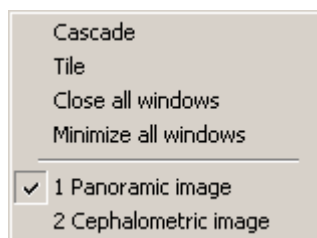
16.2 Toolbars

To display a toolbar or remove it from the display, select *View* ⇒ *Toolbars* and choose the toolbar to be shown/removed.



16.3 Window control

The appearance of the windows can be controlled by selecting *Window*.



When you have more than one image open at a time, images can be placed on top of each other by clicking *Cascade*.

To view all open images next to each other at the same time, click *Tile*.

To close all images, click *Close All Windows*.

To hide all windows, click *Minimize All Windows*.

16.4 Full screen view

To set the image full screen select *View* ⇒ *View full screen*. Press ESC-button in keyboard to quit full screen view. You can also zoom the image in full screen view. The navigation window is shown in upper left corner when zooming.

16.5 Light box

To view the light box, select *Tools* and *light box*.

16.6 Selecting the language

Select *Tools* and *Languages* and select the language from the list.

16.7 Create copy

This function creates full copy of original image. You can use this function for example to compare same image with different modifications or if you want to print same image with and without modifications.

There is no different between original and copy image. If you save the image copy, you will have two similar images in image folder. There is no limit to how many copies of image can be created.

17 Graphical symbols used

System tools



Exit application



Open image



Print



Launch button



Select patient



Save



Save all

Image capturing buttons



Take panoramic image



Quick start intra image



Abort image capturing



Take intraoral image



Start intraoral camera

Diagnostic tools



Fit to view



Pan



Invert



Edge enhancement



Pseudo color



Show/hide rotate/flip toolbar



Rotate



Restore



Zoom



Contrast/brightness



Noise reduction



Isodensity



Histogram

Select tools



Point



Select color



Delete



Line width



Show/hide graphics toolbar



Show/hide measurement toolbar



Show/hide drawings toolbar

Roi tools



ROI, Magnification



ROI, Linear equalization



ROI, Contrast enhancement

Drawing tools



Line



Free hand



Arrow



Rectangle



Circle



Text

Measurement tools



Angle



Free angle



Length



Calibration



Histogram equalization/ contrast adjustment

18 End user license agreement

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