EN

PLANMECA Romexis *Viewer*

quick guide

10028177_1

1 START-UP OF PLANMECA ROMEXIS VIEWER

With Windows operating system

Insert the Planmeca Romexis Viewer CD into the CD drive. The Planmeca Romexis Viewer Launcher starts up automatically (if Windows autorun is enabled).

The Viewer Launcher can also be started by double-clicking the **Start.exe** file found from the root of the CD.

With Mac operating system

1. Insert the Planmeca Romexis Viewer CD into the CD drive.
2. Start the Viewer Launcher application by double-clicking the **Romexis_Viewer.app** file.

1.1 Selecting the interface language

Select the interface language from the drop-down menu on the upper right corner of the screen (step 1 in the image below).

1.2 Selecting the device

Select the devices of which images you want to open in Planmeca Romexis Viewer (step 2 in the image below).

1.3 Starting the Planmeca Romexis Viewer

To run the program **from the CD** click *START Viewer from CD* .

OR:

To copy the program and images to **the local hard disk** and run the viewer from there select *COPY Viewer and Start* (step 3 in the image below).

2 SELECTING ANOTHER DEVICE VIA VIEWER LAUNCHER WHEN THE VIEWER IS ALREADY RUNNING

1. Close Planmeca Romexis Viewer from the *File* Menu by selecting **Exit**.

   OR:

   Click the red cross button on the top right corner of the Romexis Viewer window.

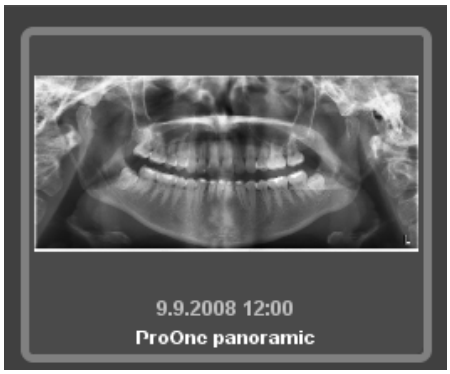
2. The Viewer launcher appears on top of the screen. Select the device of which images you want to view from the list.

3 USING THE 2D IMAGE BROWSER

The Image Browser shows *all* images of the patient grouped according to the image type.

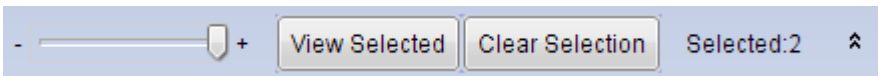
3.1 Opening an image

Double-click the preview thumbnail of the image you want to view.



OR:

Click the thumbnails of the image(s) you want to view and click **View Selected**.



3.2 Selecting the browsing mode

Select the preferred browsing mode using the following buttons.

3.3 Selecting the imaging modality

To browse from one image type to another click the arrow buttons. The currently selected image category and the number of images in each image category is shown next to the arrows.

3.4 Filtering images according to the exposure date

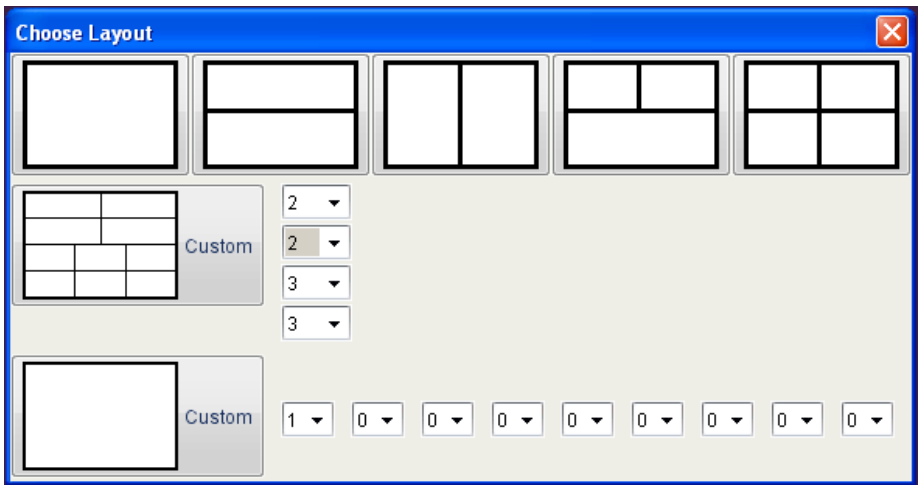
To filter /select images according to the exposure date tick the appropriate boxes in the *Date* field.

To view all images tick the **All Dates** box.

4 SETTING THE LAYOUT

Click this tool to set the layout for the displayed images.

In the following window select the desired layout or create a customized one by selecting the desired number of columns and rows from the drow-down menu.



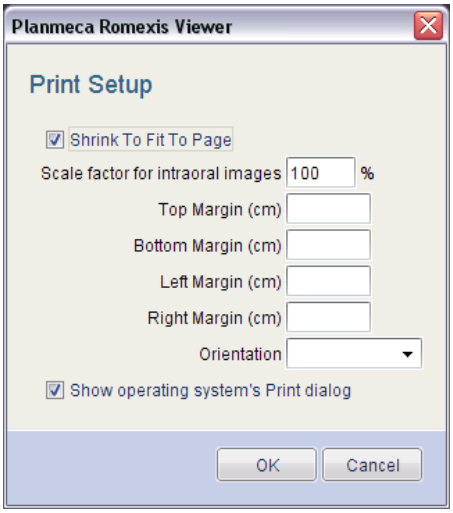
5 CLOSING ALL OPEN IMAGES

Click this button to close all open images.

6 PRINTING IMAGES

To specify the window scale for intraoral images, the margins and the page orientation click this button.

In the opening window enter the appropriate values in the fields and click **OK**.



To print currently open images click this button. The images will be printed as shown in the layout.

7 USING THE VIEWING, MEASUREMENT AND ANNOTATION TOOLS

1. To select and activate the desired tool, click it with your mouse.
2. Click on the image in the area where you want to use the tool or for the marking to begin.
3. Keep the mouse button pressed down and move the mouse until you are satisfied with the marking.
4. To deactivate the tool reclick the currently selected tool icon or select another tool by clicking it with your mouse.

7.1 Viewing tools

Zoom in

Use this tool to zoom in the desired are in the image.

Zoom out

Use this tool to zoom out in the desired are in the image.

Zoom to fit

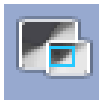
Select the tool and click on the image you want to fit it in the window.

Actual pixels

Shows the image in its actual size. One image pixel is equal to one screen pixel.

Uniform scaling tool

Shows all images in same size.



Show overview

When zoomed in, the images can be panned using the overview tool.

Flashlight

Allows regional filter for gamma, contrast & brightness, invert, equalize, sharpen, and emboss.

To adjust the size of the filter area or the radio buttons use the mouse wheel.

To switch between different filters use the right mouse button.

Flashlight setup

Allows setting of gamma, contrast & brightness values. These settings are image specific.

To adjust the size of the filter area or the radio buttons, use the mouse wheel.

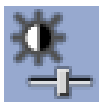
To switch between different filters use the right mouse button.

Magnify

To take a closer look on a desired area of interest move the magnifier freely over the image.

Pan (move)

Move the image on the screen by clicking and dragging the selected image.



Adjust contrast and brightness

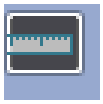
Click this icon to open the sliders for contrast and brightness adjustment. Adjust values by moving the sliders up / down.

Adjust region of interest

Use this tool to define the area of effect for image processing tools and certain measurements.

When defining multiple regions the active region is marked in green and inactive regions in blue. To delete the selected region click the *Delete* key.

7.2 Measuring and annotating images



Measure

To draw a measurement line press the mouse button and hold it down while moving the mouse. To finish the line release the button.

Draw arrow

Click and hold down the mouse button while drawing. To finish the arrow release the mouse button.

Draw rectangle

Click and hold down the mouse button while drawing. To finish the rectangle release the mouse button.

Draw ellipse

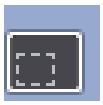
Click on the image where you want to draw an ellipse. Hold down the mouse button while moving the mouse. To finish the ellipse release the mouse button.

Draw text

Click on the image where you want add a text annotation. Type the desired text in the field and click OK *or* press Enter.

Hide annotations

Click this button to hide all annotations added on the image. To redisplay the annotations reclick the icon.



Move annotations

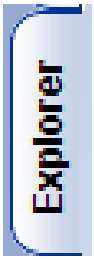
Click the annotation and drag it to the area on the image where you would like to move it, then release the mouse button.

Delete annotations Select this tool and click the annotation you would like to delete with your mouse.

8 OPENING A 3D VOLUME

To open a 3D volume click on the **3D** module button and double-click the volume line.

9 3D EXPLORER



In the *Explorer* tab the 3D volume is displayed simultaneously in four different views:

Sagittal (red),

Coronal (green),

Axial (blue) and

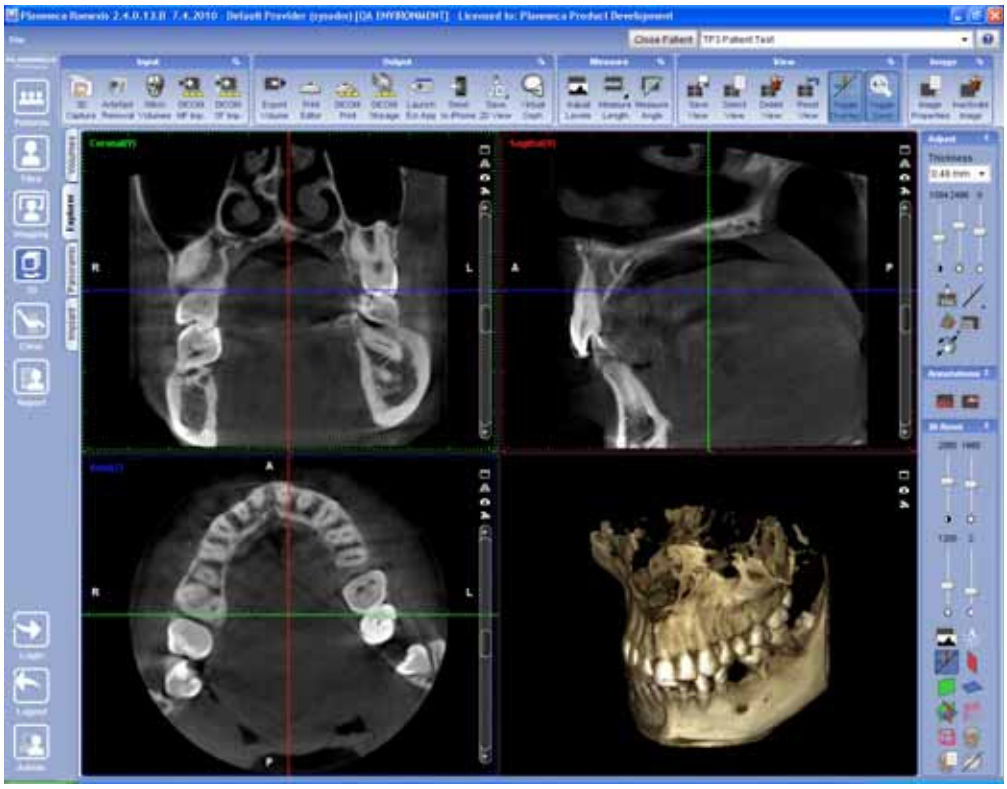
3D rendered view.

The red, blue and green lines across the views indicate the slicing planes in the views.

To adjust the position of the volume hold down the left mouse button and move the mouse in the view.

Adjustements affect all other views except for the rendered view. Other views are automatically adjusted correspondingly.

To rotate the viewing angle hold down the right mouse button while moving the mouse.



9.1 Saving and printing 2D snapshots

1. Click the **Save 2D view** button.
2. In the opening window select the appropriate options and click **OK**.

   The software will automatically generate a 2D snapshot image of the selected views and the snapshot image will open in the 2D module.

3. Next, click the **Print images** button.

   A print preview opens.

4. To print the images click the **Print** button at the bottom of the window.

9.2 Adjusting levels

See section "Adjusting levels" on page 11.

9.3 Measuring length

Use this tool to measure length of object in the image.

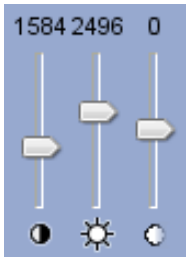
Click in the image where you want the measurement to begin. Drag and release the mouse button where you want the measurement to end.

9.4 Measuring angle

Click in the image where you want the angle to begin.

Drag and then release the mouse button where you want the angle to end.

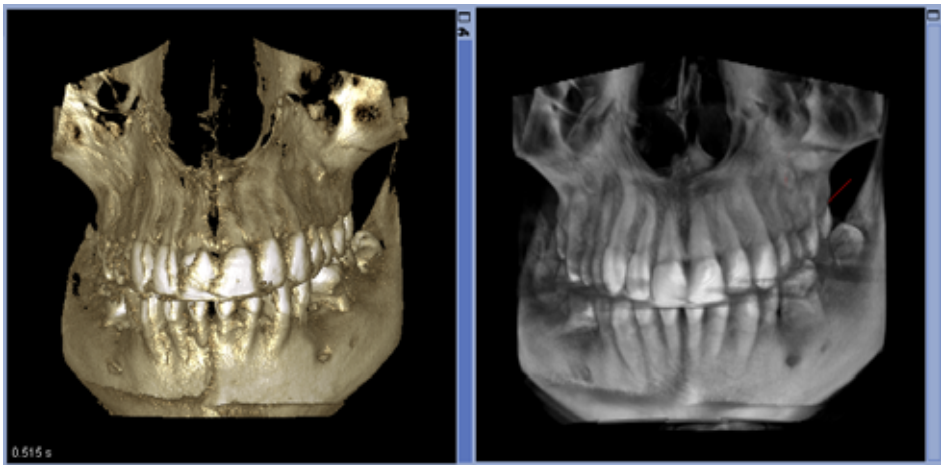
9.5 Adjusting contrast, brightness and sharpness



To adjust the contrast, brightness and sharpness of the coronal, sagittal and axial view use these sliders

9.6 Adjusting 3D Rendering

There are two different 3D rendering styles available in Romexis; *Surface style* (default) and *X-ray style*.



Surface style rendering *X-ray style rendering*

Surface style rendering options

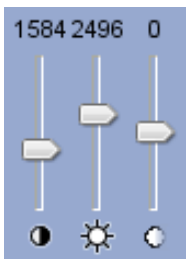
The following options are available for Surface style rendering:

1. Maximum Intensity Projection MIP
2. X-ray
3. X-ray shaded (default)
4. Shaded
5. Shiny
6. Surface
7. Black & White X-ray
8. Soft tissue

To set current rendering setting as the custom preset click the **Add** button.

The currently selected option will be shown in the thumbnail circled with white line.

To delete the current custom preset click the **Del** button.



Adjusting contrast, brightness and sharpness of 3D rendered volumes

Drag the illustrated sliders up/down.

Setting 3D rendering cutoff threshold

Drag the illustrated slider up/down.

Adjusting 3D rendering transparency

Drag the illustrated sliders up/down.

Adjusting levels

Click this button to adjust the levels. The opening histogram is a graphic representation of the intensity distribution in the volume.

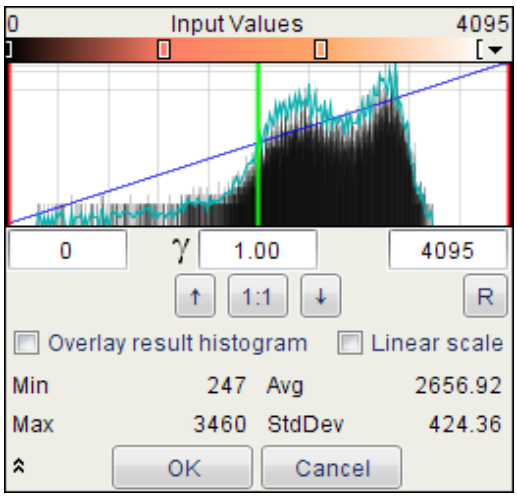
To adjust the **gamma curve** move the **green** line in the histogram.

To adjust **contrast and brightness** move the **red** lines on both sides of the histogram.

To **scale** the histogram up or down use these arrows 

.

To **restore** the original scale click this button. 



Threshold

The black line increases or decreases the threshold and consequently has the same function than the slider *Set 3D Rendering Cutoff Threshold*.

Pseudo Colour modification

The buttons left and right of the gamma value, named *F* and *R*, modify the pseudo colours.

To alter and allocate the colour selection automatically for different tissues based on the curve of the histogram press the F button.

To modify the the position and range of the specific colour manually, drag the rectangles above the histogram left or right.

To change the colours for an individual selection double-click the rectangle.

To reset the pseudo colours settings click this button R.

From the arrow button readily available color maps can be selected.

Show/hide planes

Show coronal plane (green).

Show sagittal plane (red).

Show axial plane (blue).

Show / Hide all planes.

The following options are also available:

Show/hide volume boundaries:

Show linear perspective in 3D Rendering:

Show/Hide orientation lines:

Show/Hide overlay

Overlay properties

Define color, threshold (gray scale value) and transparency (opaque-transparent)

Smoothing

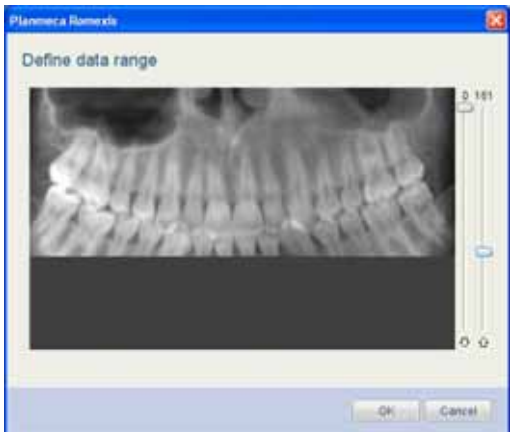
Applies a smoothing filter on the 3D rendereing

10 PANORAMIC MODULE

10.1 Adjusting the area of interest

To define the area of interest for a panoramic image click this button.

Use the left slider to adjust the data range for the upper jaw and the right slider for the lower jaw.

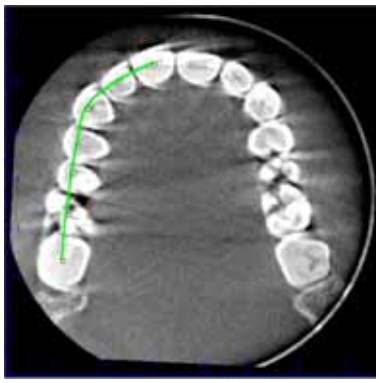


10.2 Drawing panoramic curve

The panoramic curve is automatically defined by Romexis.

To define a new curve, click this icon. To draw the curve use the left mouse button.

When finished click the right mouse button. The new panoramic view will be automatically calculated.



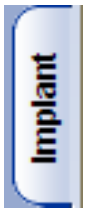
To **edit** the curve, click this button. To move single points in the curve or the whole curve grab the green line of the curve with left mouse button.

When finished re-click the icon.

To **delete** currently displayed panoramic curve click this button. The standard curves are not deleted.

To **display** a list of all **saved panoramic curves** click this button. All draws curves are saved and named according to the date and time of creation. To recall and apply a curve click the desired entry in the list.

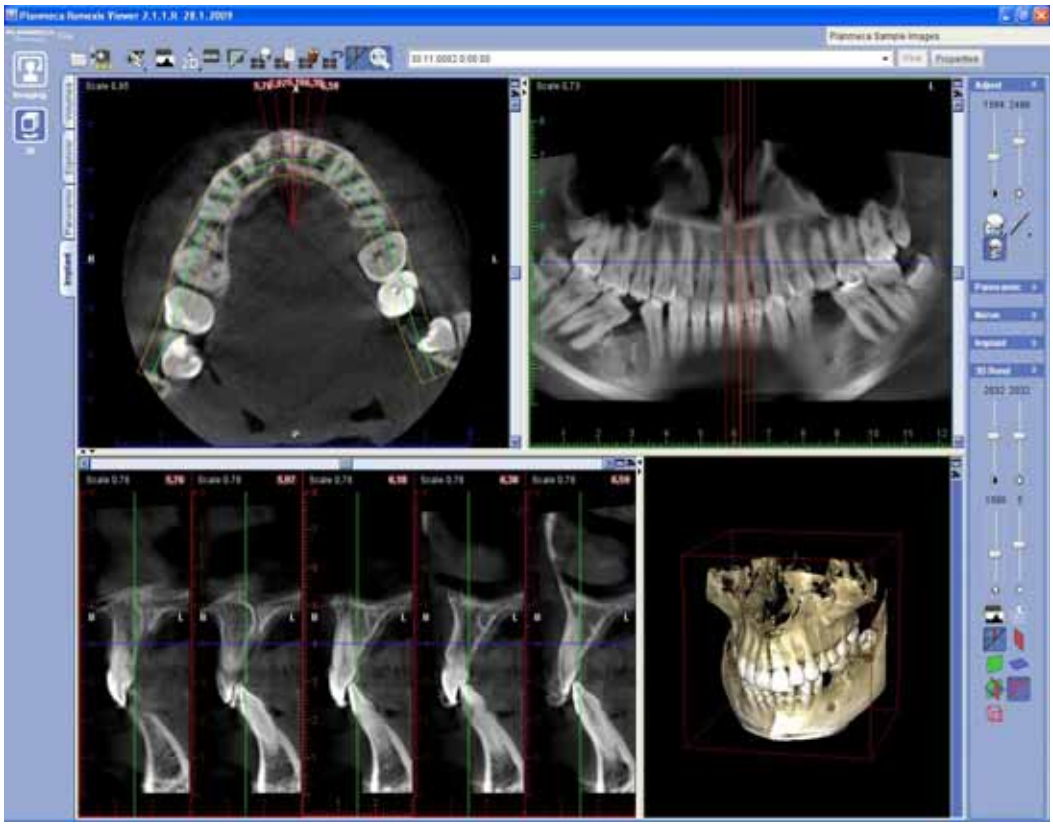
11 IMPLANT MODULE



In the 3D Cross Sections / Implant tab cross sectional slices, axial slices and panoramic images can be created from the 3D data.

The Cross Sections / Implant tab contains four views:

- Axial views
- Panoramic view
- Cross sectional slices view
- 3D rendered view



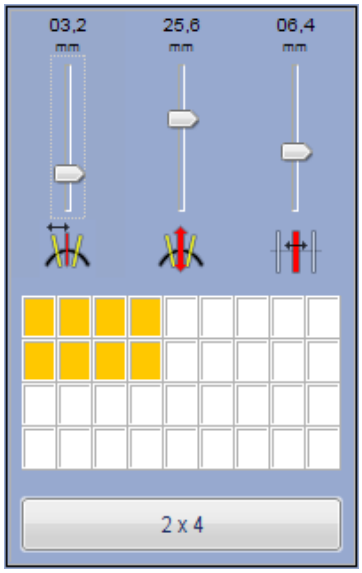
The views can be expanded by clicking the small dual arrows in the ends of the view dividers or maximized by clicking the *Maximize* button.

11.1 Adjusting cross sectional slices

To mirror the cross section click this button button in the upper right corner of the cross sections view

To edit the properties of the cross sections click this button in the upper right corner of the cross sections view.

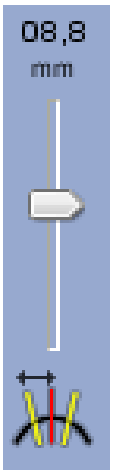
In the opening dialog the number, width and thickness of slices as well as the distance between the slices can be defined .



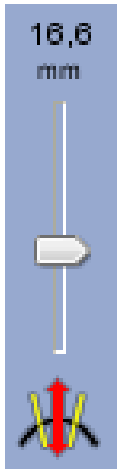
Editing cross sectional slice interval / width

To edit the cross sectional slice interval or width, move the slider up or down. After moving the slider the cross sectional view gets updated accordingly.

Interval



Width



Using the cross sectional scroll bar

To move the cross sections move the scroll bar to the right or left.

Moving the scroll bar shifts the visible slices along with the panoramic curve to the same direction.

If the *Cross section lines* option is activated the visible slices will also shift to the axial and panoramic views.

The middle section is indicated by a bright red line and ruler in the cross sections view.

To **move** in cross sections **voxel by voxel** click on the arrows on both ends of the scroll bar.

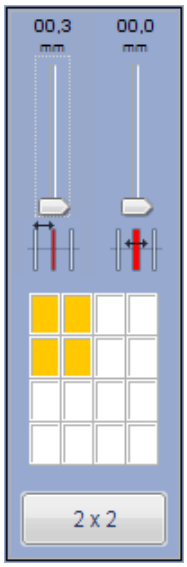
To **move freely** around cross sections drag the scroll cursor.

To **move** in cross sections **in increments** of the distance between the slices.Click between the scroll box and end arrows

11.2 Adjusting axial / panoramic slices

To adjust axial / panoramic slices click this button in the upper right corner of the axial view.

In the opening window the number and thickness of slices as well as the distance between the slices can be defined.



12 DRAWING NERVES

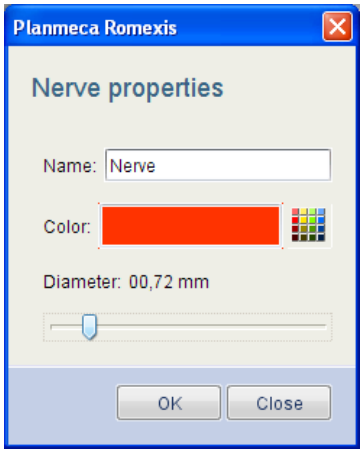
1. Click this button to draw a new nerve channel.
2. Select either panoramic or the cross sectional view
3. Use the left mouse button to place points for a curve depicting the nerve channel of the patient.
4. When finished click the right mouse button.

The nerve channel will be displayed as a coloured line in the panoramic view and with coloured dots in the cross sectional views.

To **delete** the currently selected nerve channel click this button.

To **adjust the properties** of a nerve channel, select the nerve channel you want to modify and click this button. The nerve can also be opeed from the Nerves list.

In the opening window opens where you can name the nerve and modify its colour and diameter.

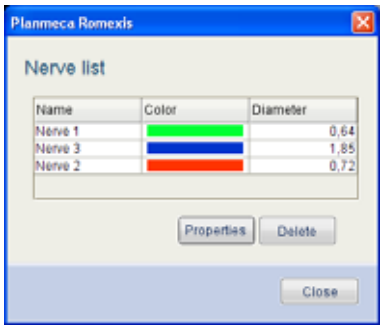


To **display a list** of all visible **nerves** click this button.

In the opening window nerves can be deleted or their properties can be modified.

To delete a nerve from the list (and the cross sectional tab), select the nerve and click the *Delete* button.

To change the properties of a nerve, select a nerve and click the *Properties* button. The *Nerve Properties* window will appear (for further information see “To adjust the properties of a nerve channel, select the nerve channel you want to modify and click this button. The nerve can also be opeed from the Nerves list.”).



13 IMPLANT TOOLS

To place a **pre-selected default implant** into the plan click this button. The default implant can be defined in the *Implant library*.

To **draw an approximation** of the implant's width and height, using the patient's anatomy as a reference for sizing click this button.

Next, search the nearest matching real implant from the Implant library.

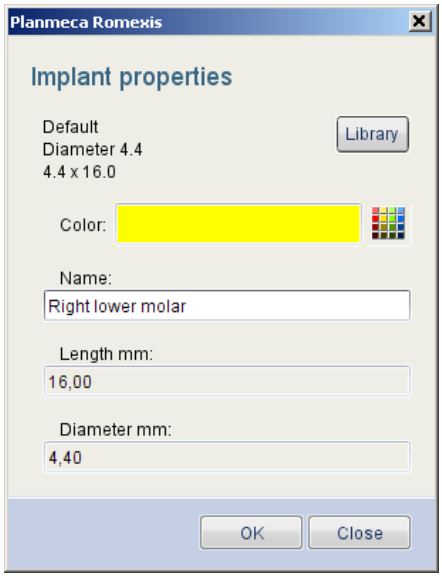
To **place** an implant directly **from the Implant Library** click this button.

Select the appropriate implant and press *Add* to add it into the plan.

To **delete** selected implant to remove the selected implant from the plan.

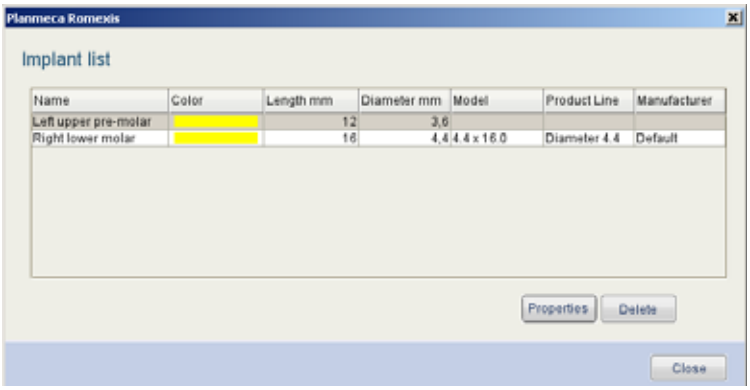
To **display** the **properties** of the selected implant click this button.

The name, colour, length, and diameter of the selected implant can be modified.



List implants in the plan

To display all implantsin the current plan click this button. The name, colour, length, and diameter of the listed implants can be modified.



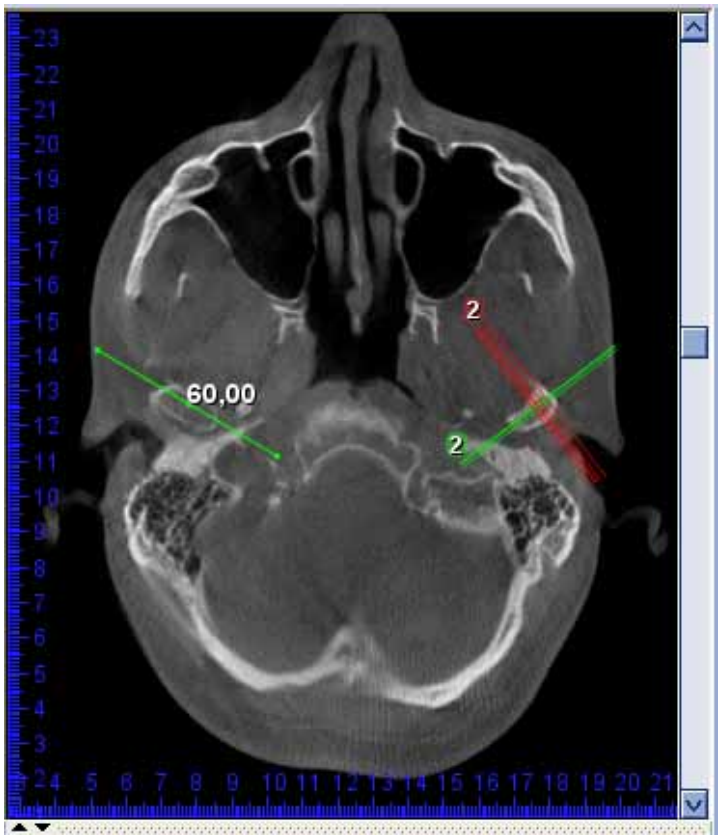
14 TMJ MODULE

14.1 Drawing PA line

1. Verify alignment of the volume using the Axial view. Use the slider on its right edge to bring condyles into view.
2. Draw right posterior anterior (PA) line using this tool  .
3. Click and hold down the left mouse button in the middle of the condyle.
4. Draw the PA line by dragging with your mouse.

   Romexis will automatically display the opposite half of the line and round its total length to nearest millimeter.

5. To finish the line, release the left button and Romexis will automatically populate the slice views.



6. To draw the left PA line click this tool  .
7. Repeat the steps as described above starting from step 3 .
8. Use the *View settings* dialog to adjust the number, width and spacing of the PA and lateral slices similar to other 3D modules.
9. To adjust the position of the PA lines verify that the *Move / rotate volume* tool  is disabled.
10. Use the left mouse button to move a PA line or the right mouse button to rotate.
11. To adjust the width of the slices (length of the PA line) either use the slice specific settings menu or redraw the line.

Draw right PA line

Use to draw and define the posterior-anterior PA line for the right side slices.

Draw left PA line

Use to draw and define the posterior-anterior PA line for the left side slices.

Synchronise sides

To enable / disable synchronisation of the left PA line with the right PA line click this button.

When synchronisation is enabled (default) the length of the second PA line will be automatically constrained to match the length of the first drawn line.

When synchronisation is disabled each PA line can be individually defined.

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Planmeca Oy | Asentajankatu 6 | 00880 Helsinki | Finland

tel. +358 20 7795 500 | fax +358 20 7795 555 | sales@planmeca.com | www.planmeca.com