PLANMECA

Planmeca ProMax® 3D Max

ENGLISH

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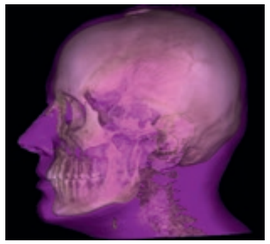
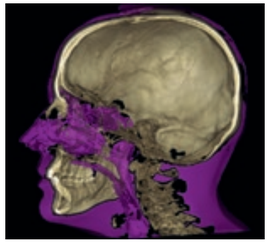
Planmeca Imaging

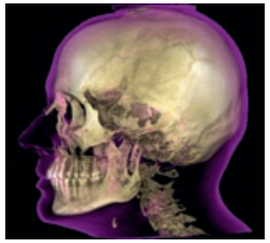
Available on the App Store

for iPad

Dedicated 3D imaging







Profound understanding of anatomy

The unique **Planmeca ProMax® 3D** product family offers equipment for all maxillofacial imaging. All volume sizes from the smallest special cases to whole skull images are available. **Planmeca ProMax® 3D Max**, the dedicated CBCT X-ray unit, is designed to obtain complete information on patient anatomy in the minutest detail. With a maximum field of view (FOV) of Ø23 x 26 cm, it offers entirely new possibilities in diagnostics. Advanced imaging software tools maximise the benefits.

Detailed diagnostics with 3D imaging

In modern dentistry, the demand for implant surgery is steadily growing, which has created a need for more advanced X-ray imaging systems. To meet the needs of modern surgical dentistry and to supply clear, dependable imaging in a three-dimensional format with limited patient radiation dose, Planmeca ProMax 3D Max utilises Cone Beam Computed Tomography (CBCT) technology. This innovative, versatile, and dynamic imaging device will open up new possibilities for on-site dentists.

Planmeca ProMax 3D Max complies with a multitude of diagnostic requirements: those of endodontics, periodontics, orthodontics, implantology, as well as dental and maxillofacial surgery, and TMJ analysis.

Wide volume selection

Unequalled imaging programs

Planmeca ProMax® 3D Max produces high-resolution volumetric studies of the mandible and maxilla for analysing the available bone structure, the location of the mandibular canal, and the correct position for the implant. Pre-surgical planning reaches a new level of precision.

Numerous applications

Third molars, maxillary cuspids, supernumerary teeth, and impactions challenge the clinician to identify the tooth's orientation. By using Planmeca ProMax 3D Max, all angles and orientations become clearly visible. Imaging any region of interest in the maxillofacial region is effortless, as the volume sizes include everything from full maxillofacial image size to the smallest size intended for single tooth imaging.

Planmeca ProMax 3D Max studies provide full visualisation of all classes of orthodontic malocclusion. This is highly advantageous in orthodontic planning, as time is saved and patient radiation dose reduced. Planmeca ProMax 3D Max provides the image data in the correct anatomic 1:1 ratio, with no need to correct for geometric magnification.

Planmeca ProMax 3D Max also provides high-resolution TMJ studies for true and accurate evaluations of the joint arthritides, condylar morphology, and the condyle-fossa relationship.

High resolution, low dose

Planmeca ProMax 3D Max offers different imaging modes for different needs. The high resolution mode gives very high resolution, but with the cost of higher dose. The low dose mode can be used for example in orthodontic studies. A special high definition program is developed for imaging of small-sized ear bones. The unit also offers a special program for scanning impressions and plaster casts.

ROI reconstruction for higher resolution

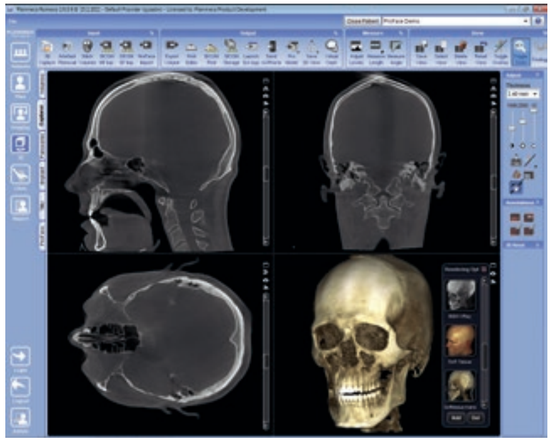
The ROI (Region of Interest) reconstruction function can generate a new small voxel volume from the image data of a previously taken large voxel volume. This enables more precise diagnosis without producing any extra dose for the patient.

Dental programs

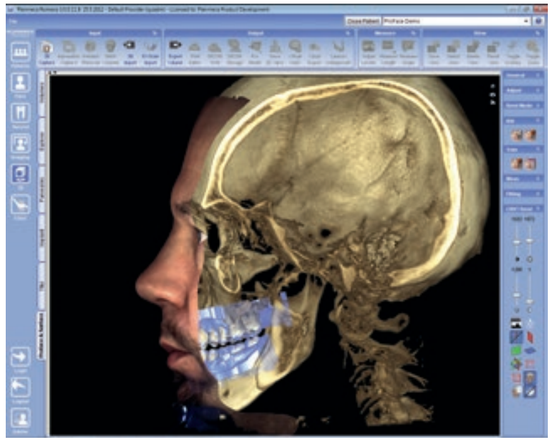
Program	**Volume** (child mode)
Tooth	Ø50 x 55 mm (Ø42 x 50 mm)
Teeth	Ø100 x 55 mm (Ø85 x 50 mm) Ø100 x 90 mm (Ø85 x 75 mm)
Jaw	Ø130 x 55 mm (Ø110 x 50 mm) Ø130 x 90 mm (Ø110 x 75 mm)
Face	Ø100 x 130 mm (Ø85 x 110 mm) Ø130 x 130 mm (Ø110 x 110 mm) Ø130 x 160 mm (Ø110 x 136 mm)
Skull	Ø230 x 160 mm Ø230 x 260 mm

ENT (Ear, Nose, Throat) programs

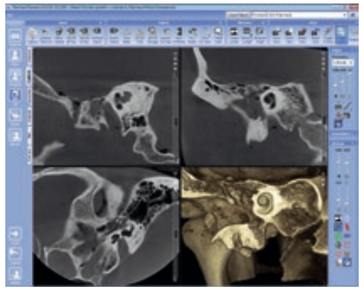
Program	**Volume** (child mode)
Sinus	Ø100 x 90 mm Ø100 x 130 mm Ø130 x 130 mm Ø130 x 160 mm
Middle ear	Ø50 x 55 mm (Ø42 x 50 mm)
Temporal bone	Ø100 x 90 mm (Ø85 x 75 mm)
Vertebrae	Ø100 x 90 mm (Ø85 x 75 mm) Ø100 x 130 mm (Ø85 x 110 mm)
Airways	Ø100 x 90 mm (Ø85 x 75 mm) Ø100 x 130 mm (Ø85 x 110 mm) Ø130 x 130 mm (Ø110 x 110 mm) Ø130 x 160 mm (Ø110 x 136 mm)



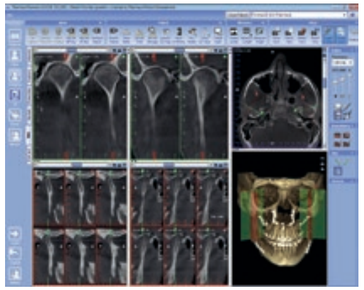
3D study in **Planmeca Romexis®** 3D Explorer



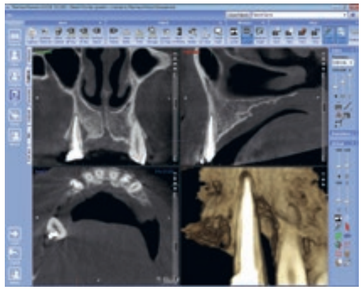
3 in one: CBCT data, 3D photo and impression scan



Ear study in HD mode

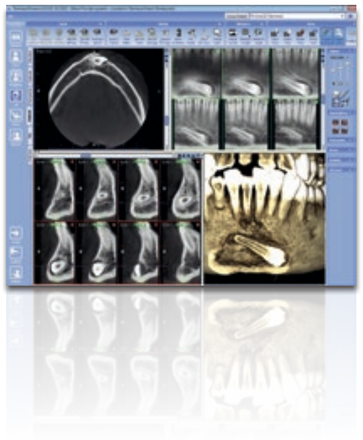


TMJ study



Endodontic case

Planmeca Romexis® for accurate diagnosis



Unprecedented flexibility

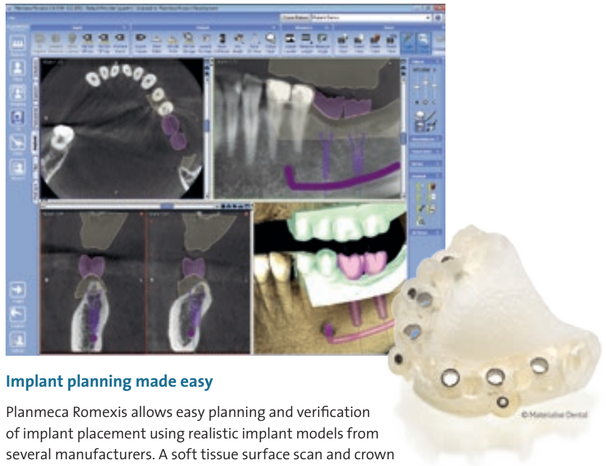
Planmeca Romexis® is a comprehensive software solution for acquiring, viewing, and processing 3D radiographs, 3D photos and intraoral surface scans. The powerful combination of these modalities provides the most accurate information of patient anatomy for different needs. Planmeca Romexis software offers specially designed tools for implantologists, endodontists, periodontists, maxillofacial surgeons and radiologists.

Sharing the results

Studies can be quickly converted into multi-page printouts or handed out on the free **Planmeca Romexis® Viewer** media. Cases can be seamlessly transferred to mobile devices or partner clinics that also use Planmeca Romexis. DICOM standard compliance guarantees that images can be processed with 3rd party software or shared via hospital PACS.

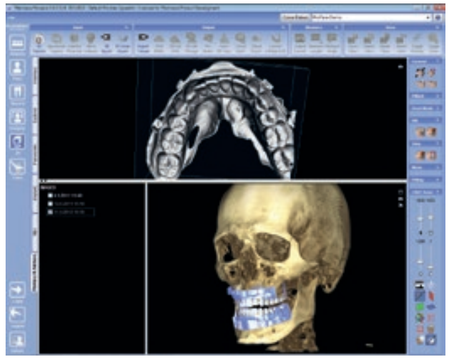
Convenient 3D diagnosis

The Planmeca Romexis 3D rendering view gives an immediate overview of the anatomy and serves as an excellent patient education tool. The images can be instantly viewed from different projections or converted into panoramic images and cross sectional slices. Measuring and annotation tools such as nerve canal tracing assist in safe and accurate planning of treatment.



Implant planning made easy

Planmeca Romexis allows easy planning and verification of implant placement using realistic implant models from several manufacturers. A soft tissue surface scan and crown design can be imported and superimposed with 3D X-ray data providing a perfect environment for implant planning. The virtual treatment plan can be used to place an order for a Materialise Dental SurgiGuide® drill guide that can be used to deliver your treatment plan exactly as designed.

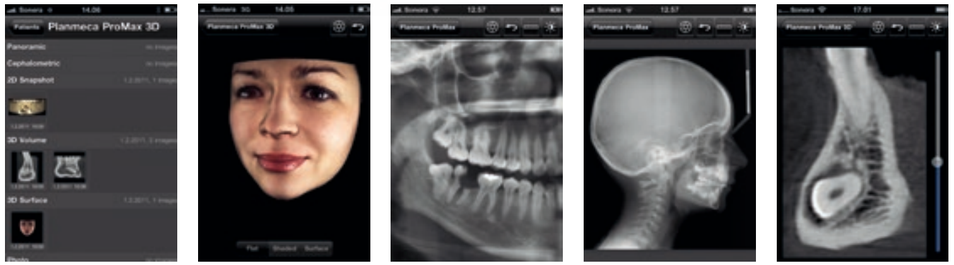


Planmeca Romexis® Surface module allows viewing and processing surface models captured using the Planmeca ProMax 3D impression scan program or imported in STL format from other sources such as desktop scanners. Before and after model comparisons can be performed and the degree of change displayed in a color map. Surface models can be superimposed with CBCT data providing soft tissue information to aid in implant planning for example.

Planmeca iRomexis™

Planmeca iRomexis™ is a mobile companion application for Planmeca Romexis imaging software designed for iPhone and iPad devices. It allows viewing of 2D and 3D images, 3D renderings and **Planmeca ProFace™** images. Images can be made available for mobile use with **Planmeca Online™**, and downloaded on Wifi and 3G networks wherever you are. Experience a new level of freedom and cooperation with Planmeca iRomexis. The application can be downloaded from the App Store free of charge.

Available on the App Store



Functional technology

Simple, effortless patient positioning

Patient positioning is made incredibly easy.

- The intuitive graphical user interface offers preprogrammed target sites and exposure values for different image types and targets.
- Positioning laser and joystick are used for fine adjustment. A scout image can be used to verify correct positioning.
- Full view open patient positioning
- Side entry for easy access; wheelchairs easily accommodated

Motorised patient support

The motorized patient support further improves the already easy patient positioning as the imaging arm automatically drives itself to correct height. It takes stitching of several basic volumes into a new level. The patient positioning system keeps the patient stationary while the unit drives from imaging position to another.

Advanced SCARA Technology

The **Planmeca ProMax**® platform's unique SCARA technology (Selectively Compliant Articulated Robot Arm) enables free image geometry formation. Planmeca's patented, computer-controlled SCARA robotic arm can produce any movement pattern required, ensuring perfectly accurate and reliable image volume positioning and enabling image volume diameter adjustment.

Pulsed X-ray – increased image quality, reduced patient dose

Pulsed X-ray reduces patient radiation dose considerably and forms stroboscopic X-ray effect which, together with the short rotation scan, virtually eliminates artefacts, contributing to outstanding image quality. The total scanning time is 18-26 seconds for one volume, but the actual exposure time is only 3 seconds at shortest.

Planmeca ProModel™

The image data can also be used for ordering **Planmeca ProModel**™, a patient specific physical model that serves as a beneficial tool for preoperative planning of advanced implant, oral and maxillofacial surgeries.

Planmeca ProFace™

Planmeca ProFace™ – a unique 3D facial photo option

Planmeca ProFace™ is a unique 3D facial photo option available for the whole **Planmeca ProMax**® **3D** family*. A Planmeca 3D X-ray unit completed with Planmeca ProFace generates both a 3D photo and a CBCT volume in one imaging session. Alternatively, the 3D photo can be acquired separately in a radiation-free process: the lasers scan the facial geometry and the digital cameras capture the colour texture of the face.

Designed to fulfil the most diverse diagnostic needs of today's maxillofacial and dental professionals, Planmeca ProFace gives the medical or dental professional the opportunity to plan operations and document follow-up images.

Safer and faster facial surgeries

The 3D photo visualises soft tissue in relation to dentin and facial bones, providing an effective follow-up tool for maxillofacial operations. As both a CBCT image and a 3D photo are generated in one imaging session, the patient position, facial expression, and muscle position remain unchanged, resulting in perfectly compatible images. Careful preoperative planning, where the medical professional can study the facial anatomy thoroughly using **Planmeca Romexis**® software, facilitates a detailed operation and enhances the aesthetic results.

*Planmeca ProMax 3D s, Planmeca ProMax 3D, Planmeca ProMax 3D Mid, and Planmeca ProMax 3D Max

Technical specifications

Planmeca ProMax® 3D Max in detail

X-ray beam	Cone
Anode voltage	54–96 kV
Anode current	1–12 mA
Focal spot	0.6 mm, fixed anode
Image detector	Flat panel
Gray scale	15 bit
Detector resolution	127 µm
Image acquisition	210 / 360 degree rotation
Total scan time	18–26 s, pulsed X-ray
Reconstruction time	15 s at minimum
3D reconstruction server	Proprietary Feldkamp type back projection reconstruction algorithm Improved Artefact Removal (IAR) for high contrast object compensation

Physical space requirements

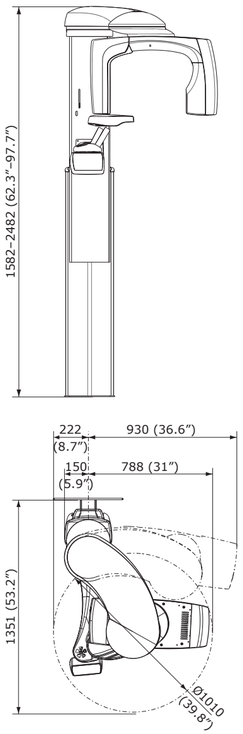
Width	118 cm (47 in.)
Depth	137 cm (54 in.)
Height*	161–239 cm (64–94 in.)
Weight	131 kg (lbs 289)

Minimum operational space requirements

Width	158 cm (63 in.)
Depth	175 cm (69 in.)
Height*	239 cm (94 in.)

*The maximum height of the unit can be adjusted for offices with limited ceiling space.

Dimensions



Dental programs

Program	**Volume size** (child mode)	**Voxel size, isotropic**
Tooth	Ø50 x 55 mm (Ø42 x 50 mm)	100 µm, 150 µm, 200 µm, 400 µm
Teeth	Ø100 x 55 mm (Ø85 x 50 mm) Ø100 x 90 mm (Ø85 x 75 mm)	150 µm, 200 µm, 400 µm
Jaw	Ø130 x 55 mm (Ø110 x 50 mm) Ø130 x 90 mm (Ø110 x 75 mm)	200 µm, 400 µm
Face	Ø100 x 130 mm (Ø85 x 110 mm) Ø130 x 130 mm (Ø110 x 110 mm) Ø130 x 160 mm (Ø110 x 136 mm)	200 µm, 400 µm
Skull	Ø230 x 160 mm Ø230 x 260 mm	400 µm, 600 µm

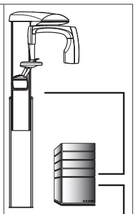
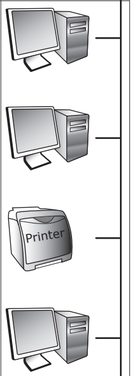
ENT (Ear, Nose, Throat) programs

Program	**Volume size** (child mode)	**Voxel size, isotropic**
Sinus	Ø100 x 90 mm Ø100 x 130 mm Ø130 x 130 mm Ø130 x 160 mm	200 µm, 400 µm
Middle ear	Ø50 x 55 mm (Ø42 x 50 mm)	100 µm, 150 µm, 200 µm
Temporal bone	Ø100 x 90 mm (Ø85 x 75 mm)	150 µm, 200 µm
Vertebrae	Ø100 x 90 mm (Ø85 x 75 mm) Ø100 x 130 mm (Ø85 x 110 mm)	200 µm, 400 µm
Airways	Ø100 x 90 mm (Ø85 x 75 mm) Ø100 x 130 mm (Ø85 x 110 mm) Ø130 x 130 mm (Ø110 x 110 mm) Ø130 x 160 mm (Ø110 x 136 mm)	200 µm, 400 µm

Planmeca Romexis® imaging software

Supported 2D X-ray modalities	Intraoral Panoramic Cephalometric 2D linear tomography
Supported 3D modalities	3D CBCT 3D photo 3D surface scan
Supported photo sources	Intraoral camera Digital camera or scanner (import or TWAIN capture)
Operating systems	Windows XP Windows Vista Windows 7 Windows 2003 Server Windows 2008 Server Mac OS X* For detailed information please see system requirements of Planmeca Romexis www.planmeca.com *Planmeca Romexis Cephalometric Analysis module is not supported on Mac OS.
Image formats	JPEG or TIFF (2D image) DICOM (2D and 3D image) STL (3D image import/export) TIFF, JPEG, PNG, BMP (import/export)
Image size	2D X-ray image: 1–9 MB 3D X-ray image: typically 50 MB–1 GB
DICOM 3.0 support	DICOM Import/Export DICOM DIR Media Storage DICOM Print SCU DICOM Storage SCU DICOM Worklist SCU DICOM Query/Retrieve DICOM Storage Commitment DICOM MPPS
Interfaces	TWAIN Client PMBridge (patient information and images) VDDS (patient information and images) InfoCarrier (patient information) Datagate (patient and user information)
Installation options	Client–Server Java Web Start deployment

Example installation

Included in delivery	Planmeca ProMax 3D Max with 3D reconstruction server	
Minimum set up	Client workstation and database server • Planmeca Romexis 3D Explorer • Database server • Planmeca Romexis Image Database The client workstation and database server can also be in separate computers.	 Ethernet
Additional equipment	Additional diagnostic workstations with different software configurations Planmeca Romexis tools: • 3D Explorer • 3D Cross Sections module • 3D TMJ module • 3D Implant Planning module • DICOM module	 Printer

Planmeca ProMax® 3D family

Discover also the other innovative products in the Planmeca ProMax 3D family and find the perfect unit for your imaging needs.

Planmeca ProMax® 3D s

Planmeca ProMax® 3D

Planmeca ProMax® 3D Mid

Planmeca Oy designs and manufactures a full line of high technology dental equipment, including dental care units, panoramic and intraoral X-ray units, and digital imaging products. Planmeca Oy, the parent company of the Finnish Planmeca Group, is strongly committed to R&D, and is the largest privately held company in the field.

PLANMECA

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