Planmeca ProMax® 2D S3
Planmeca ProMax® 2D S2
New era of dental imaging

*Planmeca ProMax*® is a complete maxillofacial imaging system. The design and operation principles are based on the latest scientific research, technological innovations and the most demanding needs of modern-day radiology.

**Advanced technology**
- **Autofocus** positions the focal layer automatically for perfect panoramic images
- **Dynamic Exposure Control (DEC)** measures the patient’s radiation transparency and automatically adjusts exposure values
- **Patented SCARA (Selectively Compliant Articulated Robot Arm) technology** guarantees an anatomically correct imaging geometry for clear, error-free images
- **Easy upgrades** – add cephalostat or 3D imaging capability at any time

**Effortless use**
- **Full-view patient positioning with triple-laser patient positioning lights**
- **Side entry for comfortable access**
- **Easy-to-use graphical interface**
- **Versatile Planmeca Romexis® 2D imaging software**
- **TWAIN support and full DICOM compliance**
Effortless and comfortable

Our industry-leading Planmeca ProMax® unit is known across the world for incredible ease of use and exceptional patient comfort. A relaxed patient means a smooth imaging workflow and the best possible image quality.

Open patient positioning
- Position patients effortlessly thanks to open-face architecture
- Correct patient positioning either with Autofocus or manually
- Make fine adjustments using positioning lasers and joystick
- Work with an unrestricted view of your patient
- Avoid claustrophobic feelings in patients
- Accommodate wheelchairs easily with side-entry access

User-friendly control panel
- Clear and straightforward graphical user interface guides you smoothly through your work
- Pre-programmed sites and exposure values for different image types and targets save you time and allow you to focus on your patients

Laser-assisted patient alignment
- A triple laser beam system accurately indicates the correct anatomical alignment points for patient positioning
- The midsagittal plane positioning beam indicates the correct sideways alignment
- The Frankfort horizontal plane positioning beam shows the correct forward tilt of your patient’s head
- The focal layer positioning beam indicates the focal layer position and ensures images are sharp and clear
- Fine adjustments can be made using the joystick

Improved image quality with Dynamic Exposure Control (DEC)
The unique digital Dynamic Exposure Control (DEC) automatically adjusts the exposure values for each individual patient based on their anatomic structure and bone density. DEC improves the quality of both panoramic and cephalometric imaging with more consistent brightness and contrast.

Adjustable focal layer
Developed based on scientific research, the imaging geometry matches the shape of the focal layer with the patient’s anatomy, resulting in clear panoramic radiographs. Simply select the shape of the focal layer on the graphical user interface, according to the size and shape of the patient’s jaw.
Planmeca ProMax® features highly advanced and exclusive robotic SCARA (Selectively Compliant Articulated Robot Arm) technology – providing flexible, precise and complex movements required for rotational maxillofacial imaging.

Unlimited movement range
Our revolutionary SCARA technology combines an electro-mechanical construction with real-time computation of dynamic rotation patterns. This enables optimised radiography for each individual patient, meeting virtually any diagnostic requirement for maxillofacial dentistry.

User benefits for SCARA
The precise free-flowing arm movements allow for a wider variety of imaging programs not possible with other X-ray units with fixed rotations. SCARA offers superior imaging capabilities for both existing and future technologies.

Different models for different needs

Planmeca ProMax® 2D S3
The three-joint model (SCARA3) Planmeca ProMax® 2D S3 has been designed for all imaging needs: panoramic, true extraoral bitewing, TMJ, sinus and 2D tomography.

Planmeca ProMax® 2D S2
The two-joint model (SCARA2) Planmeca ProMax® 2D S2 includes basic programs for panoramic, extraoral bitewing, TMJ and sinus imaging.

Both models can be easily upgraded to 3D imaging.

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### Imaging programs

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<tr>
<td>Bitewing</td>
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**Tomography programs**
- Digital linear tomography and Transstomography in digital unit
- True linear tomography or Linear tomography in film unit

**Child (Paediatric) mode for each program to reduce the dose**
Panoramic imaging
In addition to the Standard panoramic program, the following programs are offered:
- Interproximal panoramic program: generates an image, where interproximal teeth contacts are open. Primarily used for caries detection.
- Orthogonal panoramic program: produces an image with clearly visible alveolar crest for improved diagnostics. Ideal for periodontal imaging and implant planning.

Extraoral bitewings
The Bitewing program uses improved interproximal angulation geometry. The result is a bitewing image pair with low patient dose and excellent diagnostic quality.

Horizontal and vertical segmenting for panoramic program
With the Horizontal and vertical segmenting program, exposure can be strictly limited to the diagnostic region of interest. Patient dosage is reduced by up to 90% compared to a full panoramic exposure.

TMJ imaging
The TMJ imaging programs produce lateral or posteroanterior views of open or closed temporomandibular joints. The imaging angle and position can be adjusted to correspond to the anatomy of each individual patient.
The Lateral-PA TMJ program captures lateral and PA views on the same radiograph. The multi-angle TMJ programs produce radiographs with images from three different angles, from either the lateral or PA view.

Sinus imaging
The Sinus programs provide a clear view of the maxillary sinuses.

Our Planmeca ProMax® X-ray unit offers the widest variety of imaging programs available – easily meeting all your clinical needs.

Child mode for optimal paediatric imaging
In child mode, the imaging area and exposure values are reduced in all programs and also the focal layer can be narrowed in the panoramic program. The patient dose is reduced remarkably.

Extraoral bitewings
The Bitewing program uses improved interproximal angulation geometry. The result is a bitewing image pair with low patient dose and excellent diagnostic quality.

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Sinus imaging
The Sinus programs provide a clear view of the maxillary sinuses.
Planmeca ProMax® extraoral bitewings are ideal for periodontics, elderly and child patients, claustrophobic patients, patients with a strong gag reflex, and patients in pain. Extraoral bitewings enhance clinical efficiency and take less time and effort than conventional intraoral bitewing imaging.

What are the advantages of extraoral bitewings?

- Ideal for all patients – no sensor positioning required
- Consistently opens interproximal contacts, giving better diagnostic value
- Larger diagnostic area than in intraoral modalities
- More clinical data: canine to third molar
- Enhanced clinical efficiency – takes less time and effort than conventional intraoral bitewings
- Enhanced patient experience and comfort – eliminates gagging

Better diagnostic value with extraoral bitewings

True bitewings only possible with our SCARA3 technology

What if you could do all your routine diagnostic imaging extraorally?
New opportunities for tomography

Valuable tool for implantology
The Planmeca ProMax® tomography system produces clear tomographic slices of any part of the maxilla, mandible, or temporomandibular joints. The cross-sectional or longitudinal tomographs can be adjusted to any specific angle, and the constant 1.5x magnification factor and combination programs enable accurate measurements.

Accurate automated tomography
The position and angle of the tomographic exposure is automatically pre-adjusted according to program and target selection. An impression model of the patient’s dental arch can be used for easy and reliable fine-alignment, which can then be carried out practically and intuitively using the positioning joystick. The dual laser beams indicate the exact site and orientation of the tomographic cut.

Ingenious Transtomography®
The digital tomography option in Planmeca ProMax offers two imaging systems, digital linear tomography and Transtomography®.
Our ingenious patented Transtomography system allows easier patient positioning and enhances the diagnostic value of the image. It uses a multiple-swing method to produce a linear tomography effect with a narrow X-ray beam.

Combined, cross-sectional and longitudinal tomography
The tomography programs include a wide range of manual and automatic cross-sectional and longitudinal imaging programs and their combinations. Combined tomography is highly valuable in implant planning, integrating cross-sectional and longitudinal views on the same radiograph. Both transversal and longitudinal views show the same position in two perpendicular projections, giving three-dimensional information on the target with the same magnification.
We offer exceptional equipment and the most advanced software for all your orthodontic needs.

Cephalometric imaging with Planmeca ProMax® units
- The functional and easy-to-use head positioner ensures accurate positioning for all cephalometric projections
- The carbon fibre ear posts and nasal positioner are extremely stable, hygienic, and transparent to radiation
- The unit automatically aligns itself to take cephalometric exposures and then selects a corresponding collimator

Two available options:

One-shot Planmeca ProCeph™ cephalostat
- Effective one-shot cephalostat
- Short exposure time – no motion artefacts, low patient dose
- Image sizes from 18 x 25 cm to 30 x 25 cm

Scanning Planmeca ProMax® cephalostat
- Digital cephalostat that scans your patient’s head horizontally using a narrow X-ray beam with an extremely low effective dose of radiation
- Exceptional flexibility in image formats, with field sizes of up to 30 x 27 cm

Easier and more accurate than ever before
Planmeca Romexis® – high-performance 2D imaging

Our advanced Planmeca Romexis® software suite offers the most versatile tools for 2D imaging. Diagnose images using our full range of enhancement tools – or view them wherever you are with our mobile apps. This flexible dental imaging suite adapts to your needs and will grow into the third dimension together with your practice.

Mac OS and Windows compatible

Easy and powerful
Planmeca Romexis® is the software of choice for viewing and processing 2D images from Planmeca X-ray units. Powerful enhancement and analysis tools guarantee that accurate diagnosis is available to users in all specialties, while the intuitive interface guarantees confident, comfortable use from day one.

Sharing the results
Cases can be seamlessly transferred to mobile devices or partner clinics that use Planmeca Romexis or the free Planmeca Romexis® Viewer. Our integration with other systems allows you to freely utilise third-party products at your clinic. TWAIN support and DICOM standard compliance ensure that the software can be used together with most systems.

Free Planmeca Romexis® Viewer application
- Full-featured viewer application
- No installation required
- Mac OS and Windows support
- Distribute to specialists or patients

Integrated document management
The printing module with multi-page support is ideal for creating professional, high-quality printouts and radiology reports to be sent to referring dentists. Documents of any type can be attached to patient files, providing a convenient storage for cephalometric tracing reports, referral letters and other information.

Advanced implant planning
Planmeca Romexis provides powerful tools for implant planning, including realistic implant models from over 30 manufacturers.

Radiology interpretation module
The Planmeca Romexis® Radiological Findings module is the most advanced findings-recording tool on the market. Developed in cooperation with clinicians, its findings list is hierarchically categorised and can be freely edited. The module is especially designed for educational and radiology centres where uniformity of recordings is essential.
### Technical specifications

#### Generator
- Constant potential, resonance mode high frequency
- 80–150 kHz

#### X-ray tube
- D-054SB-P
- Focal spot size 0.5 x 0.5 mm (IEC 336)

#### Total filtration
- min. 2.5 mm Al equivalent

#### Anode voltage
- Pan: 50–84 kV

#### Anode current
- Pan: 0.5–16 mA DC

#### Exposure time
- Pan: 2.7–16 s
- Cap: 0.2–19 s
- Tomo: 3–24 s / frame

#### SID
- Pan: 500 mm (19 in.)
- Ceph: 163–170 cm (64–67 in.)

#### Magnification
- Pan: constant 1.2
- Cap: 1.08–1.13

#### CCD pixel size
- 48 µm

#### Image pixel size
- 48/96/144 µm selectable

#### CCD active surface
- Pan: 6 x 147 mm
- Ceph: 6 x 295 mm

#### Resolution (digital)
- Pan: max. 9 lp/mm
- Ceph: max. 5.7 lp/mm

#### Image field (digital)
- Pan: 14 x 30 cm (5.5 x 12 in.)
- Ceph: 24/27 x 18/30 cm (9/10.6 x 7/11.8 in.)

#### File size, un compressed (digital)
- Pan: 4–33 MB
- Ceph: 7–16 MB

#### Line voltage
- 100–240 V, 50 or 60 Hz

#### Regulation
- Automatic, ±10%

#### Line current
- 8–16 A

#### Colour
- White (RAL 9016)

### Imaging programs

#### Planmeca ProMax 2D S3
- Basic panoramic programs
  - Standard panoramic
  - Lateral TMJ (closed & open)
  - PA TMJ (closed & open)
  - RA sinus
  - Horizontal and vertical segmenting for panoramic program
- True Bitewing

#### Planmeca ProMax 2D S2
- Basic panoramic programs
  - Standard panoramic
  - Lateral TMJ (closed & open)
  - PA TMJ (closed & open)
  - RA sinus
  - Horizontal and vertical segmenting for panoramic program
- True Bitewing

#### Planmeca iRomexis™ imaging software
- Supported 2D modalities
  - Panoramic
  - Cephalometric
  - 2D linear tomography
  - Photos

- 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
  - Win XP / Win Vista Pro / Win 7 / Win 8
  - Win 2003 Server / Win 2008 Server

  *For detailed information please see system requirements of Planmeca Romexis www.planmeca.com

- Image formats
  - JPEG or TIFF (2D image)
  - DICOM (2D and 3D image)
  - STL (3D image)
  - TEPP, JPEG, PNG, BMP (import/export)

- Image size
  - 2D X-ray image: 1–9 MB
  - 3D X-ray image: typically 50 MB–1 GB

- Installation options
  - Client–Server

- TWAIN support
  - DICOM Import/Export
  - DICOM DIR Media Storage
  - DICOM Print SCL
  - DICOM Storage SCL
  - DICOM Worklist SCL
  - DICOM Query/Retrieve
  - DICOM Storage Commitment
  - DICOM MPPS

- Interfaces
  - TWAIN Client
  - PMBridge (patient information and images)
  - VODS (patient information and images)
  - InfoCarrier (patient information)
  - Datalogic (patient and user information)

- 3rd party software integrations
  - Nobel Clinician
  - Materialise Dental Simplant
  - Straumann coDiagnostiX
  - Cybermed N-Liten

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**Physical space requirements**

<table>
<thead>
<tr>
<th>Planmeca ProMax 2D with cephalostat</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong> (96 cm (38 in.))</td>
<td>94 cm (37 in.)</td>
<td>150 cm (59 in.)</td>
<td>213 cm (84 in.)</td>
</tr>
<tr>
<td><strong>Depth</strong> (125 cm (49 in.))</td>
<td>125 cm (49 in.)</td>
<td>163 cm (64 in.)</td>
<td>163 cm (64 in.)</td>
</tr>
<tr>
<td><strong>Height</strong> (153–243 cm (60–96 in.))</td>
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<td>243 cm (96 in.)</td>
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**Minimum operational space requirements**

<table>
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<tr>
<td><strong>Width</strong></td>
<td>96 cm (38 in.)</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>123 cm (48 in.)</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>112 cm (44.2 in.)</td>
</tr>
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</table>

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