



ENGLISH

PLANMECA
ProOne



Efficiency with elegance



Simple is beautiful. Planmeca designed their fully digital Planmeca ProOne, an all-round dental X-ray unit, with simplicity in mind. Still, no compromises were made in applying the latest state-of-the-art technology. In Planmeca ProOne, compact dimensions and ease of use are combined with extensive diagnostic capabilities and superior image quality. Planmeca ProOne truly inherits Planmeca's expert knowledge and long traditions in dental imaging.

For every dentist



The fully digital Planmeca ProOne X-ray unit provides absolute ease of use with cutting edge technology. The wide selection of exposure programs and parameters on the unit graphical user interface ensures that all types of radiographic examinations are highly rapid and effortless to perform. Being small-sized, Planmeca ProOne brings the benefits of digital imaging within the reach of every dentist the world over.

The side entry and open patient positioning minimise errors caused by incorrect patient positioning, one of the most frequent reasons for failed radiographs. Patient positioning is made quick, precise, and easy, as the user may monitor the patient freely from the front and side.

Patient positioning is assisted by a triple laser beam system which accurately indicates the correct anatomical positioning points. The midsagittal plane positioning beam shows the correct sideways alignment of

the patient's head. The Frankfort horizontal plane positioning beam allows the correct head forward tilt. The focal layer positioning beam indicates the focal layer's position in the incisor region which helps position the patient accurately inside the focal layer for a sharp and clear image.

The Planmeca ProOne side entry allows easy access for all patients; the exposure can be performed of a standing or a seated patient. If necessary, the patient can even remain seated on a wheelchair or lay in a hospital bed with upright lifted backrest. In Planmeca ProOne, no mirrors are needed for patient positioning. Instead, the patient has an open and comfortable view, so for instance a small child can see the accompanying adult at every stage of the exposure.

The Planmeca ProOne X-ray unit requires neither assembling nor adjustments, which is not the case with most X-ray units on the market. Planmeca ProOne is delivered fully assembled, in one package, and ready-to-mount. Which is why the installation is rapid and straightforward. All one has to do is to fix the X-ray unit on a wall or on a free-standing base, and the unit is ready for immediate use.



Ease of operation



Direct digital radiography offers many advantages both for the patient and for the imaging workflow.

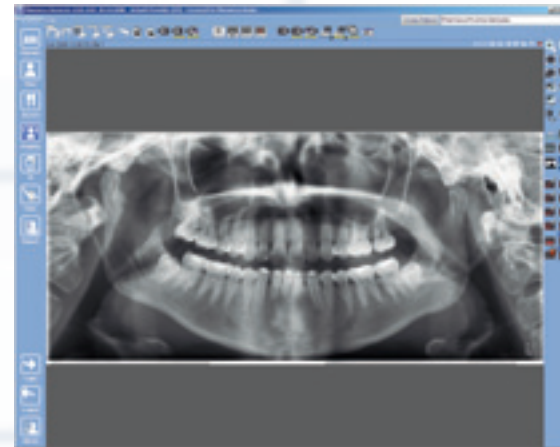
- Direct digital X-ray imaging saves time. The image is visible on the computer screen within seconds after the exposure, and thereby immediately available for diagnosis.
- As films, film processing, and darkrooms are left behind, the most common reasons for failed images are eliminated.
- Digital images can be enhanced in the imaging software. This results in more accurate diagnoses.
- Digital archives and networks enable efficient image communications.

The full colour TFT display has a graphical user interface (GUI) that guides the operator with text and clear graphic symbols. The GUI design is based on cognitive ergonomics; hence all settings are logically grouped and easy to understand. This hastens the imaging procedure and allows the operator to fully focus on patient positioning and communication. All necessary information is shown on the main display with a hygienic wipe-clean surface.

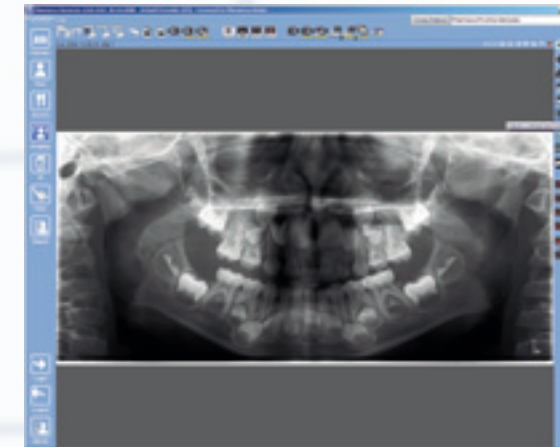
As the jaw size and shape varies from one individual to another depending on size, gender, race, and age, one fixed panoramic focal layer form cannot be optimal for every patient. On the graphical user interface, the operator may adjust the shape of the focal layer according to the jaw size and shape characteristic to the patient.

The unique digital Dynamic Exposure Control (DEC) optimises the whole imaging chain individually for each patient. All components from the X-ray generator to the digital sensor are tuned to produce the optimum image quality.

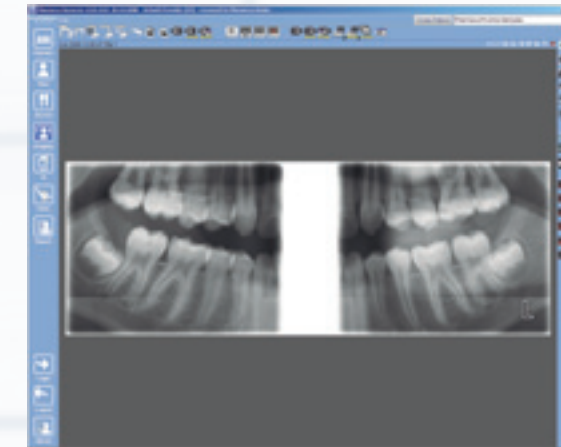
A self-diagnostic control system continuously monitors the unit. The system displays help messages which guide the operator and enable the correct use of the unit. The control system also displays error messages in case of abnormal operation. These error messages are stored in an error log to help both the operator and the technical service.



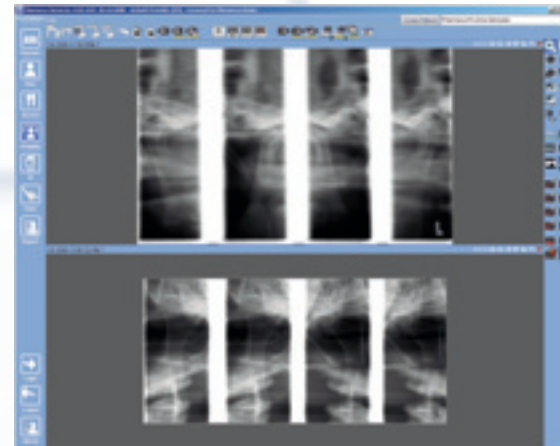
Standard Panoramic



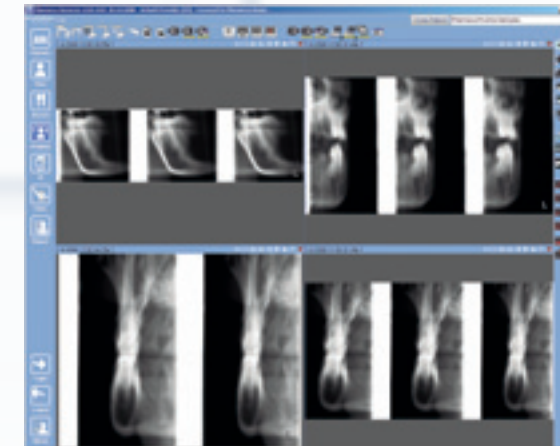
Pediatric



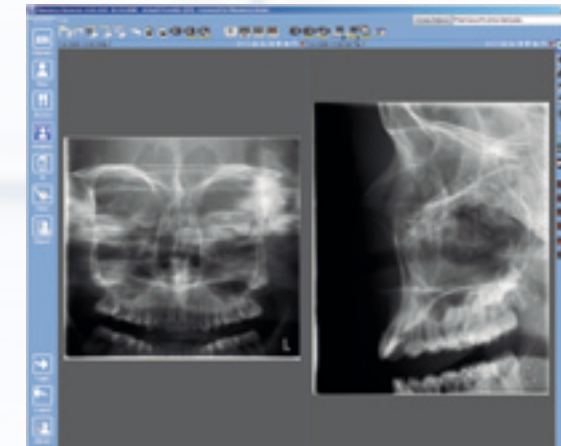
Bitewing



Lateral and PA Double TMJ



Cross-sections



Sinus

Planmeca ProOne provides a variety of all-round imaging programs for different radiographic needs. Besides the Standard Panoramic program, the following three special panoramic programs are provided for more specific diagnostic needs: Improved Interproximal program, Improved Orthogonal program, and Bitewing program.

Planmeca ProOne also allows you to select the right exposure format, minimising the radiation dose for all types of patients and diagnostic purposes.

To produce accurate and undistorted radiographs, the form of the focal layer was designed to follow the scientifically defined shape of human dental arch and jaw. Such a focal layer provides panoramic radiographs with clearly superior clinical quality. The imaging geometry efficiently eliminates shadows and

ghost images caused by objects outside the image layer, which significantly increases the diagnostic value of the radiograph.*

The optional Improved Interproximal program produces a panoramic image with open interproximal contacts. Such a radiograph is especially useful in caries detection.

An image taken with the unit Bitewing program, which utilises the improved interproximal projection geometry, is similar to an intraoral bitewing image pair. The advantage is that the image is obtained with one simple extraoral exposure and a very low radiation dose.

The optional Improved Orthogonal program produces an image where the alveolar crest is clearly visible for enhanced diagnostics of periodontal condition and traumas.

The Pediatric program automatically reduces the exposed area from top and sides, which results in a 20% lower patient dose, without loss of diagnostic information.

With the Segmenting program, the exposed area can be limited only to the area of diagnostic interest. With a simple selection on the GUI, the patient dose can be reduced by up to 90% compared to a full area panoramic exposure.**

The Sinus program has a specially designed image layer providing a radiograph with a clear view of the maxillary sinuses.

The automatic Double TMJ program produces a lateral or posteroanterior view of open and closed temporomandibular joints on one radiograph. While

the imaging procedure is straightforward, the radiograph allows easy diagnosis of the TMJ condition in one view.

The Cross-section program is intended for simple cross-sectional imaging of TMJs and jaws in molar and premolar region. These images convey highly valuable information on cross-sectional dimensions and the structure of the jaw.

* Standard Forms of Dentition and Mandible for Applications in Rotational Panoramic Radiography, U. Welander, P. Nummikoski, G. Tronje, W.D. McDavid, P.E. Legrell and R.P. Langlais, Dentomaxillofacial Radiology, 1989, Vol. 18, May

** Absorbed dose reduced by sliced exposure using sector selector system with rotational panoramic radiography, Y. Hayakawa, N. Kobayashi, Y. Kousuge, H. Fujimori and K. Kuroyanagi, Bulletin of Tokyo Dental College, Vol. 35, No. 3, pp. 127-131, August, 1994

Planmeca Romexis software

Planmeca Romexis is a complete dental imaging software, including all dental imaging modalities: intraoral, panoramic, cephalometric, 3D imaging, dental tomography as well as intraoral video and still camera imaging. With a complete set of tools for image viewing, enhancement, measurements, and annotations, Planmeca Romexis also improves the diagnostic value of radiographs. Printing, image import and export, and DICOM functionalities are also included.

Planmeca Romexis platform fully integrates digital imaging with the patient's other clinical data. The system provides direct image capture from Planmeca's X-ray equipment, and interfaces with 3rd party devices via TWAIN. Together with Planmeca's X-ray equipment, Planmeca Romexis provides a unique safety feature especially useful for teaching environment: the X-ray image capture is inhibited until the supervisor has approved the student's image capture request.

Planmeca Romexis computer recommendations

	Planmeca Romexis client work station	Planmeca Romexis server
Processor	1 GHz	2 GHz
RAM	1 GB	2 GB
Hard disk space	40 GB	160 GB
Monitor	1280 x 1024	1280 x 768
Peripherals	CD R/W or DVD R/W drive	CD R/W or DVD R/W drive
Backup medium	None necessary	DAT or equivalent
Operating system	Windows XP, Windows 2003, Windows Vista, Mac OS X, Linux Mac OS X / Linux support subject to contract	Windows XP Pro, Windows 2003 Server, Windows Vista
Other	Java platform (Java Virtual Machine 1.6 or later)	Java platform (Java Virtual Machine 1.6 or later)

The disk space requirements are dominated by digital images. Thus the space requirements vary, but a rough estimate is in the order of 1 MB per 2D X-ray image, 7–9 MB per extraoral image, depending on a variety of image specific factors, and 250 MB per 3D image.

It is recommended to use the same computer for application server and for database server. If Planmeca Romexis server computer is also used for client activities, the hardware should meet both client and server specifications.

Values presented above are recommended minimum specifications, not meeting them may in some cases cause degraded performance.

DICOM compatibility

- Media Storage – saving images into removable DICOM media
- Print – printing images on film or paper with a DICOM medical printer
- Storage – saving images into DICOM image archive
- Query/ Retrieve – importing digital images from DICOM image archive
- Worklist – importing a patient list from DICOM patient management
- Storage Commitment – confirmation of a successful image storage

Planmeca ProOne

Generator	Constant potential, resonance mode high frequency 60 - 80 kHz
X-ray tube	D-058SBR
Focal spot size	0.5 x 0.5 mm (IEC 336)
SID	480 mm (19 in.)
Total filtration	min. 2 mm Al eq.
Anode voltage	60 - 70 kV
Anode current	2 - 7 mA DC
Exposure time	2 - 10 s
Magnification	1.22 - 1.29
Line voltage	100 - 132 V~ 50/60 Hz, 180 - 240 V~ 50 Hz
Regulation	± 10 % (automatic)
Line current	8 - 16 A
Power uptake	max: 850 W
Chin rest level	95 - 178 cm (37.4 - 70 in.)
Colour	RAL 9016 (white)
Weight	67 kg (148 lbs)

Software features

1. Basic programs

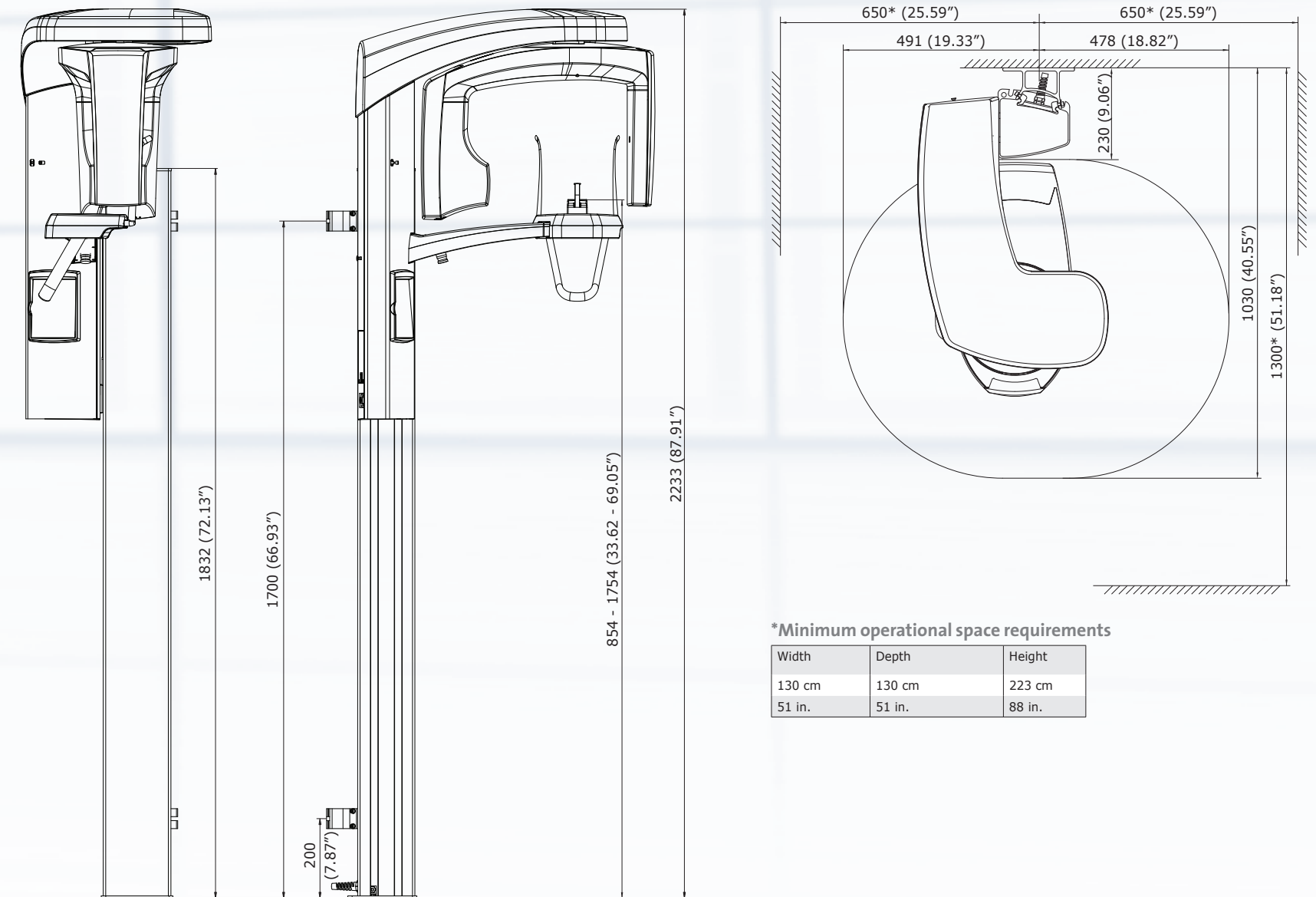
- Standard Panoramic
- Pediatric Panoramic
- Lateral Double TMJ
- PA Double TMJ
- PA Sinus

2. Horizontal and vertical segmenting

3. Advanced programs

- Improved Interproximal
- Improved Orthogonal
- Bitewing
- Lateral-PA Double TMJ
- Lateral 3-angle TMJ (left or right)
- Lateral Sinus (left or right)
- Lateral Midsagittal Sinus (left or right)
- Cross-sections, manual or automatic

4. DEC (Dynamic Exposure Control)



*Minimum operational space requirements

Width	Depth	Height
130 cm	130 cm	223 cm
51 in.	51 in.	88 in.



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.



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