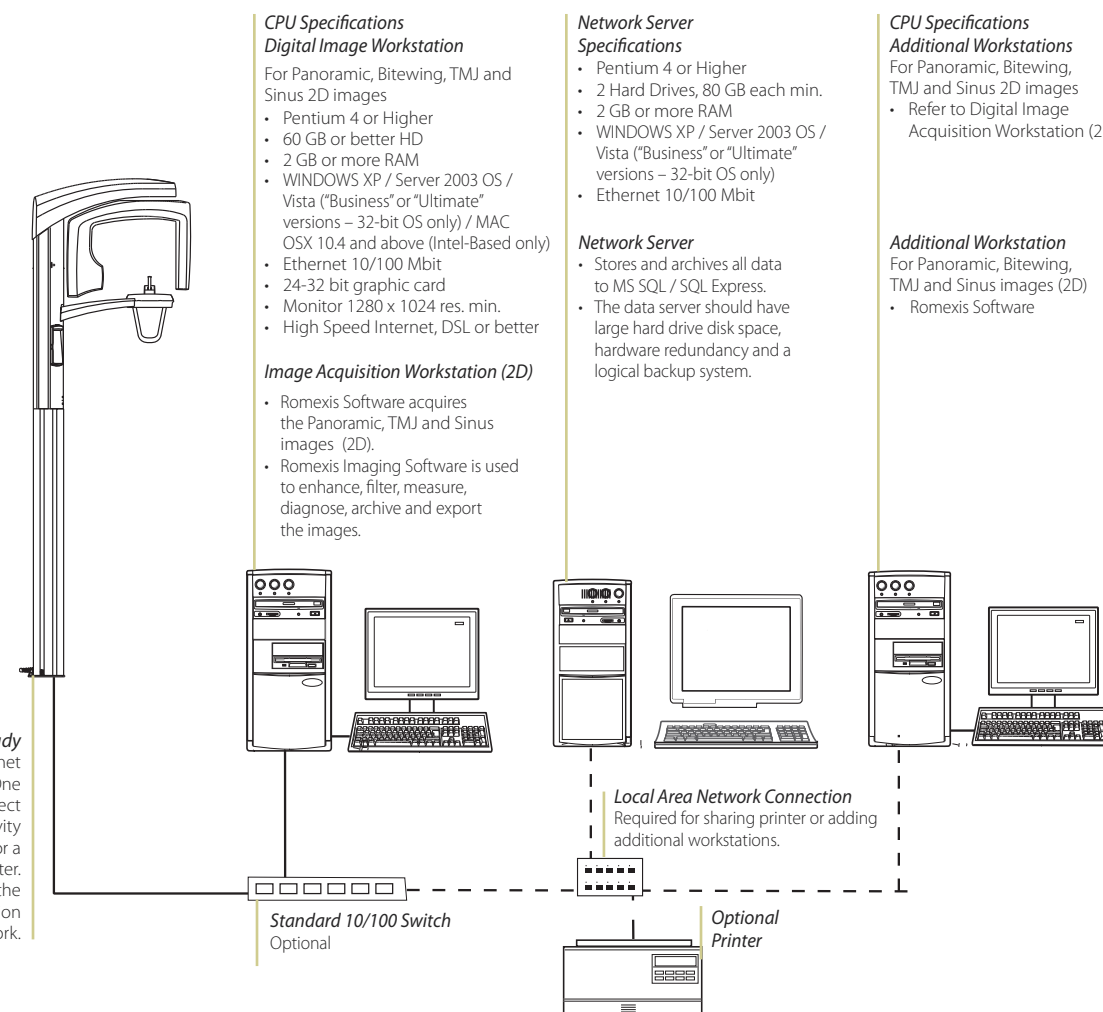


ProOne Digital X-ray Imaging Hardware Diagrams and System Requirements

ProOne Digital X-Ray

Note: An Uninterrupted Power Supply (UPS) / Power Conditioner is recommended for the X-Ray. Install a new Planmeca Power Conditioner with a newly purchased Planmeca Imaging System and Planmeca USA, Inc. will extend the the product warranty from two years to three.

Ethernet Ready
The new, built-in Ethernet connection for ProOne Digital X-rays offers direct network connectivity without the need for a PCI card or computer. You can literally plug the Ethernet connection directly into your network.



All digital X-ray,
compact and easy to use



PLANMECA
ProOne™



ProOne's compact and lightweight design brings the benefits of direct digital imaging to almost any doctor's office or imaging clinic.

Simply Amazing

All digital

The ProOne Digital Panoramic X-ray's sleek yet functional design combines simplicity with the latest state-of-the-art technology to provide ease of use, extensive diagnostic capabilities, and superior image quality in an affordable package.

The ProOne X-ray's most notable feature is its compact footprint. Add to that its light weight of 152 lbs., and the result is a panoramic X-ray that can be used in almost any doctor's office or imaging facility.

Upgradeable

Best of all, the ProOne Digital X-ray's panoramic and basic programming can be upgraded to the optional ProOne Professional Program Package which includes Horizontal and Vertical Segmenting and advanced programs like the Improved Interproximal Program, Improved Orthogonal (Perio) Program and Bitewing Program. The optional Dynamic Exposure Control (DEC) may also be added at any time.

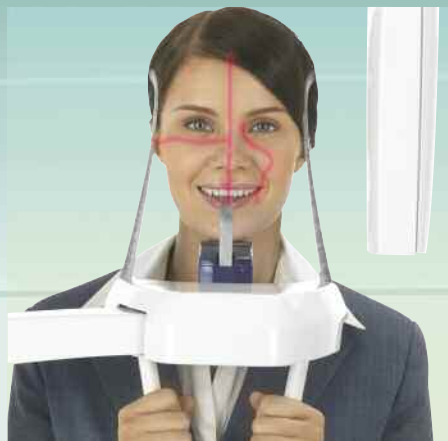
The Panoramic Bitewing Program is also available separately (without the Professional Program Package).



For every dentist and any patient



Side entry and open patient positioning



Laser beam-assisted head alignment



Wheelchair and hospital bed patients

ProOne digital imaging benefits

Now the many benefits of direct digital radiography can be used in even the smallest of offices, offering many advantages both for the patient and for the imaging workflow of the practice.

Direct digital imaging saves time

Images are seen on the computer screen within seconds after the exposure without waiting for the processing of film in order to make a proper diagnosis.

ProOne's CCD Direct Digital Technology

The digital sensor technology of the ProOne eliminates chemical processing of films, as well as the need for chemical developers, chemical disposal, and dark room. Digital imaging puts an end to the retakes and overhead associated with processing film.

Planmeca Romexis Digital Imaging Software helps with patient diagnosis

Romexis Software used with digital imaging is very helpful when it comes to diagnostics. Romexis can help enhance critical areas, highlight, extract, change contrast, and even enlarge an area of interest.

Digital imaging allows easy archiving and efficient record-keeping practices

A digital image requires much less storage space, its easier to access, and can be found in much less time than a film image. In addition, the Romexis imaging software is interfaced with or bridged with most practice management software programs, allowing easy access to all a patient's information in one file.

Easy to operate

The ProOne X-ray unit provides absolute ease of use with cutting edge digital imaging technology. Simply select the desired image program, patient type, jaw shape and size, and position the patient. The unit's graphical user interface ensures that all types of radiographic examinations are highly rapid and effortless to perform.

Quick and easy patient positioning

ProOne's side entry and open patient positioning features minimize radiograph errors caused by incorrect patient positioning. Patient positioning is made quick, precise, and easy, as the user may monitor the patient freely from the front and side.

Triple laser beam alignment

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 tilt. The focal layer positioning beam helps position the patient accurately inside the focal layer for a sharp and clear image.

Accessible by all patients

The PLANMECA ProOne easily handles any patient, from children and adults to those who are bedridden or wheelchair bound.

Side entry

ProOne's side entry feature allows easy access for all patients; the exposure can be performed on a standing or a seated patient. If necessary, the patient can even remain seated in a wheelchair or lie in a hospital bed with upright lifted backrest.

Open view patient positioning

ProOne does not require mirrors to position the patient. Instead, the patient has an open and comfortable view. (This is especially useful when, for example, the patient is a small child who needs reassurance that a parent is nearby.)

Extremely simple design - compact and lightweight

The PLANMECA ProOne is extremely compact and lightweight with a simple, sleek design for quick and easy installation. ProOne is delivered fully assembled and ready to install. ProOne's design consists of a simplified mechanical construction without mechanical buttons, minimal use of printed circuit boards, minimal cables and the latest universal components. Simply affix the 152 lb. ProOne to a wall or a freestanding base and the unit is ready for immediate use.



Ease of operation

Superior digital imaging made simple

PLANMECA ProOne provides a variety of imaging programs for different radiographic needs. In addition to the standard panoramic programs, the following specific imaging programs represent a few of the programs included within the optional Professional Program Package:

- Improved Interproximal Program
- Improved Orthogonal (Perio) Program
- Bitewing Program

Note: The panoramic Bitewing Program can be added as a separate program.

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

ProOne's advanced imaging geometry efficiently eliminates shadows and ghost images caused by objects outside the image layer, which significantly increases the diagnostic value of the radiograph.*

Standard Panoramic Image



Improved Interproximal Program

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



Bitewing Images are ideal for caries diagnosis

An image taken with the unit's optional Bitewing Program, which utilizes the improved interproximal projection geometry, is similar to an intraoral bitewing image pair while also showing periapical information. The advantage is that the image is obtained with one simple extraoral exposure and a very low radiation dose (50% of standard panoramic).



Optional Improved Orthogonal (Perio) 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 20-35% lower patient dose, without loss of diagnostic information.

* 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

Basic Programs

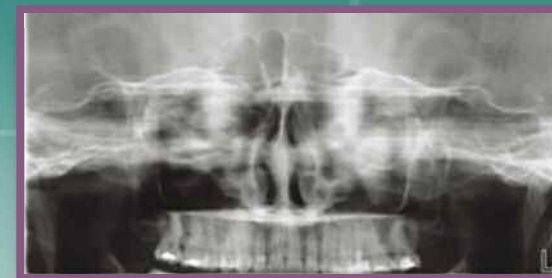
Standard Panoramic Program
Pediatric Program
Double Lateral TMJ Program
Double PA TMJ Program
PA Sinus Program

Professional Program Package

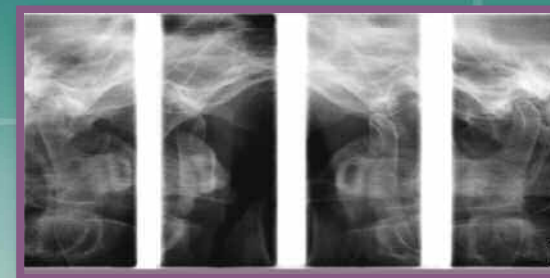
Horizontal and Vertical Segmenting
Improved Interproximal Program
Improved Orthogonal (Perio) Program
Bitewing Program
Double Lateral - PA TMJ Program
Lateral 3 Angles TMJ Program (left or right)
Lateral Sinus Program (left or right)
Lateral Midsagittal Sinus Program (left or right)
Cross-sections, Manual or Automatic

Available Separately

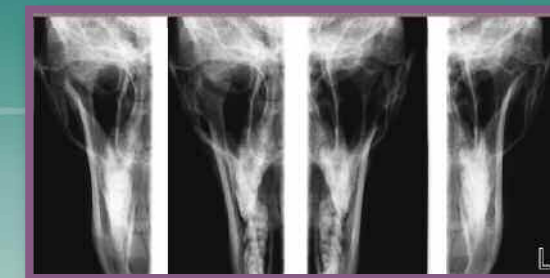
Bitewing Program



Optional 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 view (above) or a posterior/anterior view (above right) of open and closed temporomandibular joints on one radiograph.



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



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



Optional Segmenting Program limits the exposed area 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.**

ProOne Digital Panoramic X-ray Programs

All 5 Basic Programs come standard with the unit. The Professional Program Package is optional and contains over 12 advanced panoramic programs including the Bitewing Program. The optional Bitewing Program is also available separately.

** 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

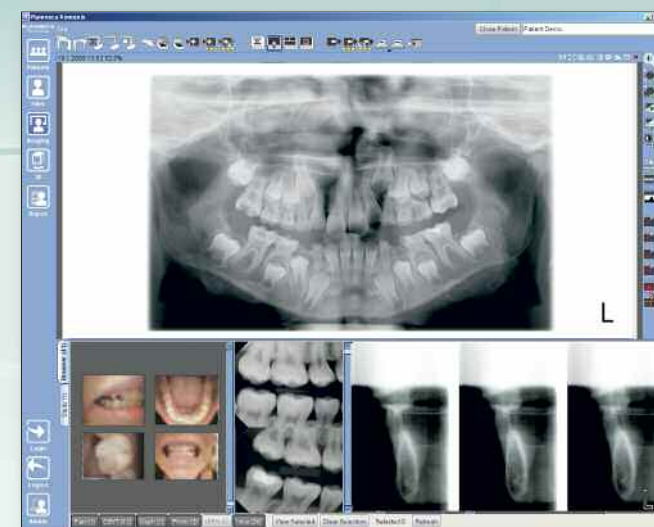


Romexis Software

The Romexis Platform fully integrates digital imaging with the patient's other clinical data. The system provides direct image capture from Planmeca's X-Ray Imaging Units as well as interface with 3rd party devices and software. It has a pure Java based interface that runs in various operating systems and modern web environments. Romexis includes a copy of MS SQL Express for storing and archiving all data on server hard drive..

Complete Digital Imaging

Planmeca Romexis includes all dental imaging modalities: intraoral, panoramic, cephalometric and 3D imaging, dental tomography as well as intraoral video and still camera images. With a complete set of tools for image viewing, enhancement, measurement and annotation, Planmeca Romexis also improves the diagnostic value of radiographs.



Easy to use Romexis Tools



Romexis handles all image types

Romexis Software Tools

- Customized templates
- Image navigator tool
- Image magnifier tool
- Point-to-point measurements tool
- Image filtering tool
- Pseudo-color enhancement tool
- Image inversion tool
- Tooth range program
- Image parameter tool
- Gray level auto-adjustment program
- Flashlight tool

DICOM Compliant

DICOM, short for Digital Imaging and Communications in Medicine, is a worldwide standard for image transfer in medical information systems. Romexis is 100% DICOM compatible and fully ADA compliant and provides, as an option, the widest possible DICOM functionalities.

TWAIN Driver

The TWAIN Driver allows direct digital X-ray image acquisition into a third party imaging software and for another vendor's TWAIN compliant imaging software to directly acquire digital X-ray images taken with the ProOne.



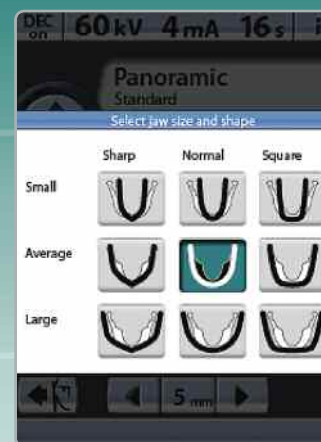
Simple, easy-to-understand Graphic User Interface makes digital imaging quick, accurate and aseptic.



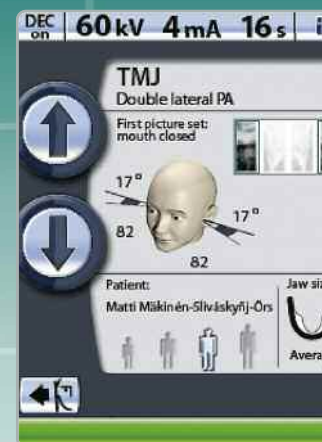
Panoramic programs



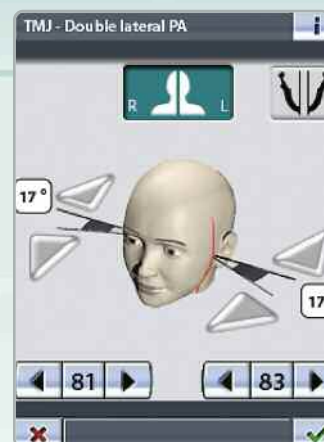
Vertical and horizontal segmenting



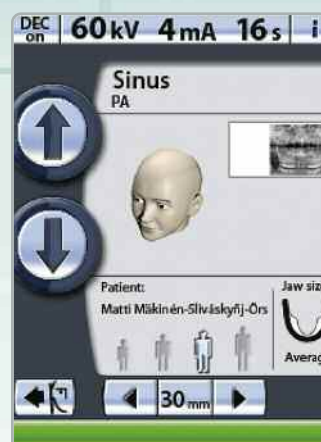
Select jaw size and shape



TMJ programs



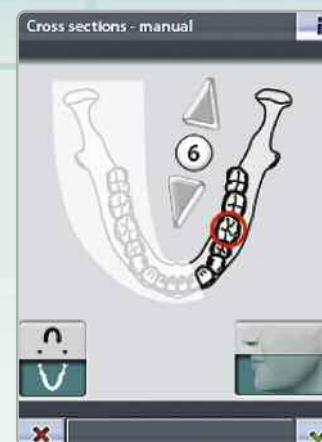
TMJ selection



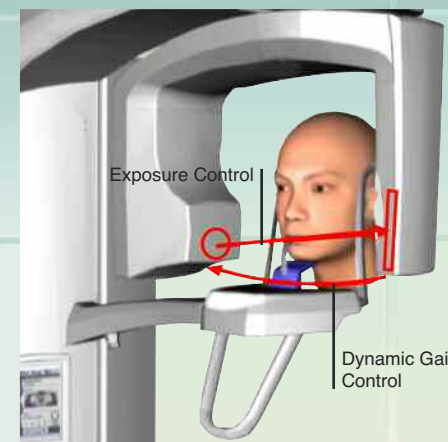
Sinus programs



Cross-Sections program



Cross-Section manual angle



Optional Dynamic Exposure Control adjusts the exposure parameter automatically per each patient and controls the sensitivity of the digital sensor for optimum image quality.

Graphic User Interface

The full-color TFT display has a graphical user interface (GUI) that guides the operator with text and clear graphic symbols.

Intuitive controls

The GUI design is based on cognitive ergonomics: All settings are logically grouped and easy to understand. The imaging procedure, program selection and exposure parameters are intuitive to the operator and allow full focus on patient positioning and communication. All necessary information is shown on the main display with a hygienic wipe-clean surface.

Focal layer adjustment

By simply touching the GUI, the operator can adjust the shape of the focal layer according to the jaw size and shape characteristics of the patient.

Preview image

After the patient's X-ray has been taken, a preview image is displayed across the graphical user interface.

Preview magnification

For improved image validation, the GUI magnifies a selected portion of the preview when it is touched by the operator.

Patient identification

If the patient is not already identified on the GUI through Romexis, simply touching the ID area on the screen will allow the operator to enter patient information.

ProOne Digital Panoramic X-ray Programs

1. Basic Programs:
 - Standard Panoramic Program
 - Pediatric Program
 - Double Lateral TMJ Program
 - Double PA TMJ Program
 - PA Sinus Program
2. Optional Professional Program Package:
 - Horizontal and Vertical Segmenting
 - Improved Interproximal Program
 - Improved Orthogonal (Perio) Program
 - Bitewing Program
 - Double Lateral - PA TMJ Program
 - Lateral 3 Angles TMJ Program (left or right)
 - Lateral Sinus Program (left or right)
 - Lateral Midsagittal Sinus Program (left or right)
 - Cross-sections, Manual or automatic

Note: Bitewing Program can be added as a separate program without purchasing the entire Professional Program package.

Optional Dynamic Exposure Control

The unique digital Dynamic Exposure Control (DEC) optimizes 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.

Exposure Parameter Control

- Adjusts the exposure parameters optimal for each patient automatically
- Prevents too low initial exposure parameters from causing under-exposure and/or poor image quality
- Prevents unnecessary high radiation levels

Automatic Gain Control

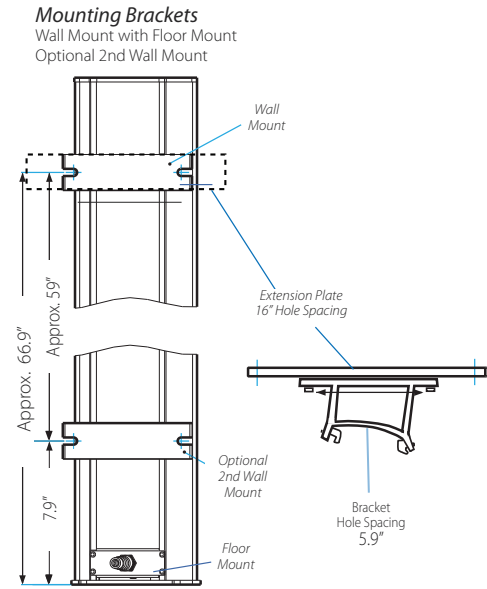
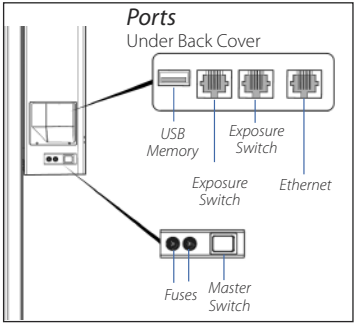
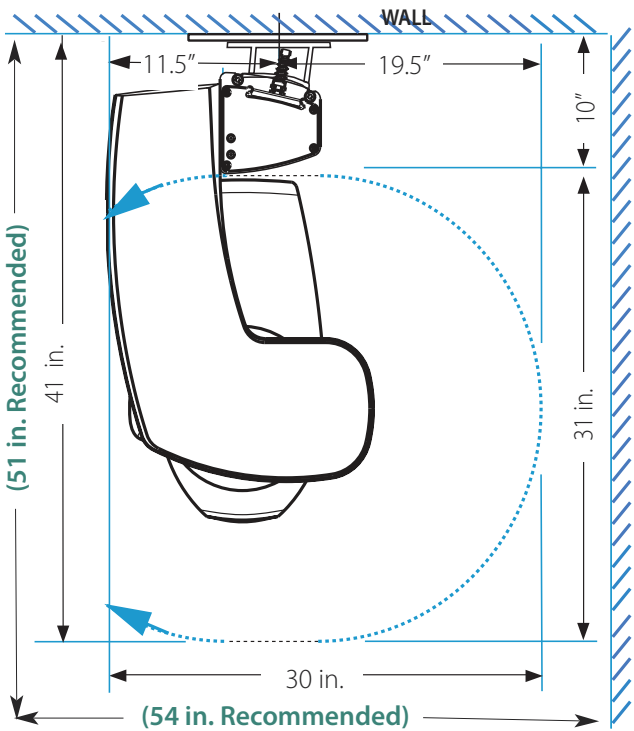
- Adjusts the sensitivity of the sensor according to the amount of incoming radiation
- Adapts automatically to patient anatomy
- Prevents pixel saturation even in soft tissue and direct radiation areas
- Works in all programs

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 assist with technical service.



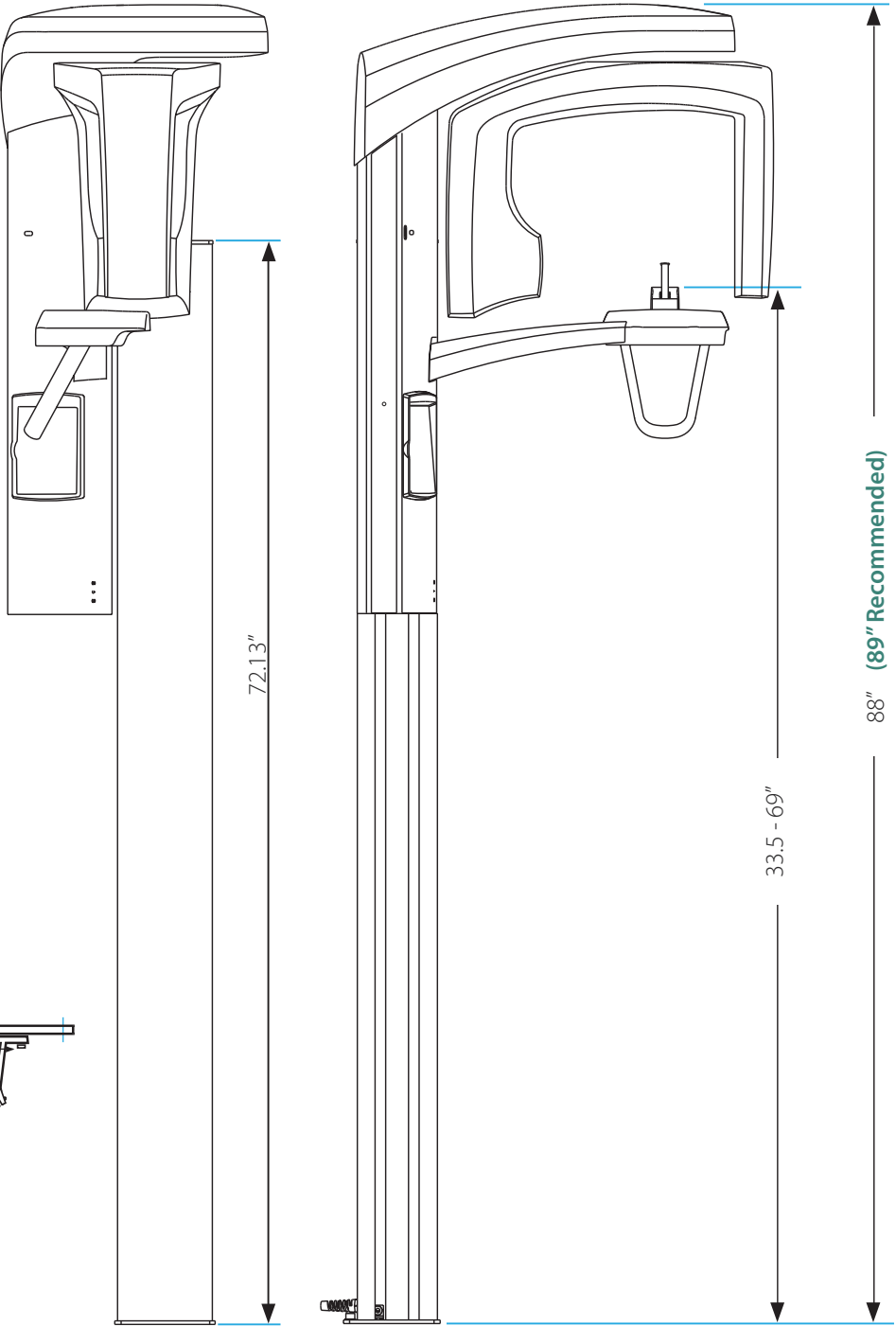
Generator	Constant potential, resonance mode high frequency 60 - 80 kHz
X-ray tube	D-058SBR
Digital Sensor	CCD Technology
Sensor Pixel Size	33µm
Image Pixel Size	132µm
Focal spot size	0.5 x 0.5 mm (IEC 336)
SID	480 mm (19 in.)
Total filtration	2.5 mm Al
Anode voltage	60 - 70 kV
Anode current	2 - 7 mA 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	33.5 - 69 in. (85 - 175 cm)
Exterior color	RAL 9016 (white)
Weight	69 kg (152 lbs.)

ProOne Digital Pan
Overhead View



Actual Product Dimensions		
Width:	Depth:	Height:
30 inches	41 inches	88 inches
Minimum Operational Dimensions		
Width:	Depth:	Height:
38 inches	46.6 inches	89 inches
Optimal Operational Dimensions		
Width:	Depth:	Height:
54 inches	51 inches	89 inches

ProOne Digital Pan
Front & Side Views



- - Actual Product Dimensions
- - Recommended Installation Dimensions