Technical data

Power supply specification
- voltage: 115 - 240 Vac, ± 10%, with automatic adaptation
- frequency: 50 / 60 Hz ± 2 Hz, with automatic adaptation
- current: 7A at 240V, 15A at 115V, nominal temporary peak absorption
- current absorption in standby mode: max 1A

Technical factors
- anode voltage: 60 - 85 kV, automatic and manually selectable in steps of 1
- anode current: 1 - 10 mA, automatic and manually selectable in steps of 1, in the whole kV range
- mA and kV pattern modulated in real time during X-ray exposure
- automatic compensation of the spine absorption
- duty cycle 1:20 at full power operation (85kV, 10mA)
- focal spot 0.5 – IEC 60336 (1993)
- inherent filtration: 3.4 mm Al equivalent, at 85 kV
- embedded X-ray shielding behind receptor, 1.5 mm Pb, exceeding requirements of IEC60601-1-3
- exposure time: panoramic adult in 9.3s, child dentition in 7.3s
- teleradiographic exposure time: from 3.4 seconds to 10 seconds depending on the examination
- exposure time range: 160ms – 14s (R10 scale)

Image acquisition device
- technology: CCD (charge coupled device)
- direct exposure protection: FOP (Fibre Optics Plate)
- pixel size: 48 x 48 µm
- grey levels: 16384 - 14 bit A/D conversion
- resolution: more than 5 LP/mm

Typical effective dose (ICRP 103)
- Panoramic: 6.7µSv
- Dentition only: 4.3µSv
- CEPH Lateral, Reduced: 1.0µSv

Image file
- panoramic image size, max: 1528x2797 pixel (16 bit)
- CEPH image size, max: 2291x3125 pixel (16 bit)
- transfer time: max 10 sec for complete presentation on PC screen (Ethernet)
- panoramic file size: max 8 Mb uncompressed
- CEPH file size: max 14 Mb uncompressed

Equipment dimensions
- Minimum operating dimensions required:
  width x depth: 1080x1390 mm
  with teleradiographic arm (width x depth): 1715x1390 mm
- Motorised telescopic column, adjustable height: 1590-2380 mm
- Weight, without teleradiographic arm: 159 kg (351 lbs)
- Weight with teleradiographic arm: 187 kg (412 lbs)
- Wall or floor support, free standing base available
- Wheelchair access possible

PC requirements
- supported operating systems: Microsoft® Windows® XP - Service Pack 2 or later, Microsoft® Windows® Vista, Windows® 7 & 8
- display setting: 1024 x 768 or higher, 32 bit true colour

PAN X85

MAKING THE DIFFERENCE

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CASTELLINI
PASSION FOR DENTISTRY SINCE 1935

Making the difference

Castellini's new X PAN 85 panoramic imager with teleradiographic arm for cephalometric examinations is a notch above the rest thanks to an array of specific features which really make the difference.
Dentists will appreciate the sophisticated kinematics which ensure constant magnification throughout the entire scan. They will recognise the value of the relocatable sensor for CEPH exams and the convenience of the retractable secondary collimator and patients will also feel reassured by the face-to-face approach and eye contact with the dentist during positioning procedures.

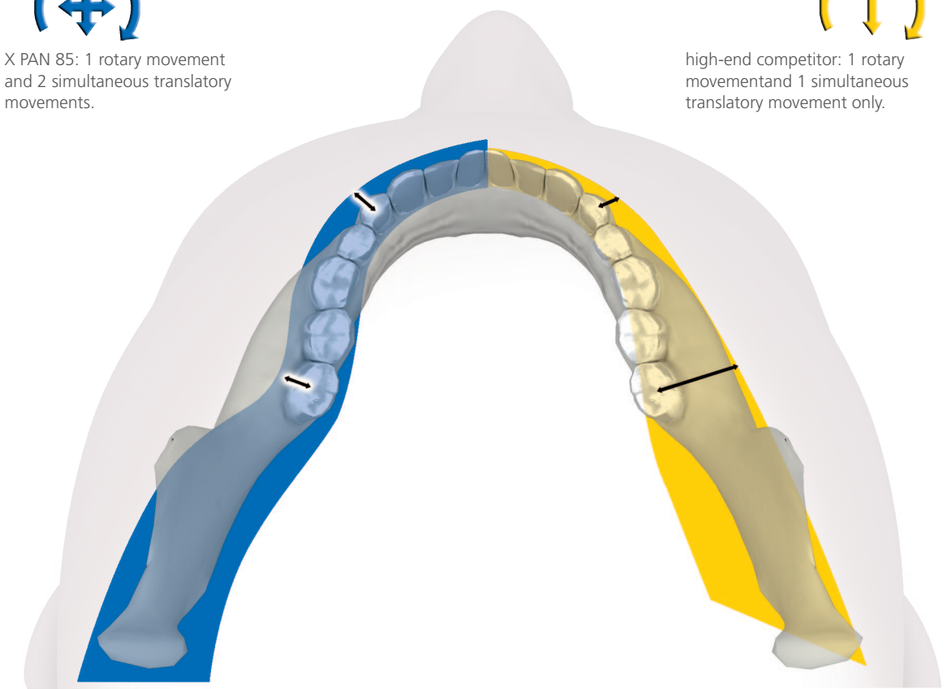
X PAN 85

Advanced kinematics

Specially synchronised kinematics made up of one rotary movement combined with two simultaneous translatory movements ensures constant magnification in all projections, thus leading to highly reliable diagnostic images. Simple kinematics with just one translatory movement would result in uneven magnification.
The focal trough adapts to morphology and misses out on none of the vital details. The simultaneous translatory movements keep the X-ray detector at a constant distance from the midline of the dental arch, throughout the entire scan, so that the image magnification is constant and uniform in the resulting radiograph.

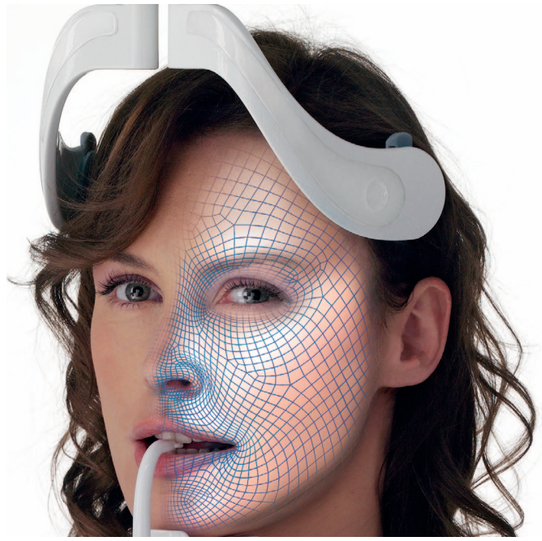
X PAN 85: 1 rotary movement and 2 simultaneous translatory movements.

high-end competitor: 1 rotary movementand 1 simultaneous translatory movement only.



constant magnification

uneven magnification

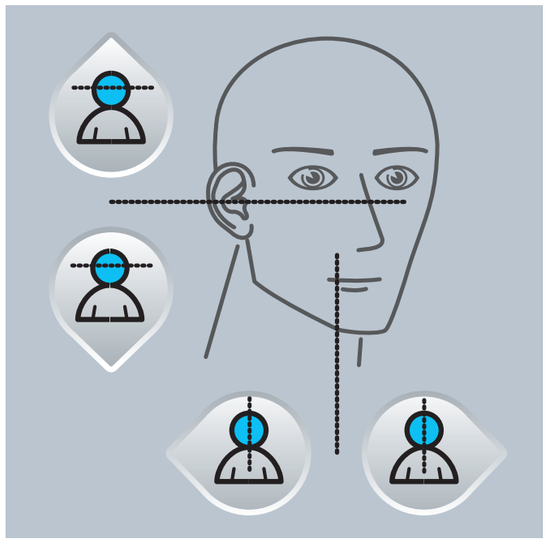


Automatic determination of exposure factors

Castellini X PAN 85 features an innovative technology which automatically identifies patient size and all parameters required to ensure correct X-ray exposure. As a result, there's no need to program exposure times, kV or mA technical factors or even choose patient size.
X PAN 85 does it all, automatically, so you can focus on what matters the most: your patient.

Super-fast scans

Short exposure times, from a minimum of 4 seconds to a maximum of 9 seconds, reduce the possibility of patient movement during the examination.
Exposure times for a selection of typical exams:
9.1" Adult Panoramic, wide focal trough
7.3" Child dentition
5.9" Right and Left TMJ
3.4" Latero-Lateral Ceph for children
2.6" Lateral view of Maxillary Sinuses



Servo-controlled patient positioning

In panoramic imaging, correct patient positioning is of utmost importance to image quality.
Most equipment requires time-consuming manipulation of the patient's head in order to adapt to predefined uncomfortable postures.
X PAN 85 takes it the other way round: the patient stands still, while the laser-guided multi-motor kinematics positions itself around your patient.

CephalometricTeleradiography

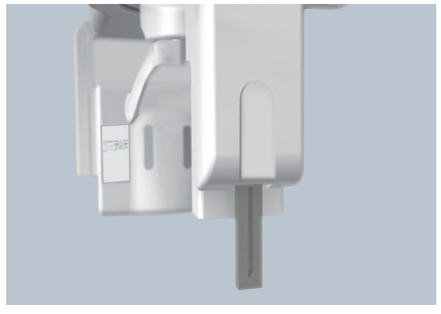
Castellini X PAN 85 equipment can host a teleradiography unit for anter-posterior, poster-anterior and lateral cranium scanning, including special projections such as the submentovertex.
Latero-lateral images benefit from automatic detection of the nasion point and automatic adaptation of exposure parameters for optimum representation of soft tissues and the aesthetic profile of the face.
The rapid scan (minimum 3.4 seconds) allows the patient to maintain a stable position during the examination.

Collimation device

The primary servo-controlled collimator allows the user to select the area to be exposed, thus contributing to minimisation of the radiation dose.

Cephalometrics is less than a sensor away

To perform cephalometric projections, you can opt for a second sensor, but you are not obliged to because Castellini has also considered offering the relocatable option. By opting for just one sensor, this can be switched to and from the CEPH arm and incorporates a no-risk safety device to prevent it being dislodged accidentally.



Secondary collimator

As X-ray imaging takes place X PAN 85 has no need for any bulky secondary collimator in motion close to the patient's face. A precision fold-away device is incorporated in the rotary whole, thus making dentist/ assistant movement easier during patient positioning.

Quick share with Ethernet or SDcard

Castellini X PAN 85 works standalone or connected to a PC, and you decide whether to store images safely on a memory card or share them over your local network through the industry standard Ethernet.

40 Examinations for all your radiography needs

A total of 40 different examination types covering all possible 2D requirements, including Orthogonal projections and Bitewing exposures focused on teeth crowns, as well as Postero-Anterior projections of both TMJs and Multi-angle TMJ projections. In the case of each single program, radiographic data is acquired based on a dedicated radiogenic trajectory. This means optimised data, not cropped views based on more generic trajectories.

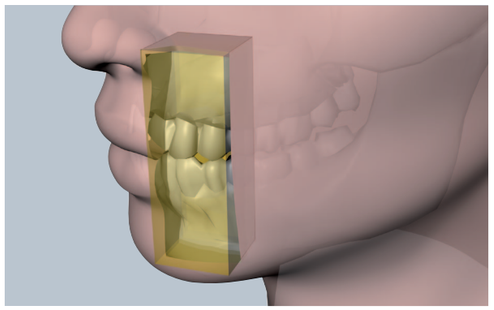
12 Panoramic Examinations
- Standard Panoramic and Reduced Panoramic for children
- Panoramic with wider focal trough in anterior region
- **Orthogonal projection** for dentition only, to reduce overlapping of crowns
- Hemi-panoramic and hemi-dentition, optimised dedicated projections
- Frontal dentition, dedicated projection with wide focal trough
- 4-segments **Bitewing** exposures limited to crowns, to detect inter-proximal caries

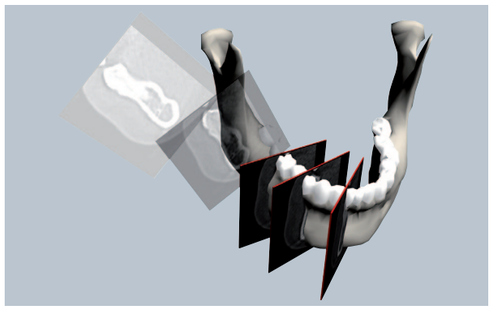
10 Cephalometric Examinations
- Latero-Lateral Ceph projections, selectable length of 18 to 30cm
- Latero-Lateral Ceph projection, short scan reduced in height for children, reduced X-ray dose
- Antero-Posterior or Postero-Anterior Ceph projections
- Submentovertex projection, including Waters and reverse Towne positions
- Carpus projection

14 TMJ Examinations (open or closed mouth)
- Lateral projection of both TMJs
- **Postero-Anterior** projection of both TMJs
- **Multi-angle** (x3) Lateral projection of one TMJ
- Multi-angle (x3) Postero-Anterior projection of one TMJ

3 Maxillary Sinus Examinations
- Frontal or Lateral view of Left and Right maxillary sinuses

1 DTS
- Dynamic Transversal Slicing, orthogonal to the panoramic focal trough

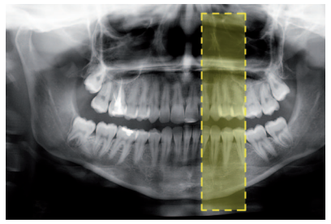


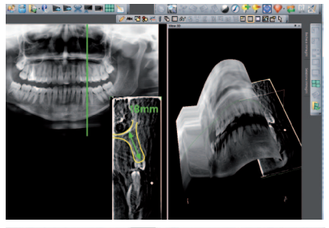


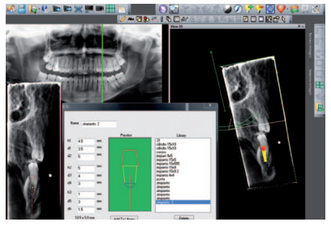
Dynamic Transversal Slicing

Being able to glance through transversal slices of the area in question on a PC screen is extremely useful to whoever practices implantology, simply because it offers accurate radiographic data to work with, perfect for reliable measurements. DTS is a dedicated examination, with consequent reconstruction of data, that adds information regarding the depth of a specific region of the upper and lower dental arch by using a very limited X-ray dose.

Whereas traditional stratigraphic panoramic imaging techniques produce between 2 and 4 static two-dimensional sections alone, in pre-defined anatomical positions, the DTS examination reproduces on a PC an entire anatomical portion of interest, which can be explored via orthogonal cross-sections laid out as you wish and apt for sequential viewing.
This means you dispose of a useful tool for the evaluation of single implant sites, thus reducing the need to resort to CT scan examinations except in the case of more extensive surgery, such as wide scale reconstruction which involves numerous implants across the entire arch.







Inspection of surgical site

The selection of a region of interest is done within a rectangular area directly on a panoramic radiographic image of the patient in question, or by a template of an average patient.
Field of view: 4x4x10cm.

Reliable 1:1 measurements

Right after acquisition, the powerful software on PC will fold the panoramic image along the curved path of the focal trough, and let you browse through the field of view, slice by slice, allowing for reliable 1:1 measurements of the transversal slices, with the precision of 0.15mm pixel size.

Implant Template

Once the virtual implant is in place, browse the slices in real-time to make sure it fits throughout the entire implant site. Customize the template to represent your favourite screw set and abutments.

Clinical Cases

Consistently good results

❶ a sampler of three very different morphologies: a child, an adult and an elderly patient benefiting from X PAN 85's Wide Focus panoramic projection.

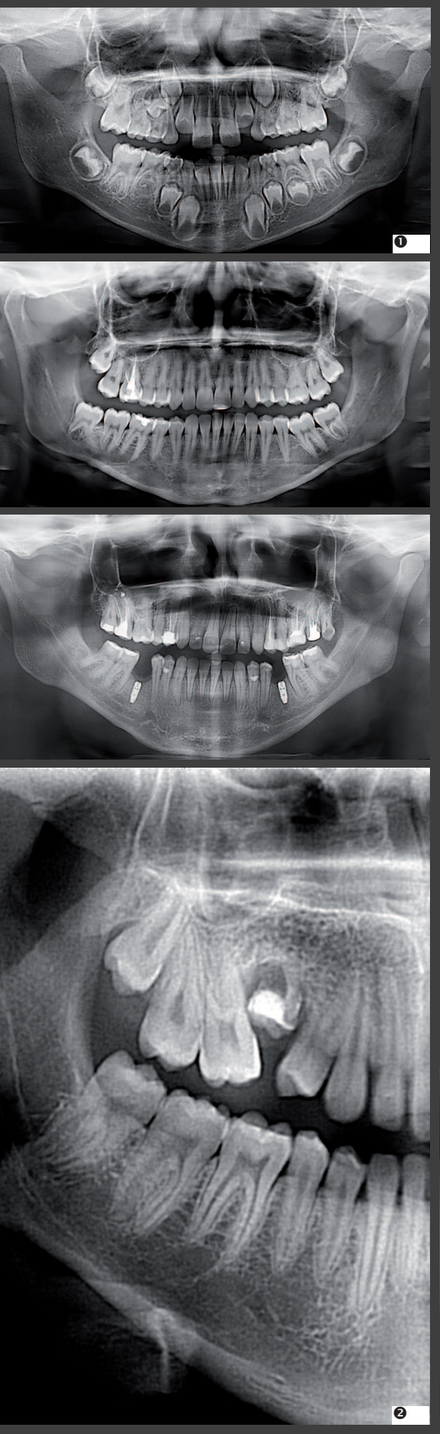
❷ a hemi-dentition projection achieved with a very low X-ray dose, showing a wealth of clinical detail.

Bitewing projections

❸ Bitewing exposures limited to crowns, to detect interproximal caries, can be a comfortable alternative to intraoral imaging, appreciated by patients with a strong gag reflex.

Specialty radiographs

❹ a thorough investigation of left and right TMJs, combining Lateral projections of TMJ in open and closed mouth positions and Postero-Anterior projections. Such an outcome is achieved thanks to a precise identification of the position of condyles, using X PAN 85's laser guides.
❺ frontal view of maxillary sinuses.
❻ carpal teleradiography.
❼ latero-Lateral teleradiography, highlighting both bony structures and soft tissue profile, suitable for Cephalometry.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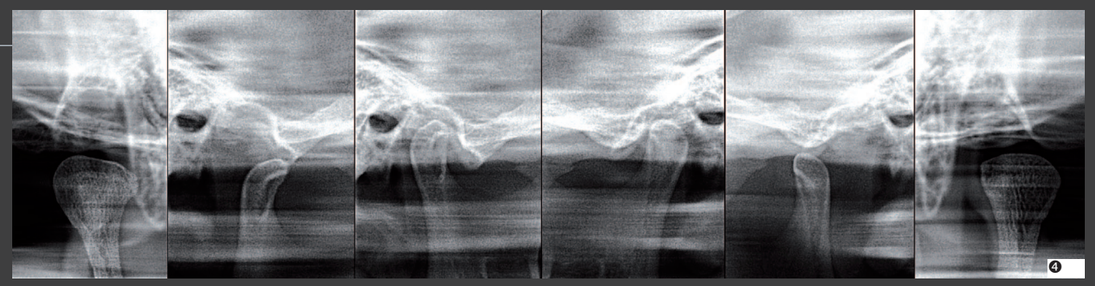
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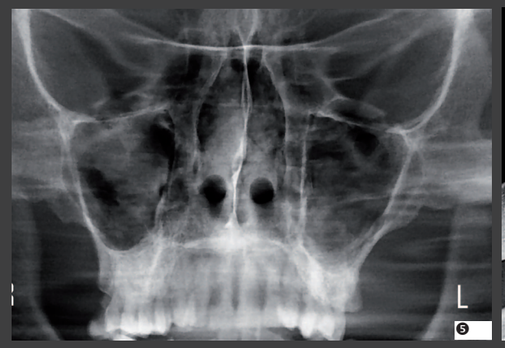
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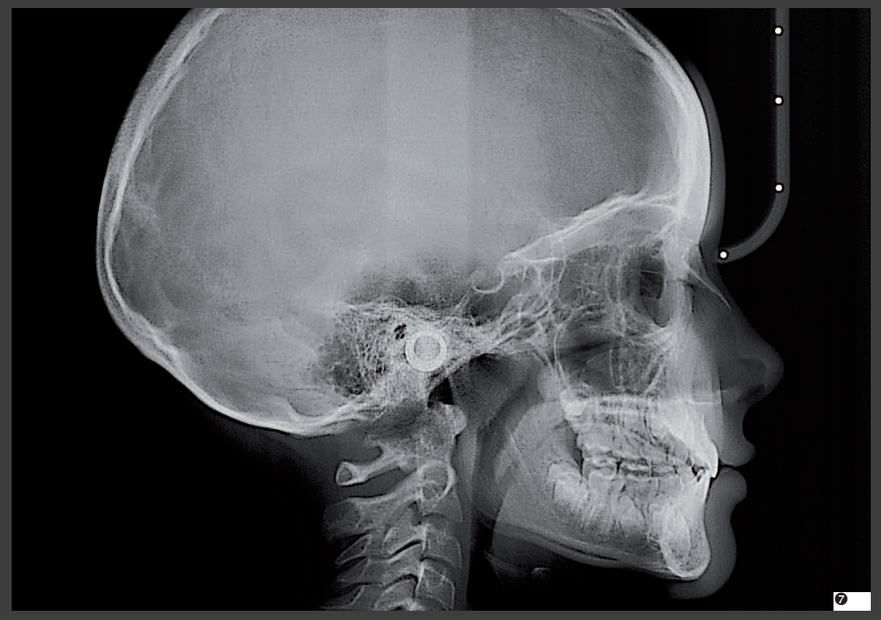
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