Technical data

Power supply specification
• voltage: 115 - 240 Vac, ± 10%, with automatic adaptation
• frequency: 50 / 60 Hz ± 2 Hz, with automatic adaptation
• current: 15A 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
• teleroadiographic 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

Installation Requirements
• weight: 159 kg (351 lbs)
• weight with teleradiographic arm: 187 kg (412 lbs)
• telescopic motorized column
• wall or floor support, free standing base available
• dimensions in millimetres (and inches) - see scheme

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

www.my-ray.com

ARTIFICIAL INTELLIGENCE

Cefa North America, Inc. 6155 Harris Technology Blvd. Charlotte, NC 28269 - U.S.A. Toll Free: (+1) 800.416.3078 Fax: (+1) 704.631.4609
Reassuring positioning

The two frontal touch-sensitive supports accompany the patient’s head into the correct position, compensating for any asymmetries thanks to independent movement of the right and left supports. The direct, frontal approach of HYPERION makes it a machine as comfortable for the dentist as it is for the patient.

Advanced kinematics

Specially synchronized 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.

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.

Automatic determination of exposure factors

HYPERION features innovative Morphology Recognition Technology (MRT) which automatically identifies patient size and all parameters required to ensure correct X-ray exposure.

With MRT there’s no need to program exposure times, kV or mA technical factors or even choose patient size. HYPERION does it all, automatically, so you can focus on what matters the most: your patient.

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. HYPERION takes it the other way round: the patient stands still, while the laser-guided multi-motor kinematics positions itself around your patient.
Cephalometric Teleradiography

The series X7 machines can host a teleradiography unit for antero-posterior, postero-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.

<table>
<thead>
<tr>
<th>Collimation Setting</th>
<th>Irradiated Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 cm reduced</td>
<td>45% of irradiated area</td>
</tr>
<tr>
<td>18 cm</td>
<td>60% of irradiated area</td>
</tr>
<tr>
<td>24 cm</td>
<td>80% of irradiated area</td>
</tr>
<tr>
<td>30 cm</td>
<td>100% of irradiated area</td>
</tr>
</tbody>
</table>

### 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 MyRay 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.

### Quick share with Ethernet or SDcard

HYPERION 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.

### Secondary collimator

As X-ray imaging takes lace Hyperion 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.
Dynamic Transversal Slicing

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.

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.

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.

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
- Corpus projection

14 TMJ Examinations (open or closed mouth)
- Lateral projection of both TMJs
- Antero-Posterior 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

iPad App
Virtual control panel for iPad and tablet PC. The virtual control panel, which can be installed on a PC or iPad, allows all diagnostic activities to be controlled from a workstation.
Clinical Cases

**Consistently good results**
- a sampler of three very different morphologies: a child, an adult and an elderly patient benefiting from Hyperion’s Wide Focus panoramic projection.
- a hemi-dentition projection achieved with a very low X-ray dose, showing a wealth of clinical detail.

**Bitewing projections**
- 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.
Clinical Cases

Specialty radiographs

- 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 Hyperion’s laser guides.

- Frontal view of maxillary sinuses.

- Carpal teleradiography.

- Latero-Lateral teleradiography, highlighting both bony structures and soft tissue profile, suitable for Cephalometry.