

CAD/CAM SYSTEMS | INSTRUMENTS | HYGIENE SYSTEMS | TREATMENT CENTERS | IMAGING SYSTEMS

ORTHOPHOS XG^{Plus} **DS/Ceph – PERFECTION IN DIGITAL PANORAMIC X-RAY** The specialist for your diagnosis.







ORTHOPHOS XG^{Plus} – PERFECT X-RAY IMAGING Perfect results only come when you start with perfection.

Do you put great value in an accurate diagnosis? Do you expect simple and intuitive operation? And you want a secure investment for the future? ORTHOPHOS XG^{Plus}, the specialist of the digital panoramic X-ray systems, always puts you on the safe side. The unique "Easypad" user interface, the absolutely safe and reliable patient positioning, and the SIDEXIS XG image processing software – these are just a few advantages of our top-of-the-line system. And especially important for you, as a specialist yourself: You can retrofit ORTHOPHOS XG^{Plus} at any time with ceph and TSA. **It will be a great day. With Sirona**. **ORTHOPHOS XG**^{Plus} – RELIABLE, ACCURATE X-RAY IMAGING

Be 3 times as sure.

Operational reliability

- Optimum, exact patient positioning
- Intuitive control via Easypad touchscreen
- Prevention of errors through interactive messages

Diagnostic accuracy

- Logical program structure
- Enhanced diagnostic options
- Individual adaptation to the patient

Investment security

ORTHOPHOS XG MUS

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Practice-oriented workflow Retrofittable with ceph/TSA Software upgrades 5-year warranty on tube assembly and sensor

ORTHOPHOS XG^{Plus} – INTUITIVE X-RAY IMAGING The easiest path to perfect results.

The state-of-the-art, newly developed Easypad – a user interface with pictographic touchscreen – simplifies the recognition and selection of the desired functions: Standard exposures as well as special examinations can be performed with ease.

Do the right thing intuitively

The Easypad gives you all the information you need, e.g. selection of bite block and patient positioning. The diaphragm setting is automatic.

As individual as your patients

ORTHOPHOS XG^{Plus} automatically adjusts to the jaw width. The remaining fine adjustments can be performed intuitively.

Immediate feedback

You get immediate feedback with a preview/ control image on the unit. The image is saved in the unit until it is safely stored in the database.



PAN

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ORTHOPHOS XG^{Plus} – HIGH-QUALITY X-RAY IMAGING Diagnosis at its best.

ORTHOPHOS XG^{Plus} opens up a variety of diagnostic possibilities and uniquely fulfills all the prerequisites of the "image quality chain":

- Quick, precise positioning of the jaw in the sharp slice
- Avoidance of motion blurring
- Automatic radiation management
- Diagnostic precision through specific orbits
- Elimination of operator errors
- Automatic image preprocessing



ORTHOPHOS XGPlus - THE RIGHT X-RAY IMAGING The secret of image quality.

Logical positioning in the sharp slice

Effective immobilization of the patient



The jaw must be located exactly in the sharp slice!

- 1. Only 2 planes have to be adjusted for all Sirona panoramic systems: the midsagittal and the Frankfurt horizontal planes. As soon as the patient's anterior teeth are located in the indentation of the bite block, they are already in the slice (because the indentation is the reference point for the orbit) - immediately, precisely, without the third light beam and without misinterpretation.
- 2. ORTHOPHOS automatically adapts the slice orientation to the width of the patient's jaw (acquired with the temple supports), so that the molars are in the middle of the slice, i.e. in the zone with maximum sharpness.

In special cases, it is possible to make a manual fine adjustment to the shape of the anterior tooth region.

If the patient is exactly positioned in the slice, motion blurring can be avoided.

- The patient looks in the direction of the unit in the mirror and not at the operator. He/she will not try to follow you with the eyes when you leave the X-ray room.
- The 3-point immobilization with bite block, forehead support and temple support prevent movement.
- The position of the patient is geometrically determined by the 3-point immobilization. The exact positioning data are saved so that the scan is reproducible.

Optimized radiation



Image quality is also influenced by management of the radiation.

- Uniform radiation due to the highfrequency generator.
- Automatic exposure control to adjust the radiation to variations in object thickness.
- Automatic kV increase in the spinal region (increase in the quality, not the quantity of the radiation) for differentiated imaging of the anterior teeth.
- Exposure parameters are available as meaningful value pairs (kV/mA) to avoid mistakes and uncertainty - based on the experience of more than 40,000 manufactured panoramic systems.
- "Quickshot" is selectable for panoramic and ceph on the Easypad.

Specific orbits

P 12

The panoramic programs for **ORTHOPHOS XG**^{Plus} are selectable in different versions for specific diagnostic requirements.

- "Standard" (orthoradial): the basic overview to prevent teeth overlapping.
- Artifact-free: Offset projections in order to avoid double projections, e.g. metal bridges.
- With constant magnification 1.25 of the entire mandibular arch, e.g. for implantology.

Additional examples:

- Thick slice in anterior tooth region for extreme anomalies (P12).
- Program for lateral and axial temporomandibular joints with specific beam direction and special slice orientation.

Easy operation



Save time, avoid uncertainty, eliminate misinterpretation!

- Patient height up to 2 m (panorama)
- Immediate, exact positioning in the anterior plane without the third light beam.
- Automatic adjustment of the orbit to the jaw width.
- Easy selection of exposure parameters and programs on the Easypad.
- Fast preview image on the unit.
- Automatic diaphragm adjustment at program selection.
- Handling options Pan/ceph and TSA mode without changing sensors available as an option.
- Time-savings with control exposure through stored positioning and exposure data.





ORTHOPHOS XG^{Plus} uses sensors in CCD technology with a pixel size of 27 µm for panorama and ceph.

- A special wide sensor is used for transversal slices based on wide beam tomography.
- The image is acquired at 16 bits and then automatically preprocessed in order to obtain a maximum of information. An example: To ensure that fine details are recognizable, the image is automatically "stretched" in the largest possible gray scale between black and white. Regardless of whether it was slightly over- or underexposed.
- Security is high: the image data of the last exposure remain stored in the system.
- Another advantage: ORTHOPHOS XG^{Plus} is directly network-capable: It needs no allocated PC and is independent of hardware changes in the computer.

The results in SIDEXIS XG (refer also to page 18/19)

With the ORTHOPHOS XG^{Plus} Easypad your choices are intuitively right. Simply structured, eliminating selection errors. You are guided pictorially and surely through the menu. Pan programs can be selected as standard, with constant magnification for implant planning and free of artifacts.



Simple program selection (example: PAN P1A) Easy selection of exposure parameters via icons – and you're done!

Example: Shape of jaw in anterior tooth region

CEPH

Possible fine adjustments

PAN



Simple switching to cephalometric X-ray The diaphragm adjustment is made automatically. ORTHOPHOS XG^{Plus} – SIMPLE X-RAY IMAGING Intuitive program selection for individual diagnostics.









Transversal multi-slice posterior teeth









Selection of radiation window possible

P1

P2

P10

P12



Additional programs: Transversal slices (TSA) in digital wide beam tomography: (see page 14/15) Cephalometric X-ray: (see page 16/17)

ORTHOPHOS XGPIus TSA – THREE-DIMENSIONAL X-RAY IMAGING Transversal slices were never so thin.

In addition to digital panoramic exposure, implantological and maxillofacial surgical interventions require a three-dimensional representation. ORTHOPHOS XG^{Plus} TSA can supply this information. Simple, low dose and economical – the "small 3D" from Sirona.

The advantages of TSA at a glance:

- Excellent image quality thanks to thin slices
- Easy, fast operation and positioning with the TSA scale
- Low dose and low initial investment compared to CT and DVT



TSA

CEPH + TSA

Transversal multi-slice

Every ORTHOPHOS XGPlus provides a transversal view in the posterior tooth region with a thicker slice (program TS1).

Exclusively at Sirona: digital wide beam tomography (TSA)

Extremely thin slices for viewing the third plane, optional and only for ORTHOPHOS XGPlus: with a wide sensor you can acquire transversal slices with a slice width of only one millimeter – for each tooth.

In addition, there are three more slice possibilities: three TSA slices combined with a longitudinal slice, three thin longitudinal slices and transaxial slices.

The result: informative exposures with low depth of definition thanks to the special sensor. Integrating the wide TSA sensor in the housing of the pan or ceph sensor makes handling truly simple.



Very clear imaging of the mandibular canal due to optimum correlation of position between the canal and the lower edge of the mandible.





* Universal bite block is expected to be available by January 2008.

Patient positioning is fast and precise with the Sirona TSA scale:

- 1. The distance between the desired tooth and the anterior teeth is measured with the scale in the patient's mouth.
- 2. Select guadrant.
- 3. Transfer this value in Easypad. ORTHOPHOS XGPlus does all the rest automatically! Thus, it is possible to specify slices precisely for each tooth.



Imaging of a root filling in the anterior tooth region

Clear imaging of the root filling in the anterior tooth region. Here, not only the apical region can be clearly seen, as in this case after an apicectomy, but also the periodontal cleft.

The height adjustable universal bite block (standard with ORTHOPHOS XG^{Plus} TSA) replaces all existing bite block components. Patient positioning is easier, more hygienic and more comfortable due to the wide, disposable bite block surface. The special design of the new universal bite block ensures less shadowing on X-ray exposures.

Additional information is available in the brochure "Open up new perspectives."

ORTHOPHOS XGPlus CEPH – SPECIALIZED X-RAY IMAGING Cephalometric X-ray with vision.

ORTHOPHOS XG^{Plus} Ceph is perfectly designed for orthodontists and maxillofacial surgeons. The scan technique combines high resolution with low dose. The image width is selectable: 30 cm or 18 cm. In addition to the usual programs for lateral, symmetric (p.a. or a.p.) and carpus images, a variety of special projections are possible, such as the half-axial or the Clementschitsch exposures. Patients up to approx. 1.90 m in height can be scanned in standing position.





Perfectly adapted

ORTHOPHOS XG^{Plus} Ceph is perfectly adapted to the patients and workflow in the orthodontist's practice.

For panoramic and cephalometric X-rays

through the "Quickshot" option for shortening the acquisition cycle, through the automatic diaphragm and through other workflow advantages; see also page 20/21 (in figure: lateral cephalometric exposure with activated soft tissue filter in Quickshot mode).

For panoramic exposures

through specific programs such as the pediatric program 10 (with reduced radiation window) or program 12 (thick slice in the anterior tooth region for a sharp image with extreme anomalies), as well as through the automatic adjustment of the slice position to the jaw width.

phase.

optionally, the system can be operated with 2 sensors.

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SIDEXIS XG IMAGE PROCESSING SOFTWARE – INTELLIGENT X-RAY IMAGING Ideal diagnosis for the digital practice.

The SIDEXIS XG image processing software lets you optimally diagnose your X-ray images with intuitive, simple procedures. Of course, SIDEXIS XG is compatible with practice management and special programs (such as orthodontic analysis software) DICOM environments are also supported. SIDEXIS XG also connects all the other elements of the digital practice from Sirona: digital intraoral X-ray, digital panoramic and ceph X-ray, SIROCAM.

Fast

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With SIDEXIS XG, diagnostic findings and treatment are clearly documented for quick retrieval. You can, for example, make several measurements, draw or write on a single image.

Individual

The user interface can be customized to your needs. You can automatically pre-select filters, brightness and contrast. That means fewer clicks and saves time.

Intraoral X-ray stations, the connection points for intraoral sensors:

- X-ray box, directly to the C^+ treatment centers
- Wall box, can also be integrated in the network without its own PC - USB box



Tailored for treatment

With the "Examination" function you retrieve and update images, findings and notes according to the desired case. Everything is sorted, clear and immediately available upon retrieval. The integrated Implant^{Plus} plug-in makes it possible to visualize implants, allowing you to explain your treatment quickly and with graphic clarity.

Flexible

Fewer PCs, more flexibility: The ORTHOPHOS XG^{Plus} in the X-ray room does not have to be connected to a PC, but can be directly connected to the network.

Better patient consultation right at the treatment center with SIVISION and SIDEXIS XG. **Cost-effectiveness for the practice.**

An X-ray system is an important part of the practice over a long period. Optimum workflows are therefore very important. By optimizing the workflow, ORTHOPHOS XG^{Plus} rounds out the benefits of digital X-ray imaging with razor-sharp images at a low dose.



Reliable and easy to operate

The Easypad ensures intuitive operation without misinterpretation and uncertainty. That is a critical advantage with a constantly changing operating staff.

Time savings

The ORTHOPHOS XG^{Plus} technology consistently reduces the required operating steps.

- Faster patient positioning: Only two planes to adjust instead of three
- Automatic diaphragm change: The diaphragm is automatically moved into the correct position when the program is selected.

Controllable pulse/pause ratio:

Exposure series can be made with shorter cool-down cycles (panoramic, ceph asymmetrical, ceph symmetrical). A big advantage for the larger orthodontist practices.

- "Quickshot" for panorama and ceph: Saves time at a lower dose.
- Pan, ceph and TSA without sensor change:
 Pan and ceph sensors can optionally be operated in parallel.
 The special wide TSA sensor can be integrated.
- Automatic constancy test

Maximum freedom:

Four sensor options to meet every need. Replacement is possible when retrofitting.





flexibly with it. With integrated technology for the future and open structures for new developments.

Technological power bundle

With state-of-the-art technology ORTHOPHOS XG^{Plus} offers everything needed for ultra-fast data transmission: integrated power PC, 16bit image acquisition, high-speed interface, CAN bus technology. The components' power reserves will have no problem with the increased data flow of future applications.

Flexibility for tomorrow

The system software can be expanded or changed at any time. Additional programs or functionalities are loadable from data media. The Easypad touchscreen interface can be adapted in a variety of ways.

Uncomplicated retrofitting At the moment you need only the panoramic system? Subsequent retrofitting of cephalometric X-ray or transversal slices is no problem.

Award winning

The ORTHOPHOS XG^{Plus} technology of the future hits the mark: The elegant, modern design has already won a design prize.

Ethernet technology

ORTHOPHOS XG^{Plus} is directly network-capable and therefore controllable from every PC in the network for image creation. You don't need an additional PC to operate the system. ORTHOPHOS XG^{Plus} has an optical interface for future connection to fiber optic networks.

The practice situation changes – and ORTHOPHOS XG^{Plus} changes

More than a system

ORTHOPHOS XG^{Plus} comes from Sirona, the coinventor of panoramic X-ray and a pioneer of digital panoramic and ceph X-ray. Production experience with over 40,000 systems, reflected in reliability and longevity, are the marks of a market leader. Through the Sirona dealers and the Customer Service Center, you get the support you expect with advanced technology.

5-year warranty

For all ORTHOPHOS XG^{Plus} systems there is an additional warranty on the tube assembly and sensors. Over and above the legal warranty period of one year, Sirona provides the parts warranty for sensors and tube assembly for an additional 4 years.

ORTHOPHOS XG^{Plus} – FLEXIBLE X-RAY IMAGING The right choice in any situation.

Technical data

Pan digital Ceph digital	ORTHOPHOS XG ^{Plus} DS ORTHOPHOS XG ^{Plus} DS Ceph
Radiation generator	Multipulse generator (max. 120 kHz)
X-ray tube	SR 90/15 FN
Focal spot size according IEC 336/82	0.5 mm x 0.5 mm
Total filter	2.5 mm AL
Tube voltage	60–90 kV
Tube current	3–16 mA
Nominal voltage	230–240 V, 50–60 Hz
Nominal current	12 A
Line internal resistance	max. 0.8 Ohm
Fuse	16 A slow blow
Power consumption	2.8 kW
Permissible line voltage fluctuations	± 10 %
Panoramic exposure time (P1)	14.2 s
Panoramic exposure time (P1), "Quickshot"	9.1 s
Range of height of bite block	800–1850 mm
	Ceph
Radiation time	9.4 s
Radiation time "Quickshot" 18 x 24 cm	4.7 s
Effective exposure time	approx. 270 ms

ORTHOPHOS XG^{Plus} DS space requirements: min. 1280 mm x min. 1411 mm





ORTHOPHOS XG^{Plus} DS Ceph space requirements: min. 2155 mm x min. 1411 mm



- Operation via Easypad
- Intuitive program structure
- Preview/control image on the system user interface
- Remote control optional
- 90 kV high-frequency generator
- Automatic adjustment of the panoramic orbit to the individual jaw width of the patient; jaw shape in the anterior tooth region is selectable
- Spine compensation through automatic kV increase
- Quickshot mode for panorama and ceph is available
- CCD sensor technology with high-speed interface, 27-µm pixel size and image acquisition in 16-bit technology; data transfer 100 Mbit, Ethernet
- Pan/ceph and TSA sensors can be combined
- Investment security through integrated power PC and bus architecture
- System software is upgradable
- software enhancement options
- Ceph is retrofittable
- Transversal slices (TSA) are retrofittable
- System versions: ORTHOPHOS XG^{Plus} DS, ORTHOPHOS XG^{Plus} DS Ceph
- Optional floor stand
- Wheelchair compatible

parameters.



Programs

Panoramic programs:

- Standard panorama (P1) Standard panorama without ascending branches (P2)
- Pediatric panorama (P10) available in the following versions:
- Standard orthoradial
 - or artifact-free
- with selectable image detail:
- - Lateral temporomandibular programs:
 - with selectable image detail
 - with open and closed occlusion
 - with one slice position
 - multi-slice



- Touchscreen with virtually unlimited

- SIDEXIS XG image processing software

Remote control with display of the exposure

Axial temporomandibular programs: with open and closed occlusion with one slice position multi-slice



- Maxillary sinuses 2 images (linear)
- Paranasal sinuses
- Paranasal sinuses (linear)

Transversal multi-slice posterior teeth Ceph programs:

Ceph asymmetric

- Ceph symmetric p.a.
- Ceph symmetric a.p.
- Carpus (hand/wrist)

Additional projections possible

Optional: Transversal slice acquisition in digital wide beam tomography (TSA):

10 programs with thin slices

- or with constant magnification (1.25)
- Thick slice, anterior tooth region (P12)

If you do not have a mountable wall, we offer an extremely stable, wheelchair compatible floor stand.





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SIRONA – UNIQUE WORLDWIDE SYSTEMS EXPERTISE IN DENTAL EQUIPMENT PRODUCTS

Sirona develops and manufactures a comprehensive range of dental equipment, including CAD/CAM Systems for dental practices (CEREC) and laboratories (inLab), Instruments and Hygiene Systems, Treatment Centers and Imaging Systems. Sirona manufactures high technology products that guarantee ease of use and a high return on investment – for the good of your practice and for the benefit of your patients. In this way, you can approach every challenge that you face, confident in the knowledge that: **It will be a great day. With Sirona**.

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