YOSHIDA

X-ERA SMART F+

Next-generation premium high-definition diagnostic imaging system

X-era Smart F+

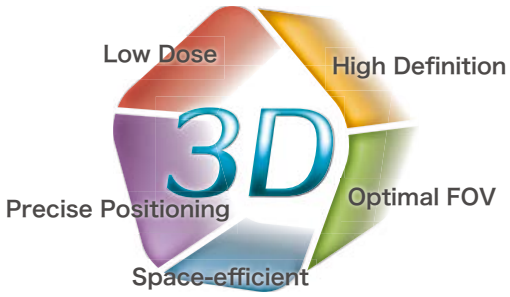
Advancing 3D imaging to the next stage

The X-era Smart 3D is a premium 3D panoramic X-ray system that represents the latest in dental imaging technology.

Slim and compact, yet highly functional.

Building on the existing feature-rich design of the X-era Smart series, the new F+ (optional) offers a host of new capabilities to benefit all types of dental practices.

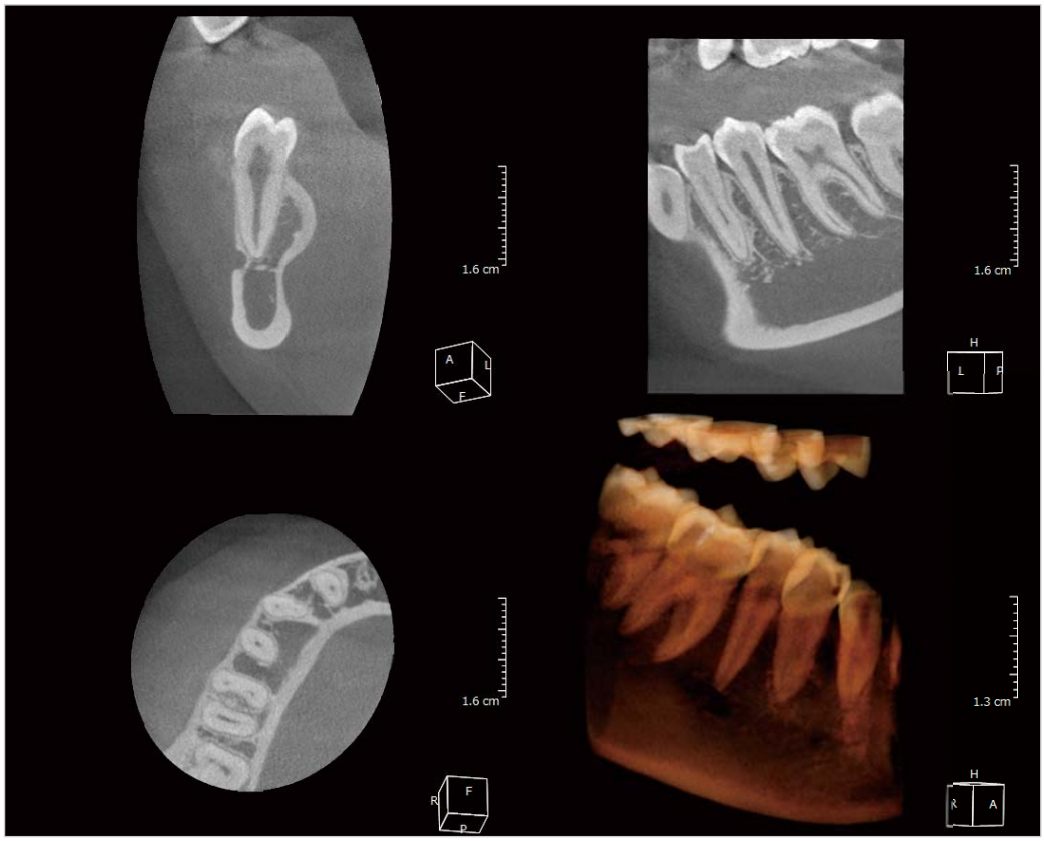
All the benefits of 3D diagnosis – and so much more.



In addition to high-resolution panoramic imaging, X-era Smart F+ offers dental clipping, an optional upgrade to a cephalometric imaging, plus numerous other features that deliver high cost performance and peace of mind.

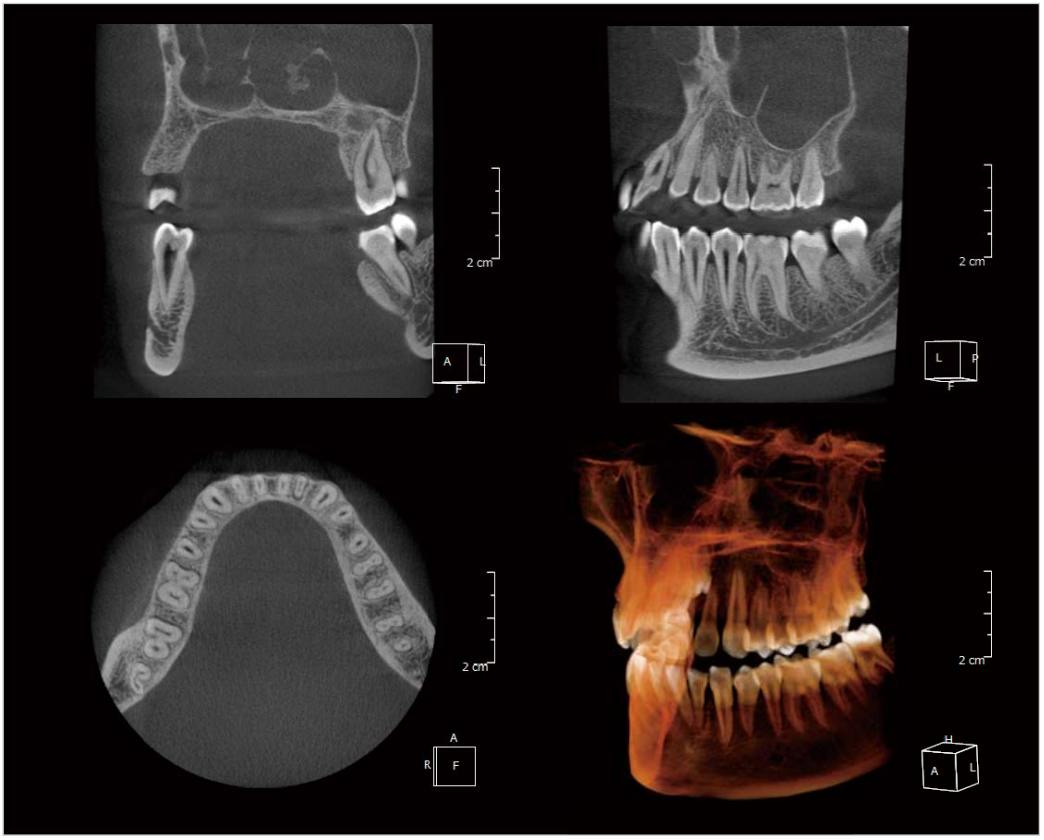
High-definition 3D for localized X-rays

Dent mode



A view wide enough to capture the full mouth

Oral mode



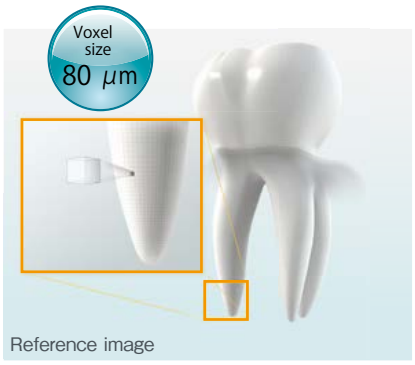
* FUSION is used for image synthesis.

5 benefits of a superior 3D imaging

1 High definition

80μm voxel size to meet your need for absolute precision.

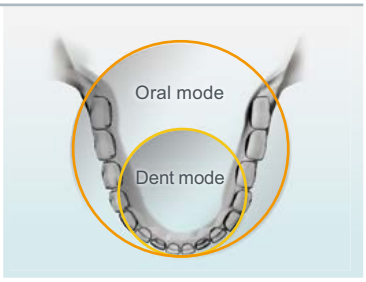
At just 80μm, the high-definition image is so clear, it displays the precise shape of the root canal and the apical direction. This high level of sharpness can be utilized not only in an endodontic treatment, but also for various other dental applications.



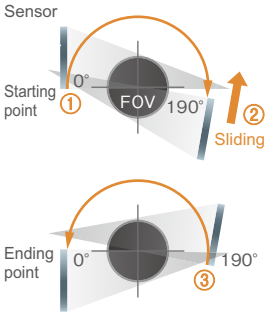
2 Optimal field of view

Innovative sliding sensor system

An innovative sliding sensor system enables you to select from two exposure modes to capture the right image for your needs.



Orbit of sensor at the time of oral mode exposure



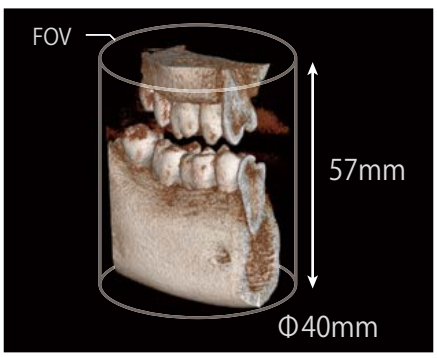
1. Exposure begins from the starting point, and the rotation arm rotates 190 degrees while scanning.
2. Sensor slides to the direction of arrow.
3. The rotation arm returns to the original position as scanning completes.

Sliding Sensor System

By having the sensor slide, it virtually widens the sensor area, so a larger field of view can be obtained. (Patented)

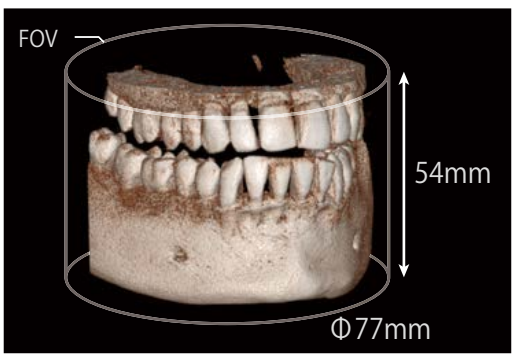
1 Dent mode

Captures a minimal area and provides a sharp image. Suitable for endodontic and implant treatment.

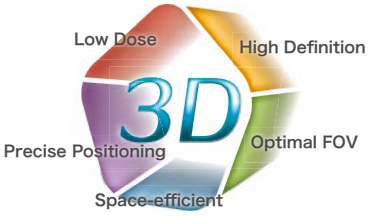


2 Oral mode

Captures the entire maxillary and/or mandibular arch in one shot. Suitable for periodontic and multiple tooth implant treatment.



system



3 *Low patient dose*

Localized scanning is made possible by a FOV with a height less than 6cm.

X-era Smart protects patients from radiation exposure while capturing the desired area. The field of view is less than 6cm – scanning a large enough area to include the opposing tooth, while avoiding the lens of the patient's eyes, which are highly sensitive to radiation.

4 *Precise patient positioning*

Positioning using a bite plate with silicone impression material

A special bite plate on the head support helps to minimize retakes and capture clearer images. Dental professionals mark the first scanned area on the bite plate, so they can scan the exact same area at a later time. The bite plate also ensures that patients remain still during the scan.

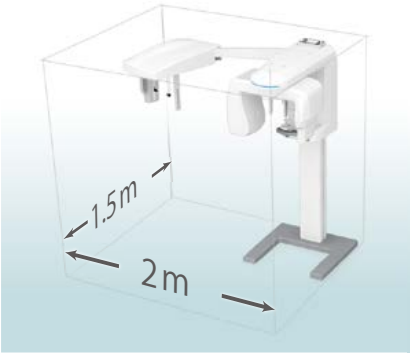
Precise positioning every time

In a follow-up treatment, using the same bite plate allows you to scan the exact same area, making diagnoses easier.

5 *Space-efficient design*

Compact design to fit in X-ray rooms with limited space.

As a 3D imaging system with cephalometric, X-era Smart 3D has the smallest footprint among all YOSHIDA imaging systems. It fits easily in X-ray rooms as small as 2m wide.



Comprehensive New Features

NEW

Newly developed features make it easy to plan treatment based on the captured images and educate patients with more clarity.

1 With the FOV expansion feature

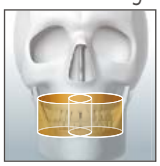
Worrying about the FOV range is a thing of the past.

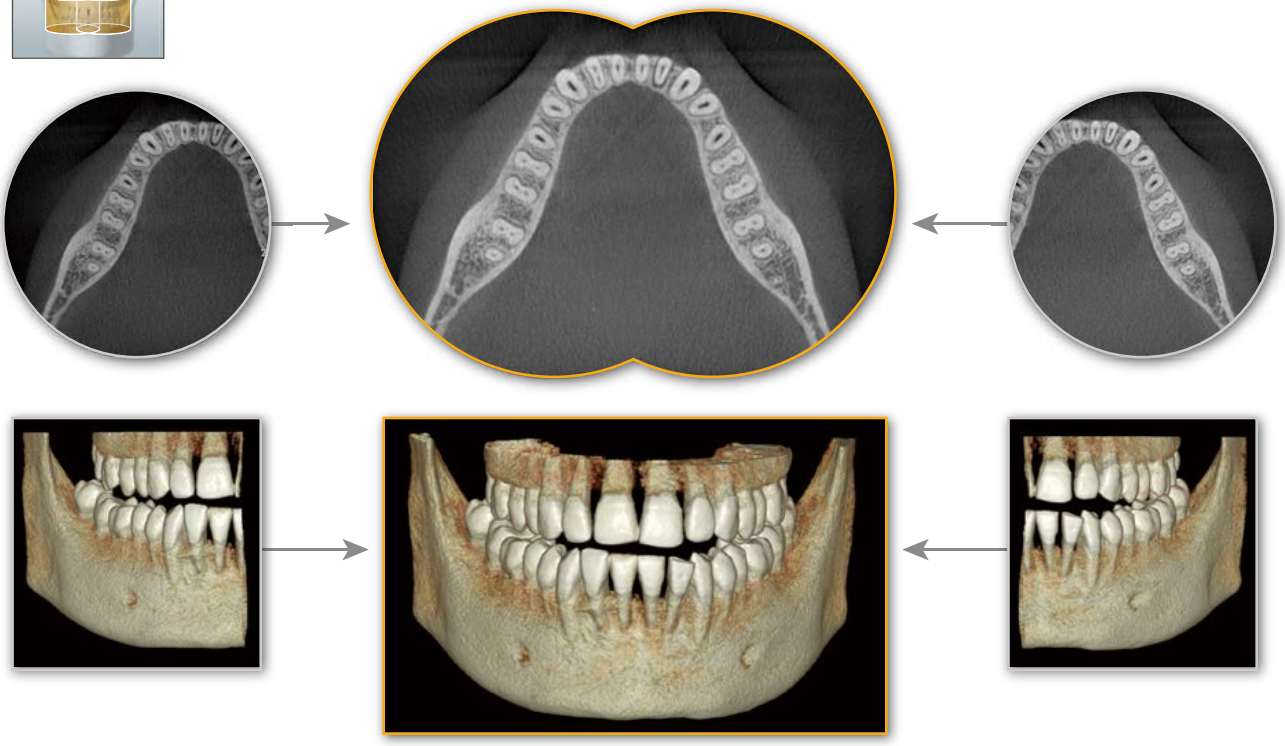
FUSION Image stitching
FOV expansion function [optional]

A large FOV is no longer necessary. With FUSION Image Stitching, two or more images can be stitched together to form a composite image. This allows you to check the opposing tooth or view impacted teeth on both sides at once. Displaying two images, side by side, makes it easier to capture the progression of a problem or compare differences before and after a procedure – both of which help patients better understand their treatment plans.

● Upper and lower stitching

● Right and left stitching

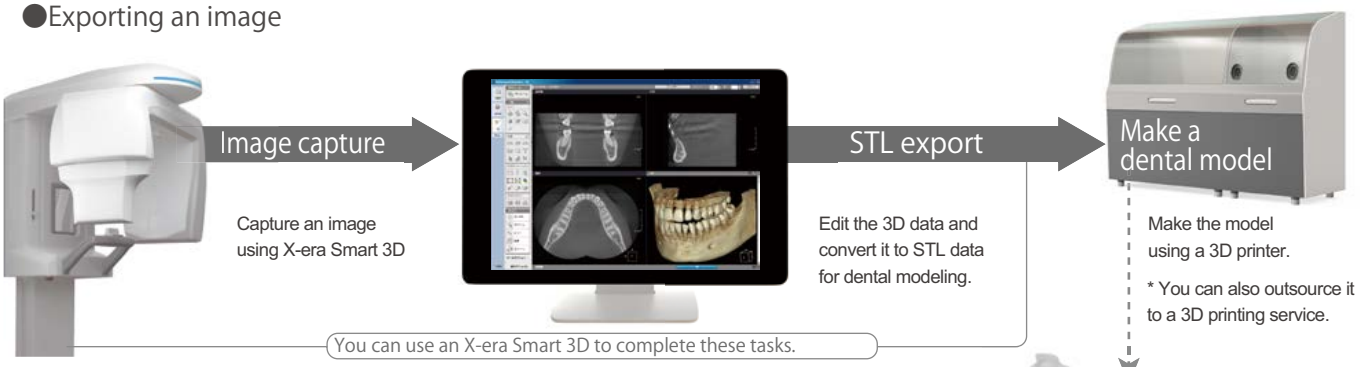


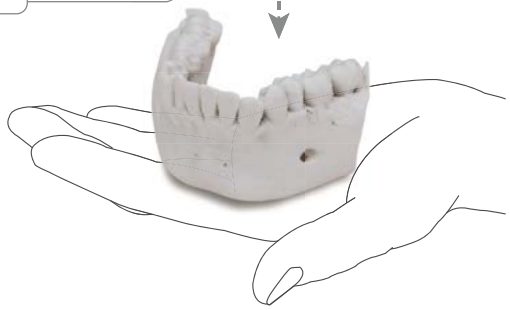


2 STL export
Bring the 3D image to life

3D module
STL export function [optional]

●Exporting an image





A dental model prepared from the 3D data of the patient's actual jaw, rather than a generic jaw model, provides both the operator and the patient with a deeper understanding of the diagnosis.

By making the patient's own model, you can confirm the size and shape of the affected area before operation. This allows for greater precision and ultimately helps to shorten the patient's chair time.
The model is also useful for explaining treatment plans to patients, as well as providing a practical training tool for dental professionals.

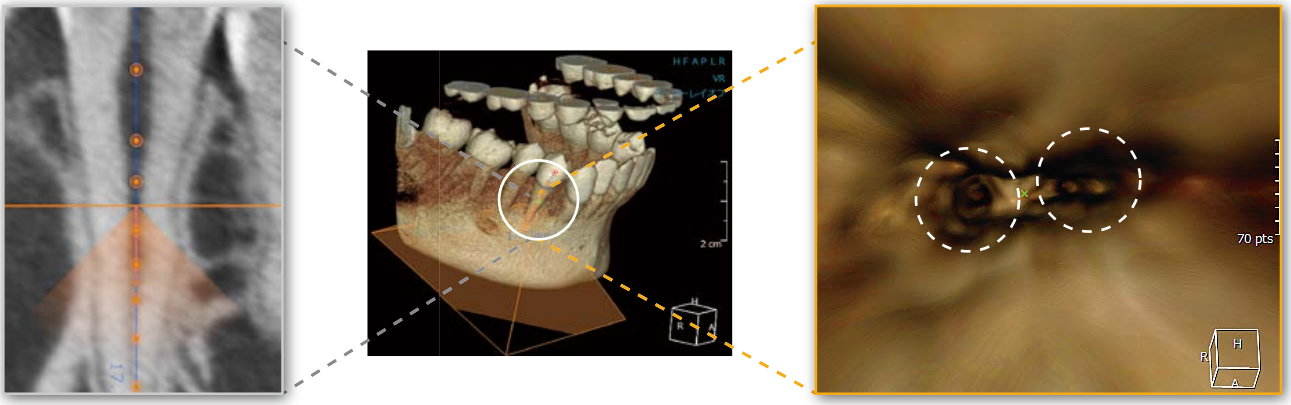
3 Virtual Endoscope
3D Visualization of the unimaginable

3D module
Virtual endoscope function [optional]

This feature allows you to check the inside of root canals using 3D images.

In the example below, it is impossible to view the root canal with great detail in a standard 2D image. But in the 3D virtual endoscope mode image, you can see the two branches of the canal with incredible clarity.

* This feature is to be used when providing explanations to patients. It is not intended for patient diagnosis.



<2D image>

<Virtual endoscope mode image>

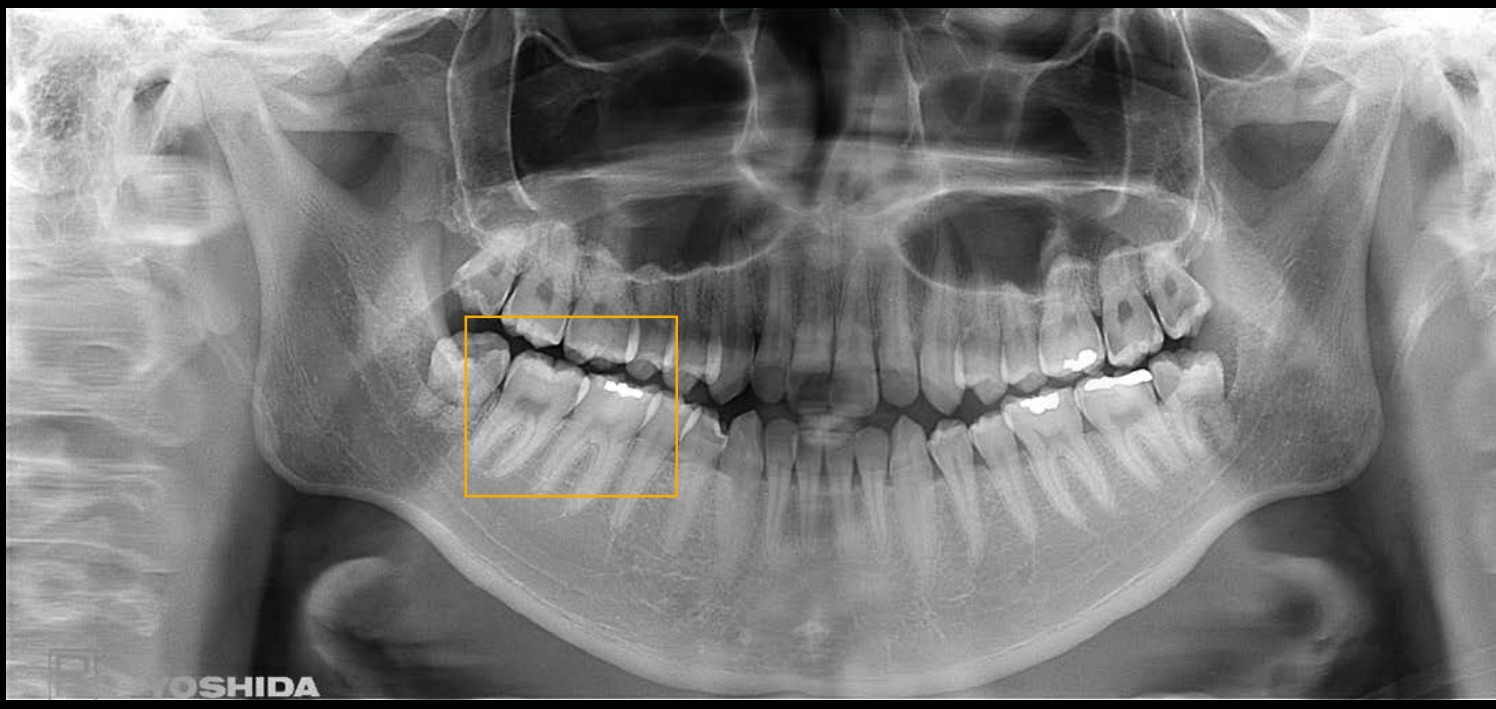
Next generation premium high-

Premium high-definition

Standard panoramic

Direct CMOS sensor

High definition 14 sec.



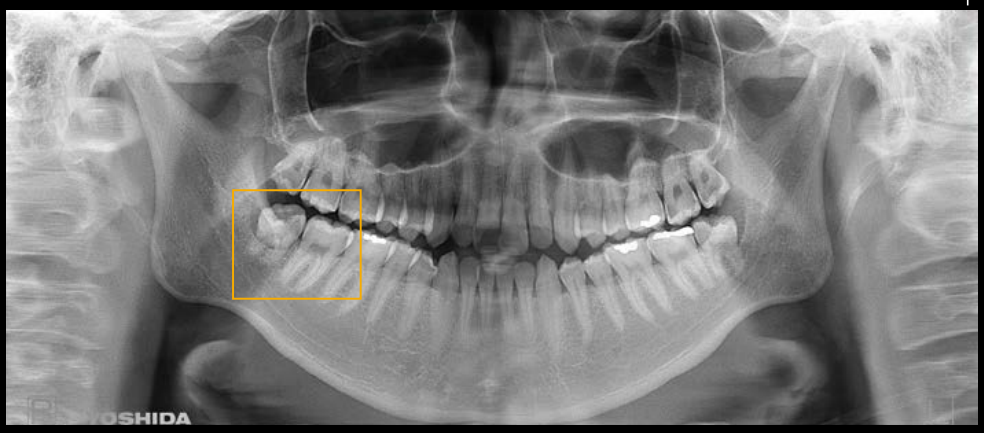
Equipped with high-definition Direct CMOS sensor, the X-era Smart F+ uses a unique panoramic construction algorithm to actualize the direct conversion from X-ray to electronic signal, creating super high-definition images with lower noise.

Various exposure times can be selected for each patient or clinical need

High speed exposure mode

Direct CMOS sensor

High speed 8 sec.



Even an -second exposure provides high image quality, optimal for accurate clinical diagnosis.

The Direct CMOS sensor enables a high-quality image while reducing the patient dose by 5 compared to other OS D equipment.

y minimizing the exposure time, the patient dose is also minimized. t also reduces risk of a retake due to a patient s movement.

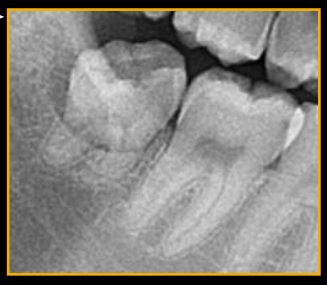
definition

Image comparison

XERA SMART
Standard panoramic

Direct CMOS sensor

High definition 14 sec.



XERA SMART
High speed exposure mode

Direct CMOS sensor

High speed 8 sec.

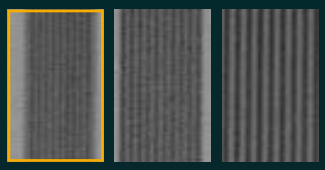
Conventional sensor image

Conventional sensor

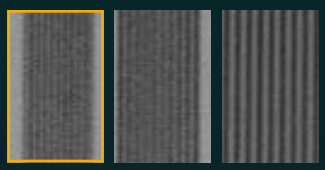
16 sec.

Evidence of superior clarity

Difference in line pair



5 LP/mm 4 LP/mm 3 LP/mm



5 LP/mm 4 LP/mm 3 LP/mm

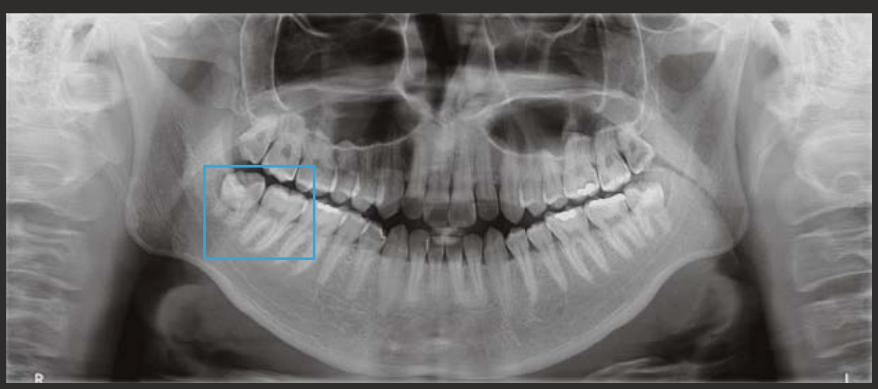
On an XERA SMART panoramic image, 5LP/mm is clearly visible.

5 LP/mm 4 LP/mm 3 LP/mm

Conventional sensor image

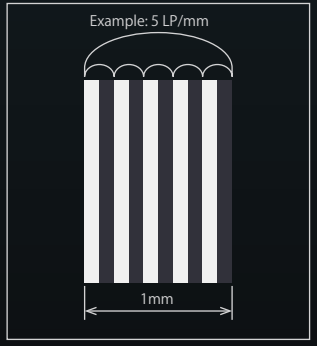
Conventional sensor

16 sec.



Line pair (LP/mm)

What is “line pair” ?
Line pair is a measurement of resolution determined by counting the sets of one black line and one white line per 1mm.



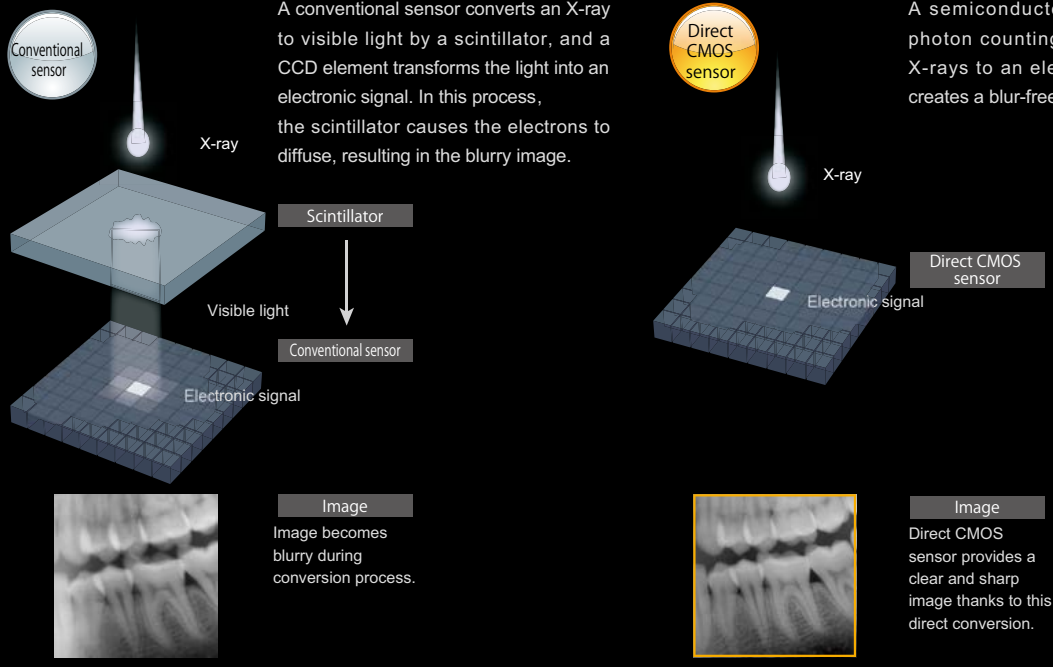
Additional Features & Benefits

1 *Super high-definition clinical image quality for accurate diagnosis*

The Direct CMOS sensor, combined with unique image construction technology, create an incredibly sharp, blur-free image.

Reference image

●Sensor comparison



A conventional sensor converts an X-ray to visible light by a scintillator, and a CCD element transforms the light into an electronic signal. In this process, the scintillator causes the electrons to diffuse, resulting in the blurry image.

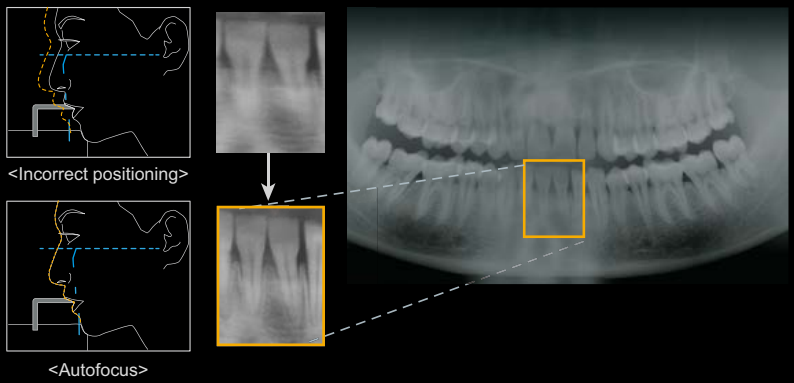
A semiconductor that is used for photon counting directly converts X-rays to an electronic signal and creates a blur-free image.

2 *Multi Focal Layer Technology enables optimal focus*

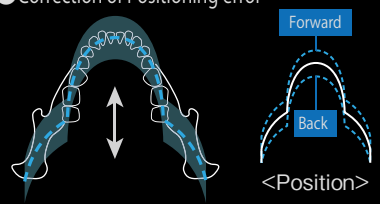
Image reconstruction software
Imagecreator

Unique panoramic image construction technology (Image Creator)

Automatically selects the most optimal focal layer position as the exposure completes.
Re-focusing on any spot is also possible to reconstruct the clear image.
Active tomography allows reconstruction of the image corresponding to the anatomical shape and size of each patient, even after the exposure.

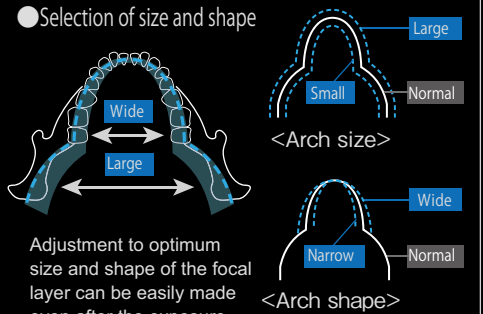


●Correction of Positioning error



Radiographic failure caused by incorrect patient positioning can be corrected easily by the unique adjustment feature, even after the exposure, resulting an excellent panoramic image.

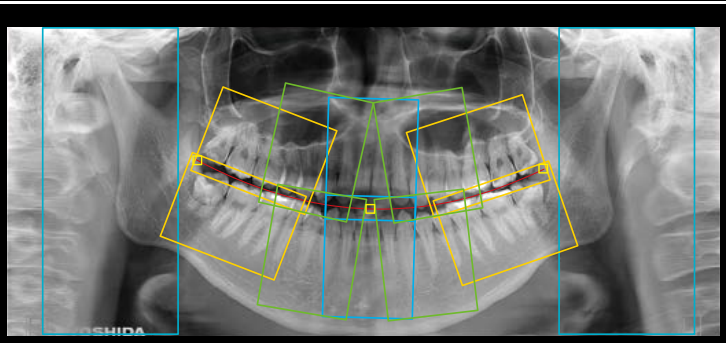
●Selection of size and shape



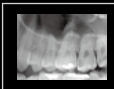
Adjustment to optimum size and shape of the focal layer can be easily made even after the exposure.

3 Dental clipping feature with flexible output options

Image reconstruction software
Imagecreator

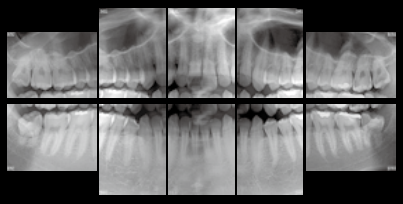


Dental-size images and TMJ images are easily clipped out of panoramic images using simple operations.

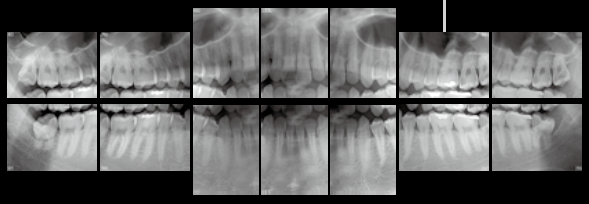


It is possible to transfer even a single clipped image to your viewer software.

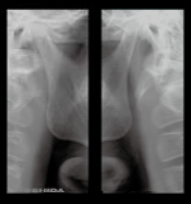
The 18-image method can also be used for clipping.



10-image method



14-image method



TMJ

4 Intuitive Usability

Simple exposure mode

<Standard panoramic>

<TMJ 2 views>

<Child panoramic>

3D exposure mode

<Dent mode>

<Oral mode>

Cephalometric exposure mode

<PA view>

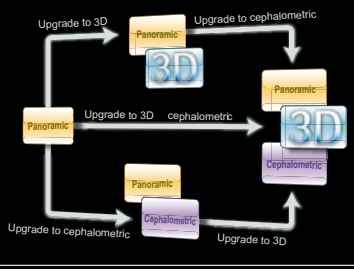
<Lateral view>

<Carpus view>

Easy upgrade to 3D. cephalometric

With the same simple usability and compact body, X-era Smart can be easily upgraded to 3D / cephalometric as needed.

* Sensor corresponding to 3D / cephalometric is needed.



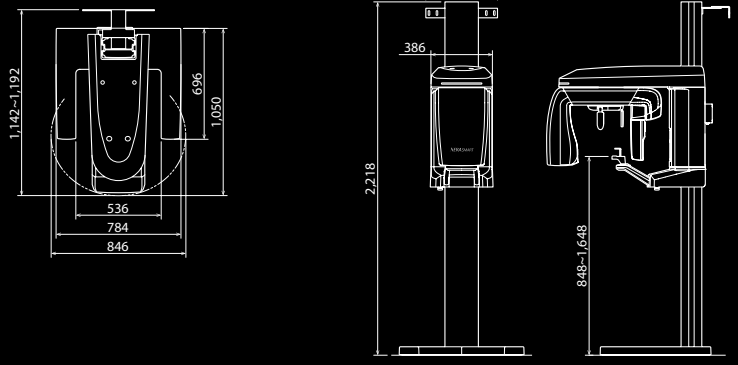
X-ERA SMART

X-era series model corresponding to digital.
Premium high definition.

< X-era Smart 2D, 3D >

Direct CMOS sensor

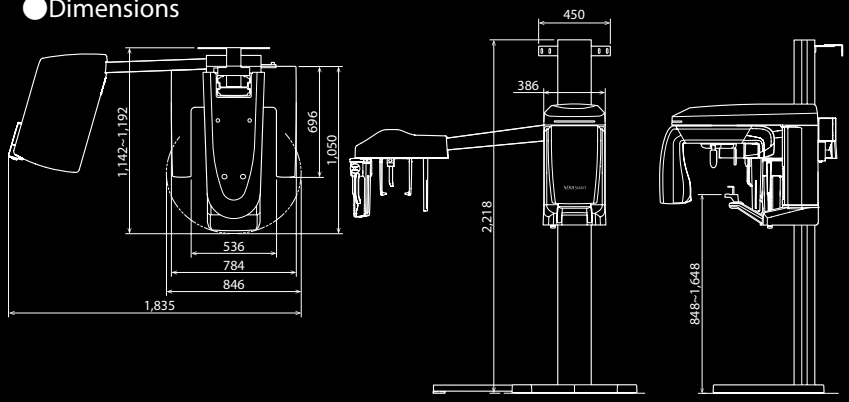
●Dimensions



*The Dimension includes the base unit (optional).

< X-era Smart cephalometric >

●Dimensions



*The Dimension includes the base unit (optional).

Technical data

X-era Smart

Sensor	Direct CMOS sensor
Grading	16bit (65,536 grading)
Exposure time	8, 14, 16 sec. (Panoramic)
	4 sec.× 2 (TMJ)
	8.0, 10.0 sec. (Cephalometric/ Carpus)
	11.5 sec. (3D dent mode)
	11.5 sec.× 2 (3D oral mode)
Magnification factor	1.2 ～ 1.29 (Panoramic, TMJ)
	1.1 (Cephalometric/ Carpus)

Pixel	100μm isotropic/pixel
	1,350×3,150 pixel (Panoramic)*
	2,266×2,039 pixel (Cephalometric PA/ Carpus)
	2,266×2,548 pixel (Cephalometric LA)
	80μm isotropic/voxel (3D dent mode)
	110μm isotropic/voxel (3D oral mode)
*Horizontal pixel may change by the adjustment of layer.	
FOV	φ40mm×57mm (3D dent mode)
	φ77mm×54mm (3D oral mode)

Weight	125～160 Kg (Panoramic type)
	165～200 kg (Cephalometric type)
	135～170 kg (3D type)
	175～210 kg (3D cephalometric type)
Type of X-ray generator	MIR-100
Tube voltage	60～82 kV
Tube current	2.0～10 mA
Power supply	AC100V-120V±10%/ AC220V-240V±10%
Input	2 kVA
Total filtration	2.5 mm Aluminum

The product specifications vary depending on the area of purchase. Please contact our international business division for more information.

CONTACT

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MD 554641/ISO 13485 : 2003

FM 554640/ISO 9001 : 2008