YOSHIDA

X-ERA SMART F+

Next-generation premium high-definition diagnostic imaging system

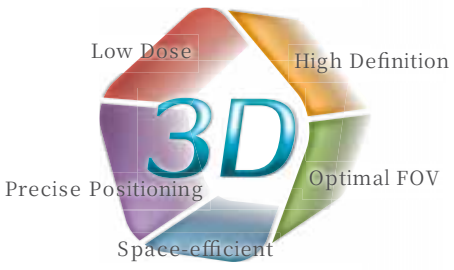
X-era Smart F+

Advancing 3D imaging to the next stage

This standard model is designed to be a complete 3D panorama X-ray device that achieves the goals expressed by its name, X-era: for neXt generation, for eXceed, and for eXtend.

Slim and compact, yet highly functional.
X-era Smart F+ is a high-cost-performance device suitable for all types of dental practices, offering not just high-resolution panorama image capture but also dental cropping, an optional upgrade to a cephalometric, and other features.

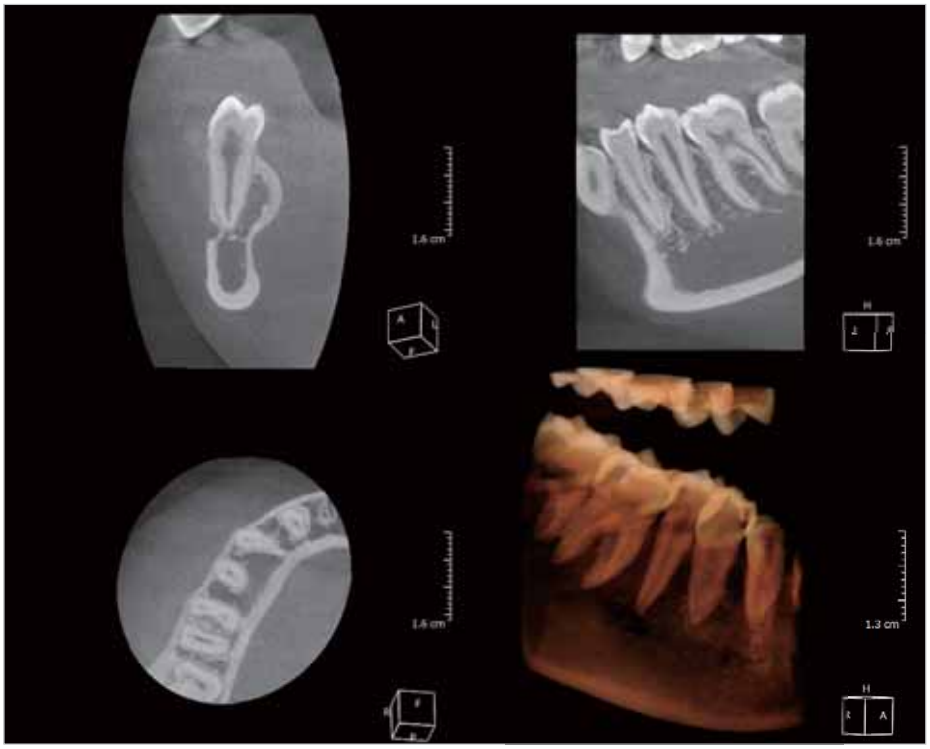
X-era Smart F+ offers you peace of mind through 3D diagnosis.



In addition to the five elements required for an ideal 3D panorama X-ray system, the X-era also has a comprehensive array of newly developed options, which go beyond just 3D image capture.

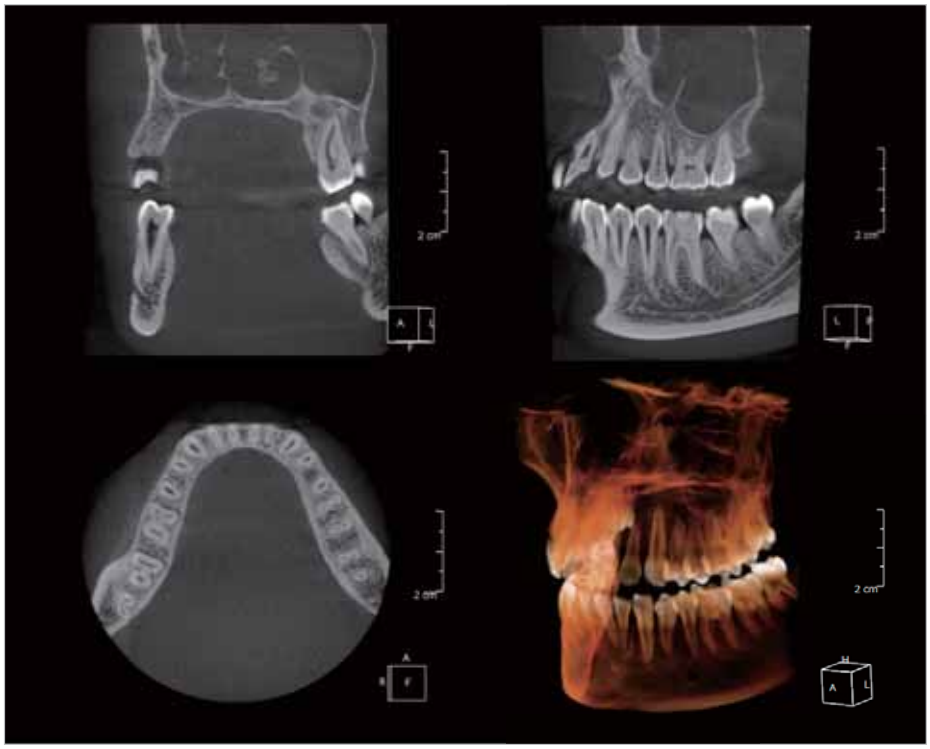
High definition 3D for local X-ray image

Dent mode



A view wide enough to capture the full mouth

Oral mode



* FUSION is used for image synthesis.

5 benefits essential to an ideal

1 High definition

80μm voxel size to meet precision requirements in daily treatments.

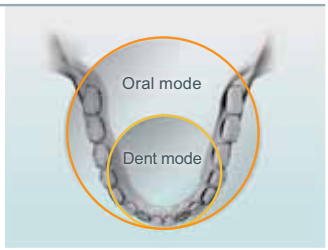
High definition image with minimal 80μm voxel is so clear it displays precise shape of the root canal and the apical direction. This high level of sharpness can be utilized not only in an endodontic treatment but various types of treatment.

Reference image

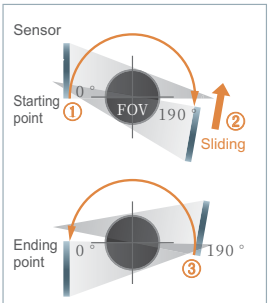
2 Optimal field of view

Innovation of sliding sensor system

By adopting the sliding sensor system, a suitable exposure mode can be selected from two exposure modes.



Orbit of sensor at the time of oral mode exposure



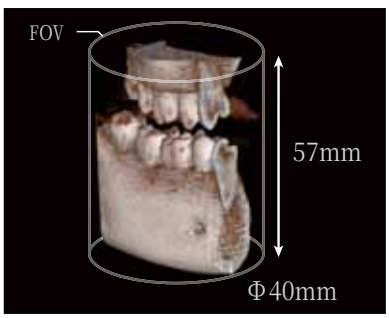
1. Exposure begins from the starting point, and the rotation arm rotates 190 degree while scanning.
2. Sensor slides to the direction of arrow.
3. The rotation arm returns to the original position as scanning completes.

Sliding Sensor System

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

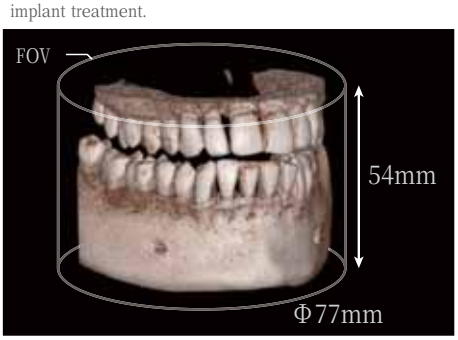
1 Dent mode

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

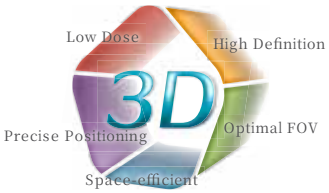


2 Oral mode

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



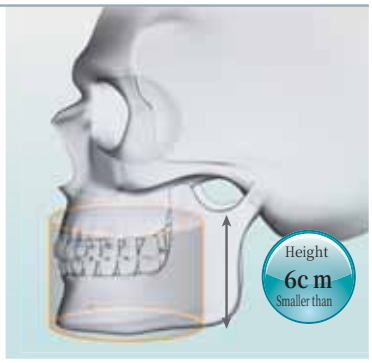
3D imaging system



3 Low patient dose

Scanning only the necessary area is made possible by FOV with smaller than a height of 6cm.

FOV with a height of approximately 6cm enables scanning the area large enough to include the opposing tooth while avoiding the lens of the patients eyes which are highly sensitive to radiation. X-era Smart 3D protects patients from radiation exposure while capturing the desired area.



4 Precise patient positioning

Positioning using a bite plate with silicon impression material

To minimize retakes and to capture a clear image, a bite plate with silicon impression material is added to the head support so a patient's head is held securely in place.

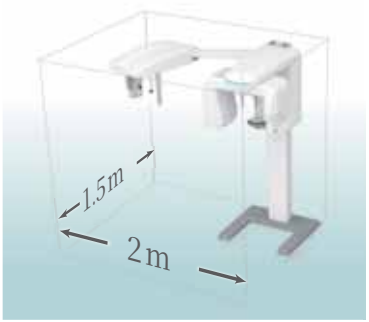
Precise positioning every time

In a follow-up treatment, using the same bite plate allows scanning exactly the same area making the observation easier.

5 Space-efficient design

Compact body to fit in the X-ray room with limited space.

As a 3D imaging system with cephalometric, X-era Smart 3D is with the smallest footprint among all YOSHIDA imaging system. It will fit nicely in an X-ray room as small as 2m in width.



Comprehensive New Features

NEW

Newly developed features provide in depth support for explaining to patients and planning treatment using the captured images.

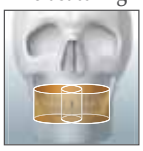
1 With the FOV expansion feature
Worring about the FOV range is a thing of the past.

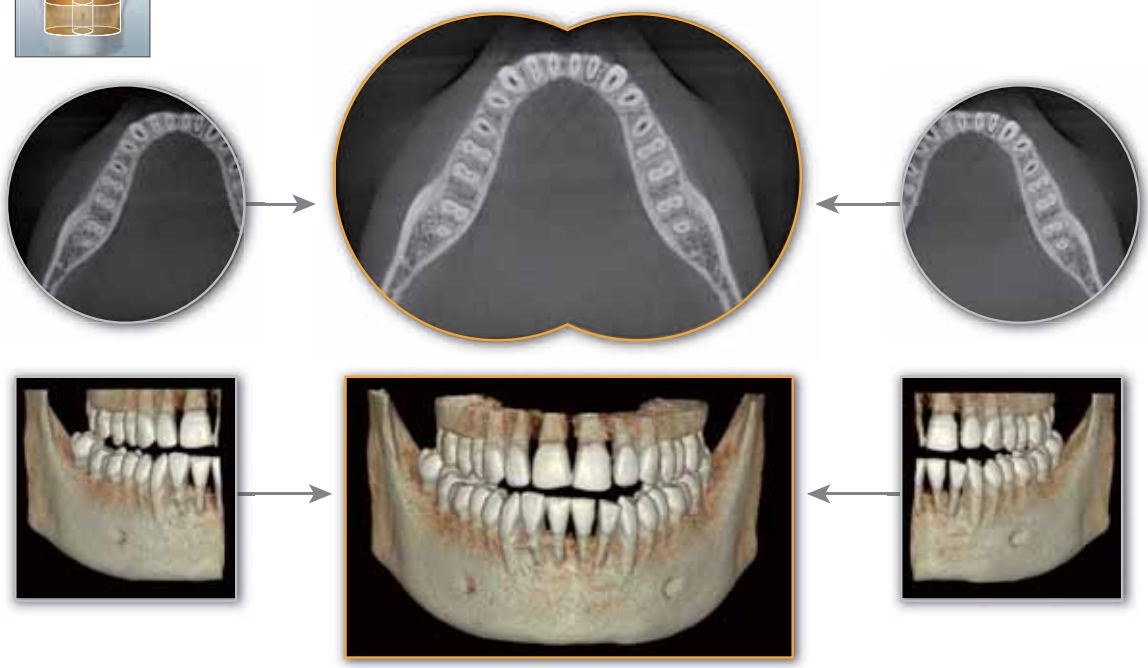
FUSION Image stitching
FOV expansion function

Two or more images can be stitched together to form a composite image which allows you to check the opposing tooth or to check impacted teeth on both sides at once.
Displaying two images side by side makes it easier to compare the difference before and after an operation, or the progression of a problem, which helps patients understand their treatment plan.

●Upper and lower stitching

●Right and left stitching

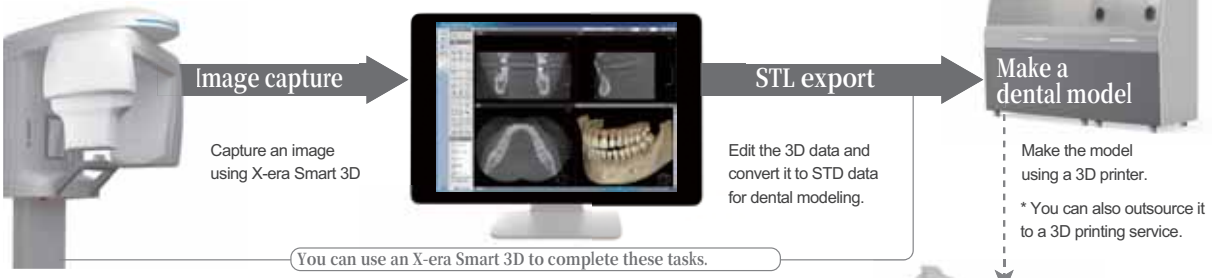


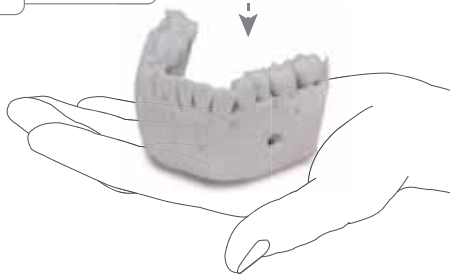


2 STL export
Bring the 3D image to life

3D module
STL export function [optional]

●Exporting an image





A dental model prepared from the 3D data of the patients themselves, rather than a standard jaw model, provides both the operator and the patient with a deeper understanding.

By making the patient's own model, you can confirm the size and shape of the affected part before operation.
The model is also useful for explaining to the patient and giving practical training.

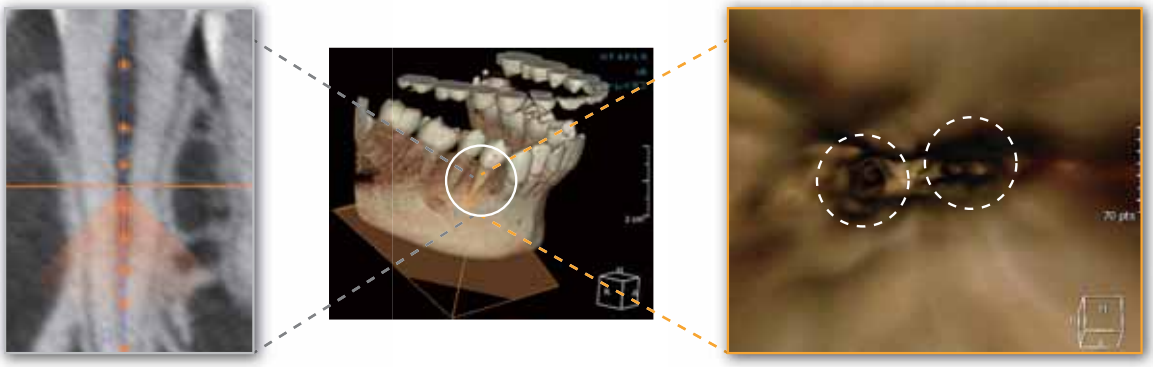
3 Virtual Endoscope
3D Visualization of the unimaginable area made possible

3D module
Virtual endoscope function [optional]

This feature allows for checking the inside of root canals using 3D images.

In the example given below, the root canal, whose details are not visible in the 2D image, is clearly shown to be branching in two in the 3D virtual endoscope mode image.

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



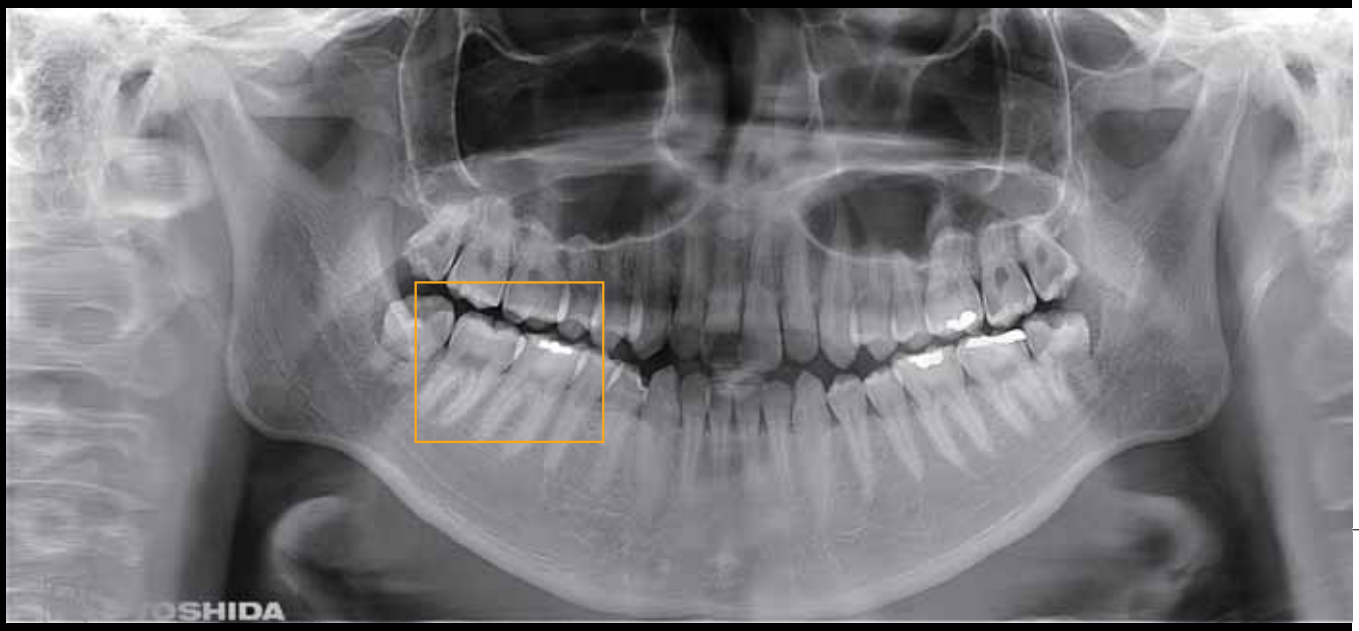
<2D image>

<Virtual endoscope mode image>

Next generation premium high-

Premium high-definition

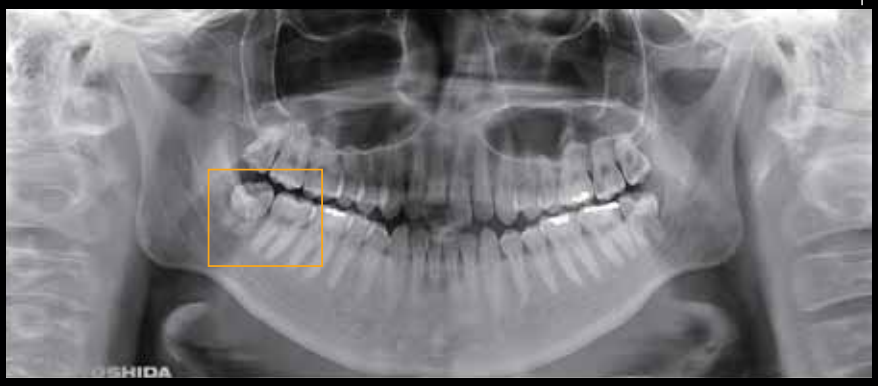
Standard panoramic



Adopting high-definition Direct CMOS sensor, unique panoramic construction algorithm actualizes the direct conversion from X-ray to electronic signal, creating super high-definition image with lower noise.

Various exposure time can be selected to suit for each patient and clinical need

High speed exposure mode

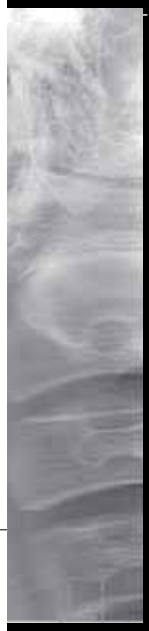


Even 8 second exposure provides high image quality optimal for accurate clinical diagnosis.

Direct CMOS sensor enables the high quality image while reducing the patient dose by 50%. (Compared to other YOSHIDA equipment)
By minimizing the exposure time, patient dose is also minimized. It also reduces risk of the retake due to the radiographic failure caused by patient's movement.

definition

Image comparison



XERASMART
Standard panoramic

Direct CMOS sensor

High definition 14 sec.

XERASMART
High speed exposure mode

Direct CMOS sensor

High speed 8 sec.

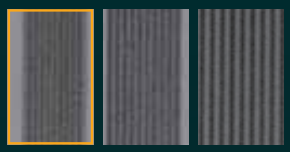
Conventional sensor image

Conventional sensor

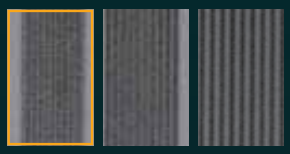
16 sec.

Evidence of superior clarity

Difference in line pair



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



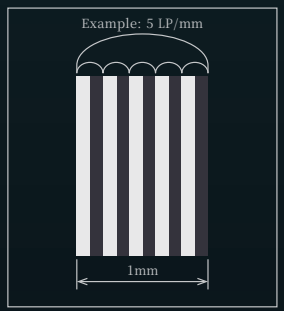
5 LP/mm 4 LP/mm 3 LP/mm

On XERASMART panoramic image, 5LP/mm is visually recognizable.

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

Line pair (LP/mm)

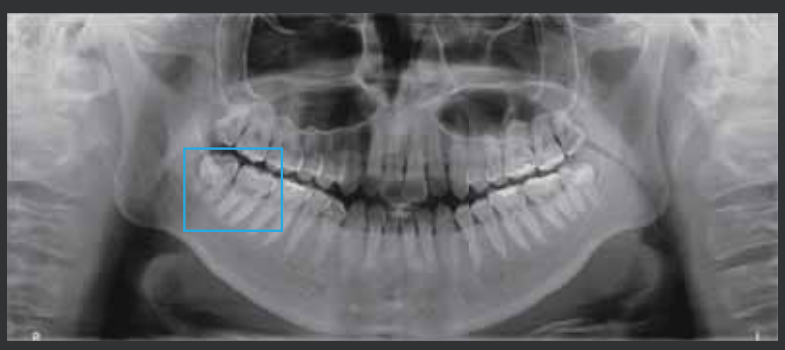
What is “line pair” ?
Line pair is an index of resolution which counts how many sets of one black line and one white line are consisted in 1mm.



Conventional sensor image

Conventional sensor

16 sec.



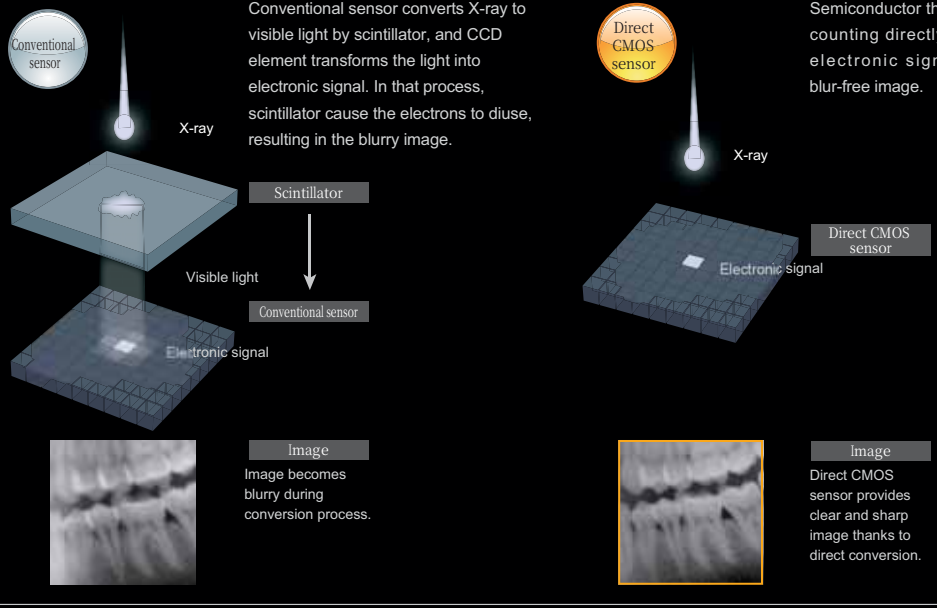
Intuitive Usability

1 Super high definition clinical image quality for accurate diagnosis

Adopting Direct CMOS sensor and unique image construction technology, blur-free and sharp image can be obtained.

Reference image

●Sensor comparison



Conventional sensor converts X-ray to visible light by scintillator, and CCD element transforms the light into electronic signal. In that process, scintillator cause the electrons to diuse, resulting in the blurry image.

Semiconductor that is used for photon counting directly converts X-ray to electronic signal and creates a blur-free image.

2 Multi Focal Layer Technology enables optimal focusing

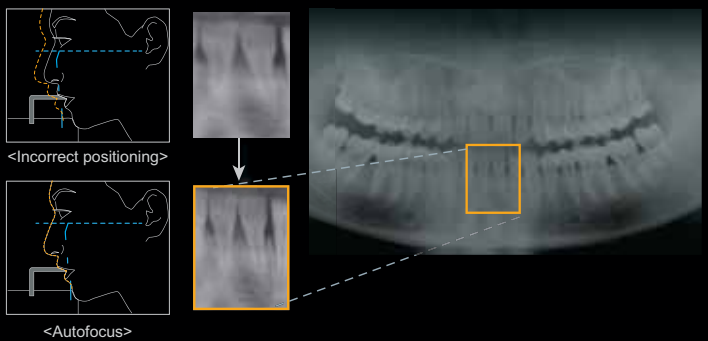
Image reconstruction software
Imagecreator

Unique panoramic image construction technology (Image Creator)

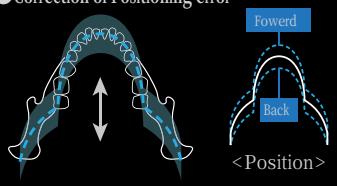
Automatically selects the most optimal focal layer position as exposure completes.

Re-focusing on any spots is also possible to reconstruct the clear image.

Active tomography allows reconstruction of the image corresponding to anatomical shape and size of each patient even after the exposure.

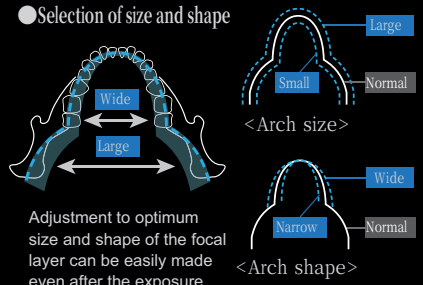


●Correction of Positioning error



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

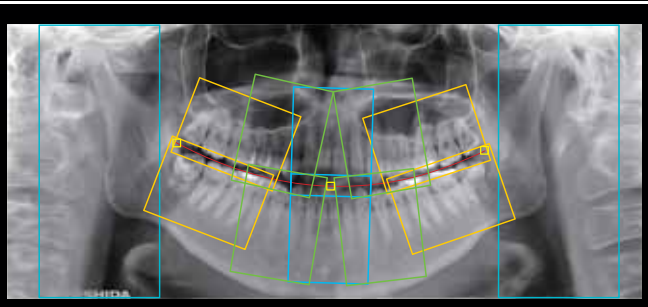
●Selection of size and shape



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

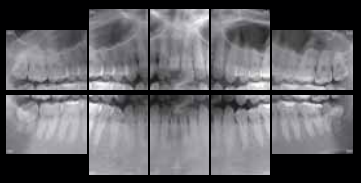


Dental-size images and TMJ images are easily clipped out of panorama images using simple operations.

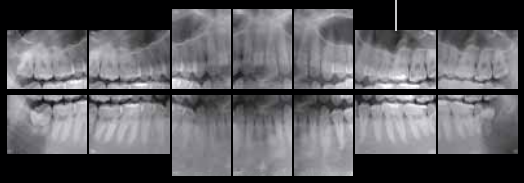
* It is not possible to calculate dental and panorama images at the same time.

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>

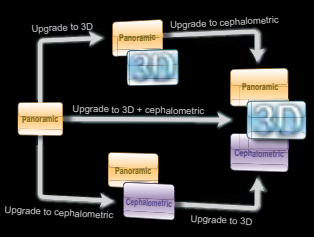
<Lateral view>

<Carpus view>

Easy upgrade to 3D. cephalometric

With the same simple operability and compact body, it can be easily upgraded to 3D . cephalometric as needed.

* Sensor corresponding to 3D . cephalometric is needed.



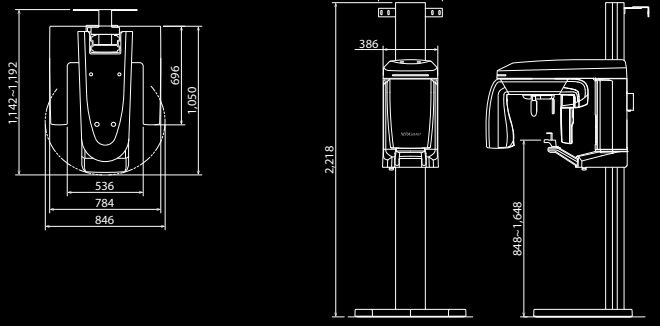
X-ERA SMART

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

< X-era Smart 2D, 3D >

Direct CMOS sensor

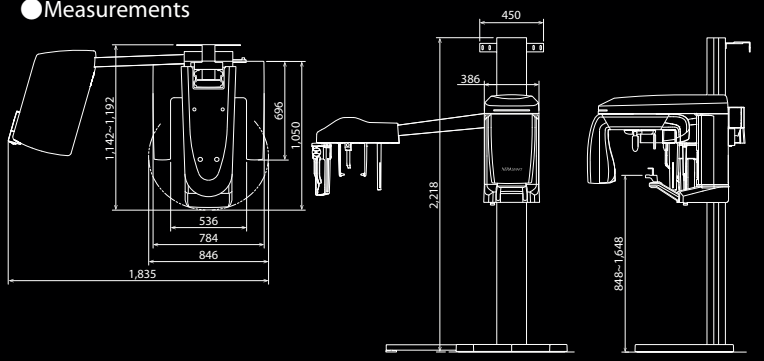
● Measurements



*The Dimension includes the base unit (optional).

< X-era Smart cephalometric >

● Measurements



*The Dimension includes the base unit (optional).

Technical data

X-era Smart

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FM 554640 / ISO 9001 : 2008