Next-generation premium high-definition diagnostic imaging system

X-era Smart F+
All the benefits of 3D diagnosis – and so much more.

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**

![Dent mode images]

* fusion is used for image synthesis.

A view wide enough to capture the full mouth

**Oral mode**

![Oral mode images]
5 benefits of a superior 3D imaging

1. **High definition**

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. **Innovative sliding sensor system**

**Optimal field of view**

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

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

**Oral mode**
Captures the entire maxillary and/or mandibular arch in one shot. Suitable for periodontic and multiple tooth implant treatment.
Localized scanning is made possible by a FOV with a height less than 6cm.

**Low patient dose**

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.

Positioning using a bite plate with silicone impression material

**Precise patient positioning**

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.

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

**Space-efficient design**

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

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

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

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

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.

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.
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**

The Direct CMOS sensor enables a high-quality image while reducing the patient dose by 50% compared to other DM equipment. By minimizing the exposure time, the patient dose is also minimized. It also reduces risk of a retake due to patient movement.

Even a 1-second exposure provides high image quality, optimal for accurate clinical diagnosis.
On an panoramic image, 5LP/mm is clearly visible.

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. Premium high-definition.

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

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

Even a 1-second exposure provides high image quality, optimal for accurate clinical diagnosis.

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.

Evidence of superior clarity

Difference in line pair

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

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

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.
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.

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**

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.

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Reference image

Image reconstruction software *Imagecreator*
### 3 Dental clipping feature with flexible output options

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

- **10-image method**
- **14-image method**
- **TMJ**

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### 4 Intuitive Usability

#### Simple exposure mode

- **<Standard panoramic>**
- **<TMJ views>**
- **<Child panoramic>**

#### 3D exposure mode

- **<Dent mode>**
- **<Oral mode>**

#### Cephalometric exposure mode

- **<PA view>**
- **<Lateral view>**
- **<Carpus view>**

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**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 series model corresponding to digital.

Premium high definition.

< X-era Smart 2D, 3D >

< X-era Smart cephalometric >

Technical data

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<th>Direct CMOS sensor</th>
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<td>factor</td>
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| Pixel | 100μm isotropic/pixel |
|       | 1,350×3,150 pixel (Panoramic)* |
|       | 2,266×2,039 pixel (Cephalometric PA/Carpus) |
|       | 80μm isotropic/voxel (3D dent mode) |
|       | 110μm isotropic/voxel (3D oral mode) |

| FOV | ϕ40mm×57mm (3D dent mode) |
|     | ϕ77mm×54mm (3D oral mode) |

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

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