




RAYSCAN  
ALPHA  
PLUS 

## 01 Visible X-ray Guide

The user can conveniently adjust the FOV according to the purpose of the treatment

## 02 Image Processing Technology

70µm voxel size (4cm diameter) and 6 second reconstruction time (16cm diameter)

## 03 Specialized for Endodontic Procedures

- Voxel size: 70µm
- Minimum FOV: 4x3cm

## 04 Fast Scan View a CT Image in Less than 10 Seconds

- Ideal for immediate implant placement validation
- Scan time: 4.9 seconds
- Reconstruction time: 4 seconds
- More accurate, faster, and lower dose than a panoramic acquisition

## 05 One Shot Ceph

- Fast acquisition to reduce patient movement and image distortion
- Minimize patient dose with a 0.3 second exposure

## 06 Panoramic

The state of the art technology for high-definition image quality

## 07 Wireless remote control

Non-directional wireless remote control facilitates your patient positioning easier than ever

## 08 Various options for your practice

- 13x10cm or 16x10cm maximum FOV options
- 3 different cephalometry options including One Shot Ceph

⋮

## & Rayguard Protection

Real-time monitoring to ensure optimal functionality



# 01 Visible X-ray Guide



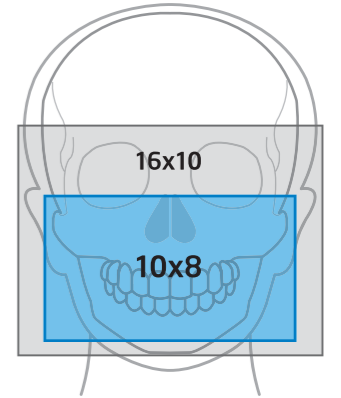
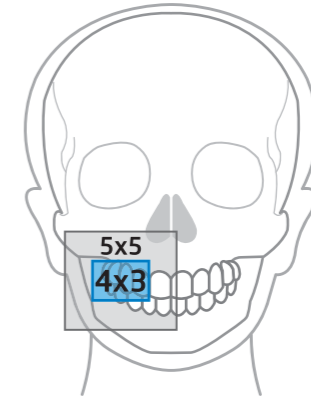
**Visible X-ray Guide indicates the location of the area to be scanned.**

The user can conveniently adjust the FOV according to the purpose of the treatment.

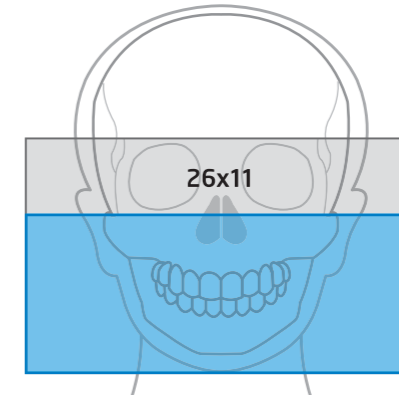
## Dose Reduction

See where you focus  
Light guided free FOV

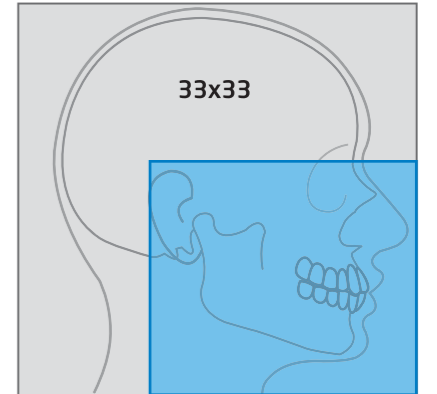
CBCT



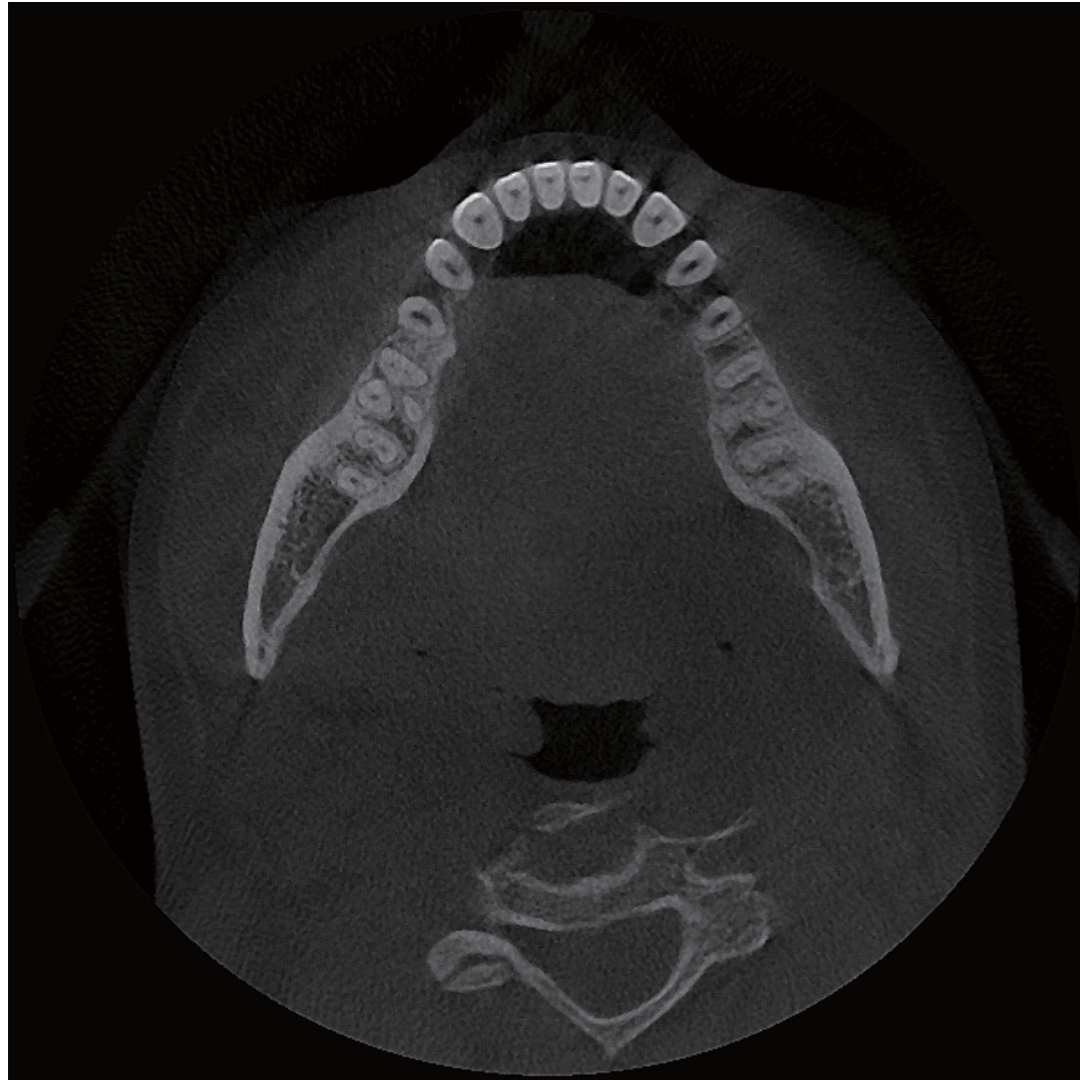
Panoramic



Cephalometric

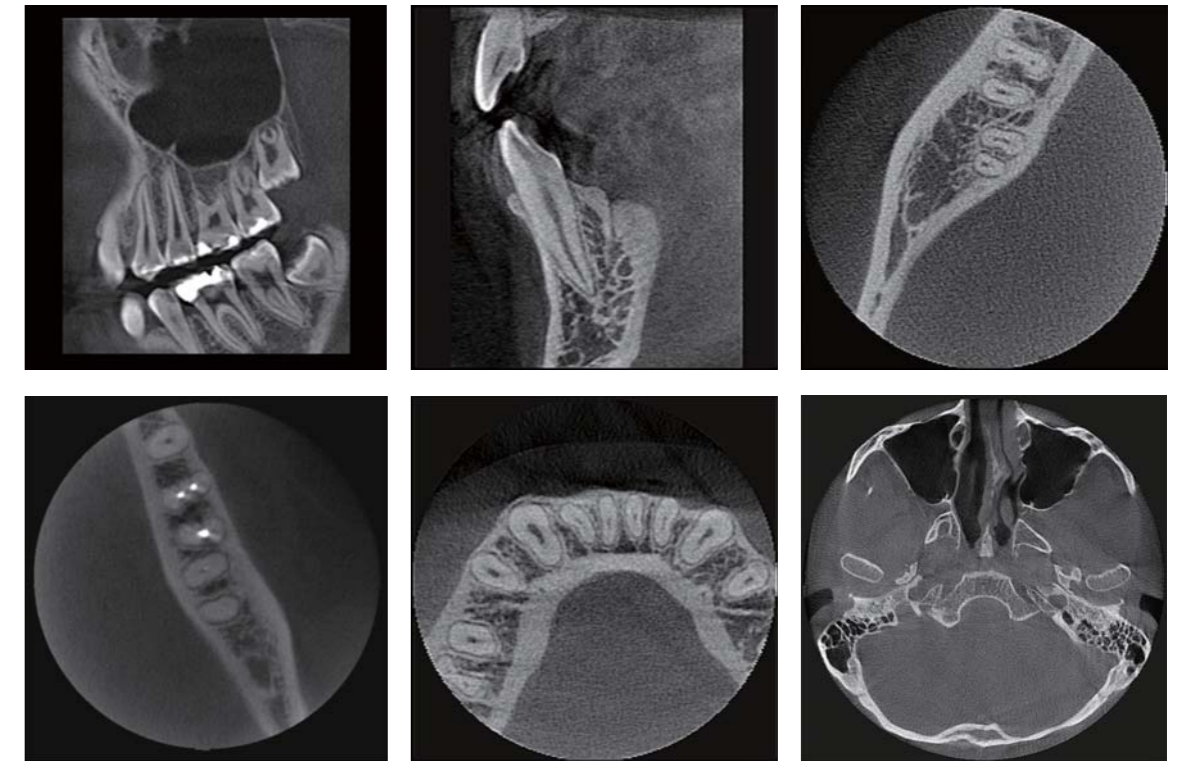


# 01 Visible X-ray Guide - Free FOV



The user gets the right image the first time and makes it more comfortable for the patient.

Consistently easy to position the patient for any image.  
Choose the appropriate size for any procedure.  
Keep the ALARA principle and reduce liability.



# 02 Image Processing Technology

When you need to scan faster...

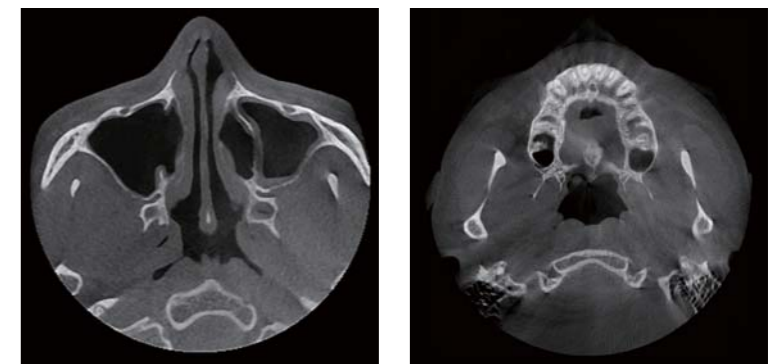
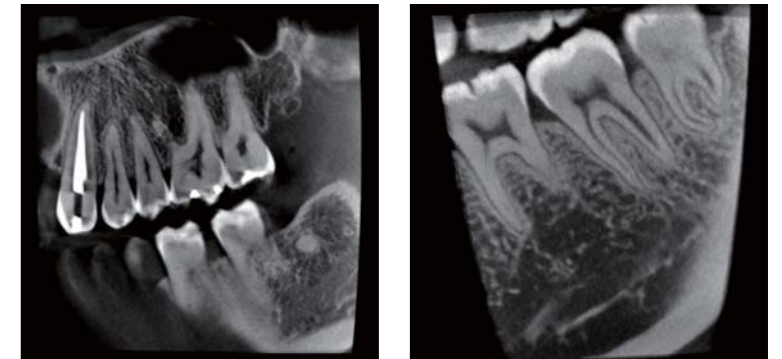
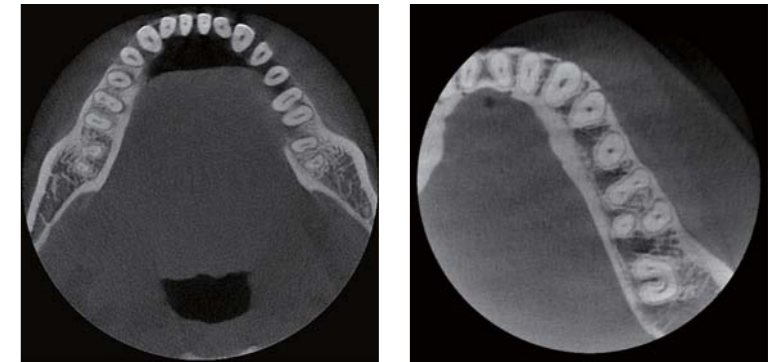
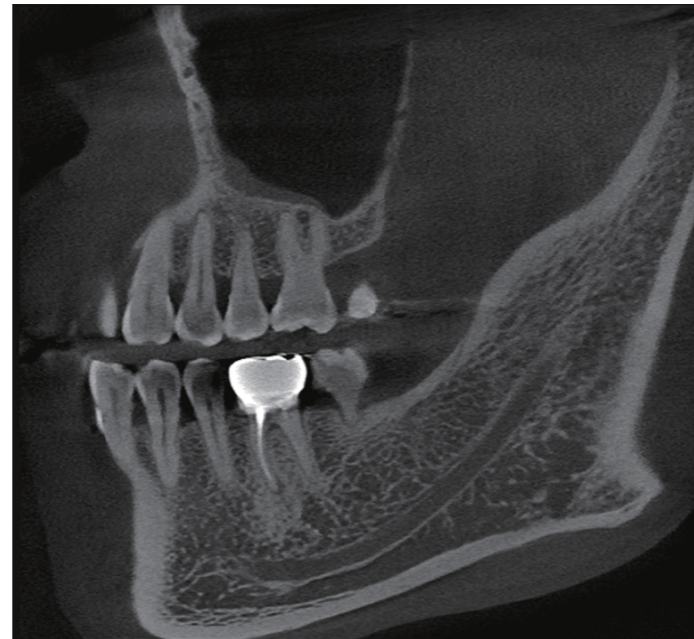
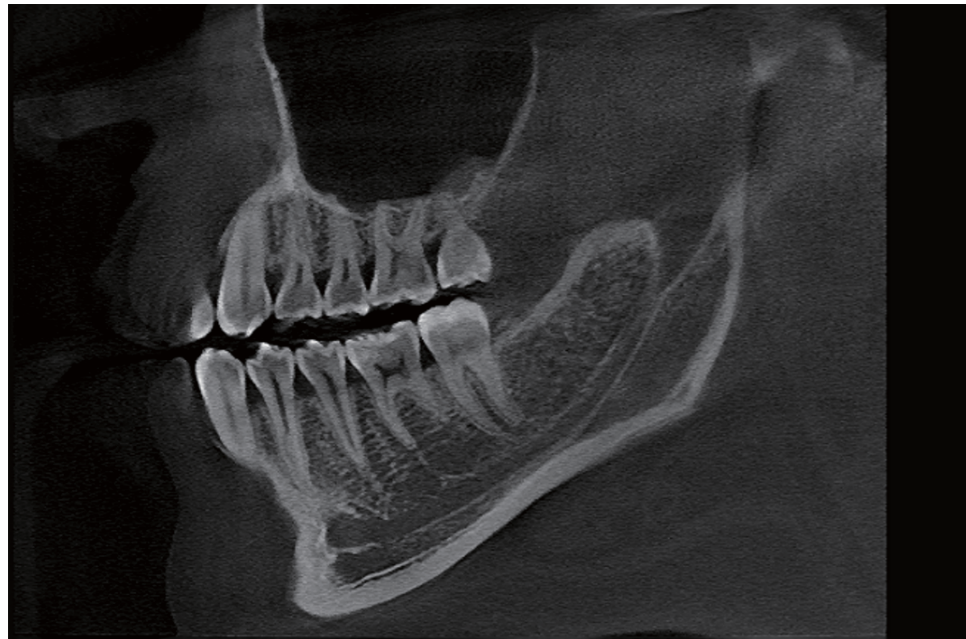
Down to **4.9 second scan** and **4 second 3D reconstruction** !

When you need to see more detail...

Up to **70 μm** with a **focused field of view** !

When you need to see more anatomy...

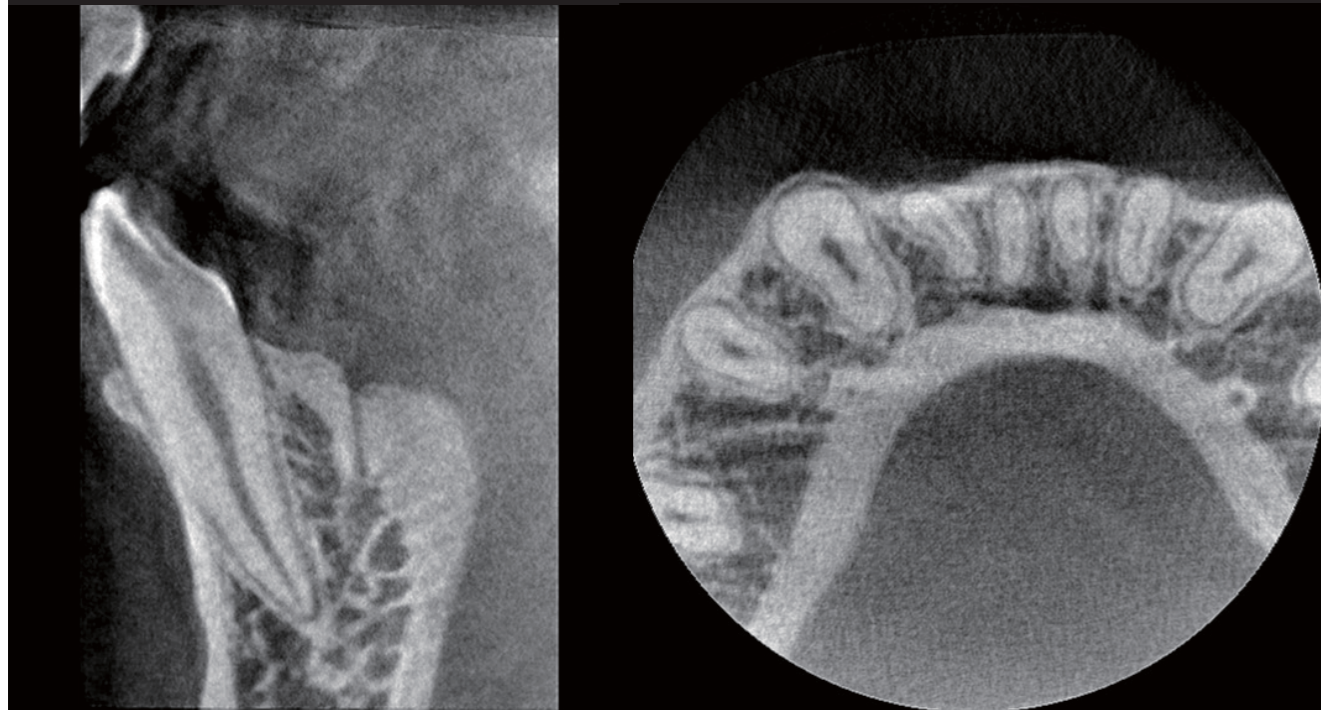
Up to **16 cm** diameter field of view reconstructed in **6 seconds** !



# 03 Specialized for Endodontic Procedures

Scan and reconstruct at 70  $\mu\text{m}$  with a focused field of view for precise endodontic cases

Highest Resolution Dental CBCT Images

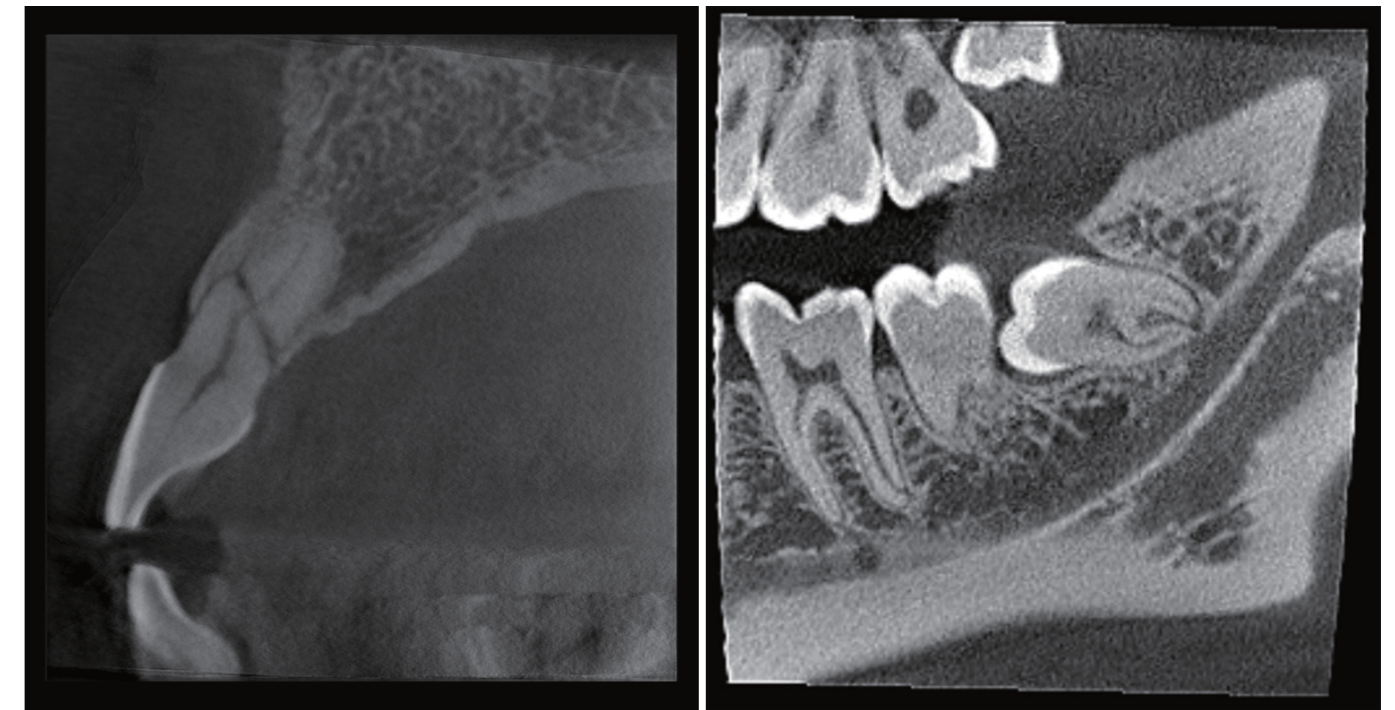


More Detail, More Confidence, More Procedures

See more detail using a high-resolution CT image in a specific area.

Have more confidence before, during, and after the procedure with increased awareness.

Do more procedures in less time.



## 04 Fast Scan View a CT Image in Less than 10 Seconds

Scan your patients faster than ever before!

"66% faster scans" is ideal for implant placement validation and for patients that cannot hold still.

"Fast scan mode" radiation dose is only **22.9  $\mu\text{Sv}$**

2D  
Panoramic

**18s**

14 second scan,  
4 second image processing  
& save



3D  
Alpha Plus (Fast scan mode)

**9.9s**

4.9 second scan,  
4 second reconstruction,  
1 second save

V  
S

Fast scan  
**4.9 seconds**

3D Reconstruction  
**4.0 seconds**

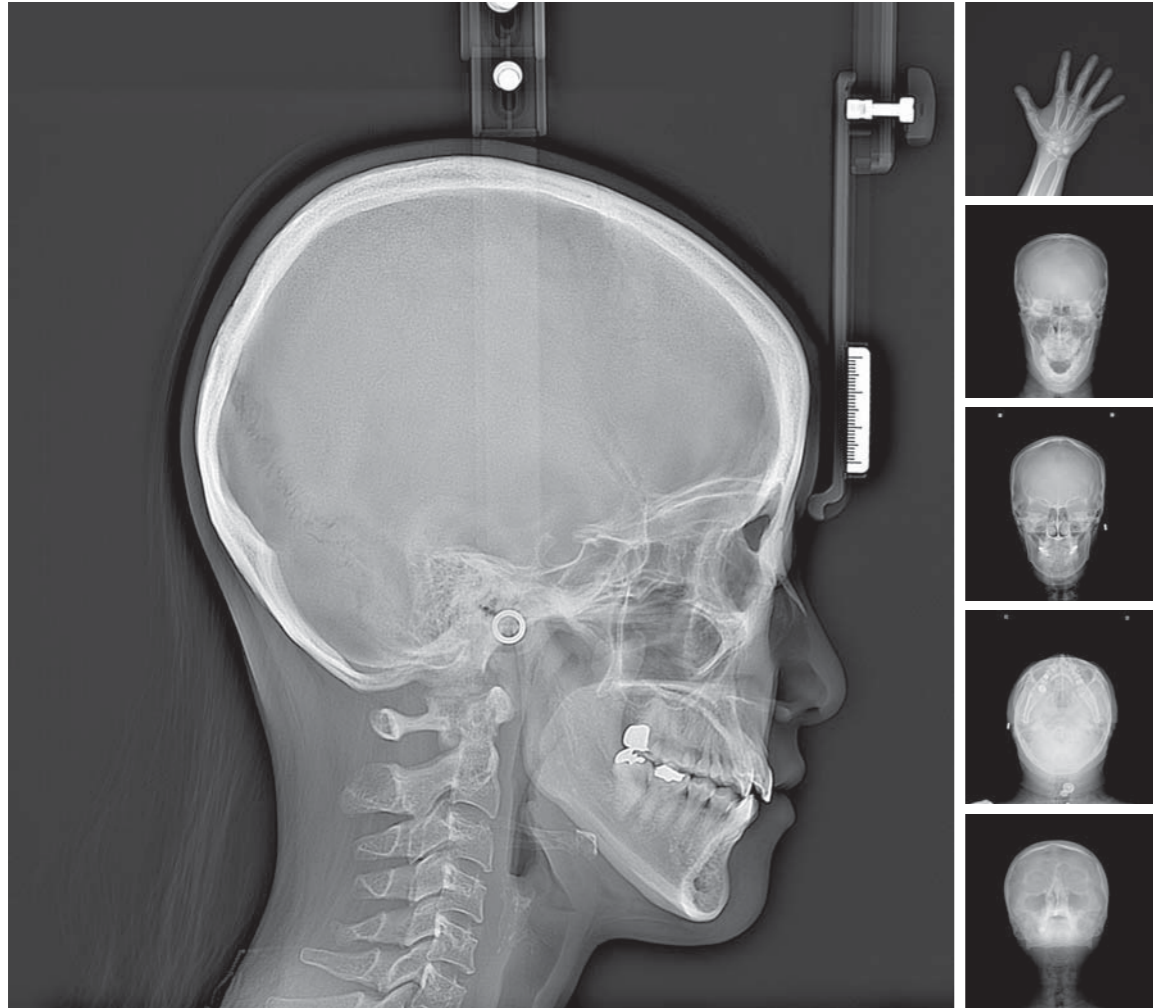
Save  
**1.0 second**

Total time  
**9.9 seconds**



# 05 One Shot Ceph

One Shot Cephalometric Imaging acquires images in less than 1 second to reduce image distortion !



Choose from two sizes of one shot cephalometric sensors. A scanning ceph is also available for a smaller overall unit footprint.

## One Shot Cephalometry

Our cutting-edge Flat Panel Detector (FPD) provides a new level of performance and reliability while reducing radiation exposure and image distortion due to patient's movement. Two different sizes of FPD are available.



## Scanning Cephalometry

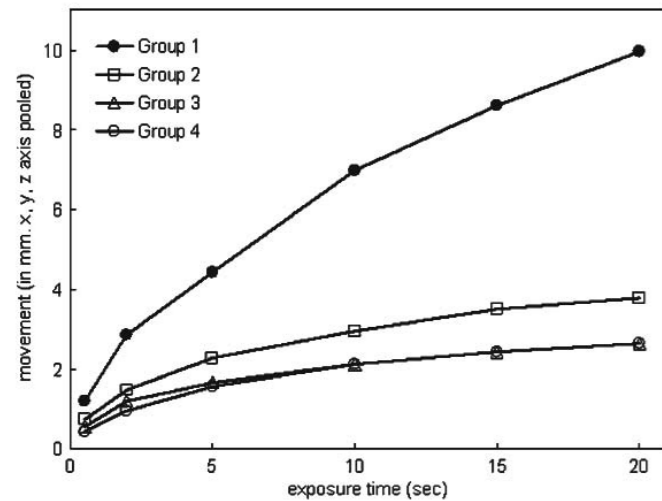
Our scanning ceph module allows clinicians to upgrade their diagnostic capabilities while keeping costs to a minimum.





# 05 One Shot Ceph

Longer exposure times can result in greater movement during acquisition of cephalometric radiographs. Because patient movement was more significant in children, a shorter exposure time is recommended in order to get a good quality cephalometric image for pediatric patients.



Group 1 : 9 to 12 years old  
 Group 2 : 13 to 19 years old  
 Group 3 : 20 to 25 years old  
 Group 4 : 26 to 30 years old

**Group 1 represents** the main patients of orthodontic treatment and should not be imaged with a scanning ceph due to risk of patient movement.

Fig 5. The amount of the subjects' movements. The youngest group shows larger increasing proportion of the movements compared to other groups.

"Quantitative Evaluation of Patient Movement during Simulated Acquisition of Cephalometric Radiographs", Kyung-Hoe Huh, Erika Benavides, Young-Tak Jo, Bo-Ram Choi, Won-Jin Yi, Min-Suk Heo, Sam-Sun Lee, and Soon-Chul Choi, Journal of Digital Imaging, Vol 24, No 3 (June), 2011: pp 552Y559



Small variations (1 to 2 mm) in the identification of certain landmarks can lead to different angular measurements. Regarding diagnosis, in 56% of the cases skeletal classification was changed and in 52% of the cases malocclusion classification was altered, after evaluating the LCR.



Fig 1. The subject positions at the digital lateral cephalometric X-ray equipment. The optical marker is attached to the subject's chin.

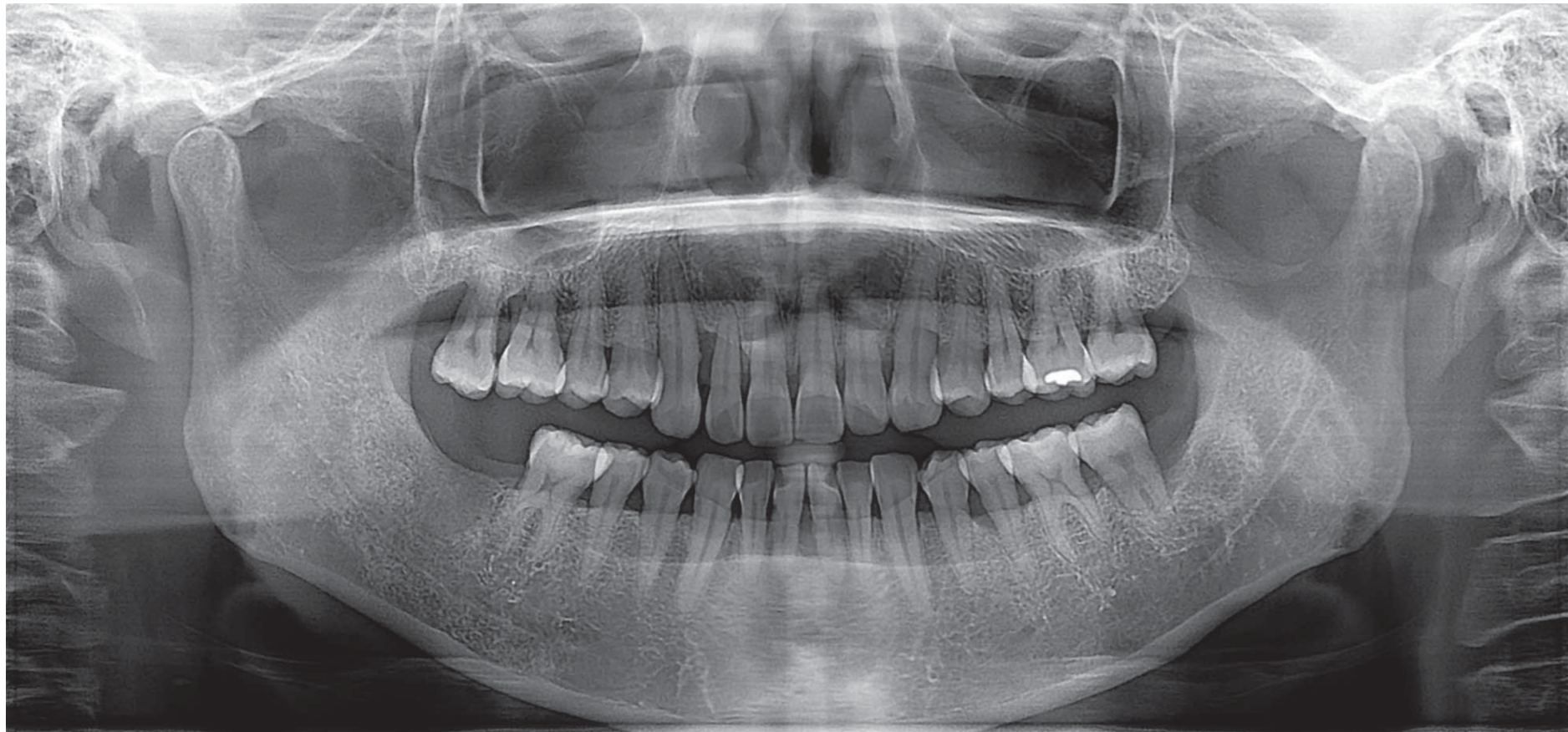


Fig 2. Optical tracker (Polaris Vicra System, Northern Digital, Waterloo, Canada).

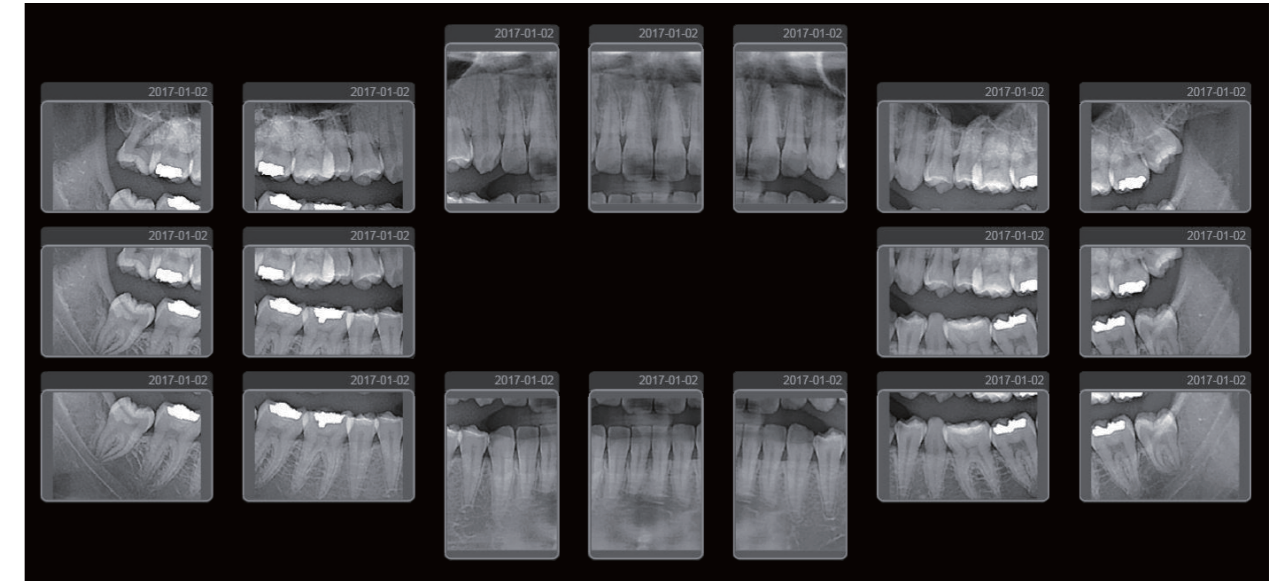
"The influence of using 2D cephalometry on orthodontic treatment outcome" Conference: 14th Congress of the European Academy of Dento-Maxillofacial radiology, At Cluj-Napoca

# 06 Panoramic

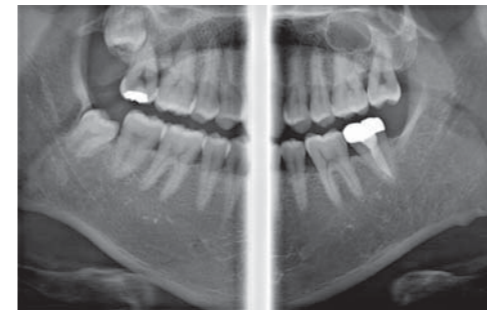
The state of the art technology for high-definition image quality



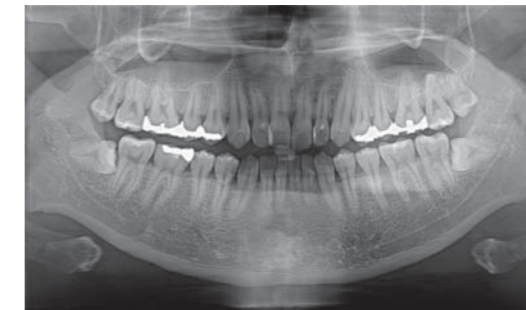
FMX(Full Mouth X-ray), extracting from a panoramic image



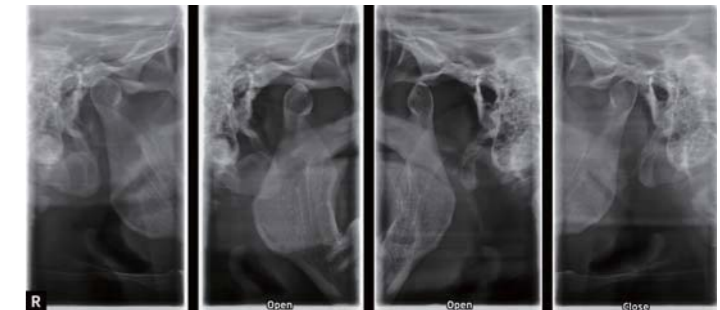
Bitewing



Orthogonal



TMJ



# 07 Wireless remote control

Non-directional wireless remote control facilitates your patient positioning easier than ever.



Type of Patient / Protocol

Column Up, Down

Canine beam adjustment (Pano mode)  
Pre motion (CT mode)

Laser beam on, off  
LED lighting guide on, off  
90° Rotation

Collimator adjustment

Ready / Cancel

# 08 Various options for your practice

13x10cm or 16x10cm maximum FOV options

3 different cephalometry options including One Shot Ceph

Specifications are subject to change without prior notice.

**RAYSCAN α+ (Model : RCT700)**

|                     |  |  |  |  |  |
|---------------------|--|--|--|--|--|
| Type                | Panoramic, Cephalometric, Cone Beam CT |  |  |  |  |
| Patient positioning | Standing (wheelchair accessible)       |  |  |  |  |
| Focal spot          | 0.5                                    |  |  |  |  |
| Tube current        | 4~17mA                                 |  |  |  |  |
| Tube voltage        | 60~90kVp                               |  |  |  |  |

|                  | α+ 160 | CBCT         | Panoramic     | α+ 130 | CBCT         | Panoramic       |
|------------------|--------|--------------|---------------|--------|--------------|-----------------|
| Detector type    |        | CMOS         | CMOS          |        | CMOS         | CMOS            |
| FOV / Image size |        | Max. 16x10cm | Max. 15cm (H) |        | Max. 13x10cm | Max. 14.4cm (H) |
| Free FOV support |        | Yes          | Yes           |        | Yes          | Yes             |
| Voxel size       |        | 70~400μm     |               |        | 70~400μm     |                 |
| Exposure time    |        | 4.9~14sec    | 6.2~13.9sec   |        | 4.9~14sec    | 6.2~13.9sec     |

|               | Cephalometric (Option) |                      |                         |
|---------------|------------------------|----------------------|-------------------------|
| Type          | SC (Scanning Ceph)     | OCL (One shot Large) | OCS (One shot Standard) |
| Detector type | CdTe detector          | a-Si TFT             | a-Si TFT                |
| Image size    | Max. 26x24cm           | Max. 33x33cm         | Max. 30x25cm            |
| Exposure time | 3.7~18.2sec            | 0.2 / 0.3 / 0.5sec   | 0.3 / 0.8sec            |

## Real-time IoT Service

- RAYSCAN for 24/7 monitoring
- Real-time healthy check & Preventive alerts
- Remote upgrade for the latest software and firmware

No matter where you are  
**Rayguard IoT**

## & Rayguard Protection

### Real-time monitoring to ensure optimal functionality

Rayguard is a real-time monitoring service to take care of your RAYSCAN 24/7. It provides peace-of-mind by resolving your issues before you even reports it. What you get is immediate technical support.

| SerialNumber | ConnectStatus | AlertStatus | AlignStatus | QCStatus | Model      | Owner   | Operator |
|--------------|---------------|-------------|-------------|----------|------------|---------|----------|
| RA100000     | Disconnected  | OK          | OK          | OK       | Alpha M30G | 아름다운 치과 | Mr.Kim   |
| RA100001     | Disconnected  | OK          | OK          | OK       | Alpha PP   |         | Mr.Park  |
| RA100002     | OK            | OK          | OK          | OK       |            |         |          |
| RA100003     | Unknown       | Error       | OK          | OK       |            |         |          |
| RA100004     | Unknown       | OK          | OK          | OK       |            |         |          |
| RA100005     | Unknown       | OK          | OK          | OK       |            |         |          |
| RA100006     | Unknown       | OK          | OK          | OK       |            |         |          |
| RA100007     | Unknown       | OK          | OK          | OK       |            |         |          |
| RA100008     | Disconnected  | OK          | OK          | OK       |            |         |          |

| Version            | Acquisition | Alert | QC | Update | Acquisition | Warranty                             |
|--------------------|-------------|-------|----|--------|-------------|--------------------------------------|
| RAYSCAN 2.4.2.0    | IM CT       |       |    |        | CT 0        | Expired CT 2016-08-18 00:00:00.000   |
| THU 2.4.2.2.614    | IM Ceph     |       |    |        | Ceph 0      | Expired Ceph 2016-08-18 00:00:00.000 |
| Prime Sub LCeph    | IM Pano     |       |    |        | Pano 0      | Expired Pano 2016-08-18 00:00:00.000 |
| GigaBoard Inverter |             |       |    |        |             | Term 24 Years                        |

IDEA BRONZE



REDDOT WINNER



GD BEST OF BEST



GD AUSTRALIA



RBS-AP03 (rev.1)  
Design and specifications  
are subject to change  
without notice



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