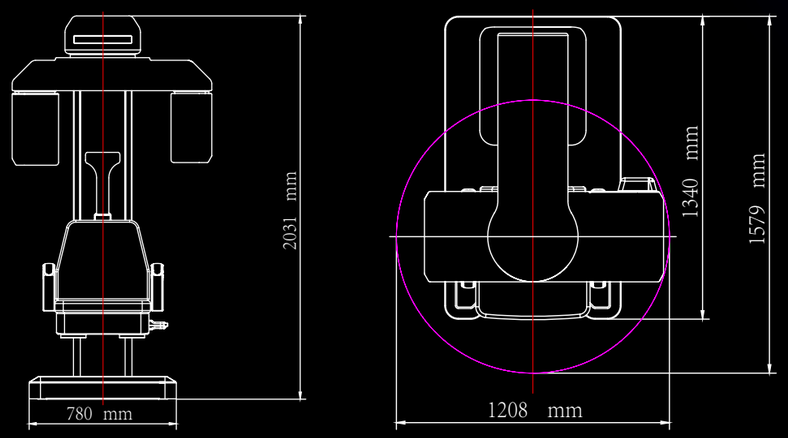
Technical Specifications

Field of View	► 16cm(d)×8cm(h) ► 16cm(d)×15cm(h)
Spatial Resolution	► 2.0lp/mm
Tube Voltage	► 80-100kV
Tube Current	► 2-4mA
Focal Spot Size	► 0.4(IEC336)
Scan Time	► 15s
Image Acquisition	► 720 images
Reconstruction Time	► ≤ 15s
Sensor Type	► Flat Panel Detector
Voxel Size	► 0.125mm/0.25mm
Weight	► 340kg
Power Requirements	► AC 220V/230VAC, 50Hz, 660VA
Outer Dimensions	► 1245(w)×1630(d)×2045(h)mm

※ The data are subject to change without notice.



CBCT

HiRes3D

Professional
Dental X-ray Tomographic System

北京朗视仪器有限公司
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About LargeV

Originating from Tsinghua and Nuctech

LargeV Instrument Corp. Ltd (LargeV for short) is a hi-tech company providing advanced medical imaging equipment and related services. Originating from Tsinghua University, LargeV has rich experience and mature technologies in cone beam CT imaging, dose optimization, radiation protection and metal artifacts removal.

LargeV is subsidiary of Nuctech Company Limited (Nuctech for short), which is a world-leading security inspection product manufacturer and security solutions supplier. NUCTECH's products have been sold in five continents, more than 100 countries and regions, occupying an important position in the global market.

With support from Nuctech, LargeV has unique advantages in industrial design, production process, quality control and after-sales service, adhering to providing high-quality products and services.

Introduction to HiRes3D

- Developed and manufactured by LargeV independently and all related intellectual property rights are owned by LargeV.
- With world-leading technical index, HiRes3D fully meets clinical needs, and is safe and reliable.

Features of HiRes3D

Large Field-of-view 3D Imaging

Acquires high accurate 3D image of the whole maxillofacial region after one single scan.
Fusion mode covers the entire maxillofacial region.

Super-fast Speed

High-definition 3D image reconstruction of the whole maxillofacial region can be finished in 15 seconds, the fastest in the world.
High-resolution 3D image can be seen instantly after scan.

Super-high Resolution

The image resolution is as high as 2.0lp/mm, the best in the world.
Such a high resolution makes the equipment able to clearly display microscopic structures of dental anatomies in 3D.

Unique Metal Artifact Removal

Image quality is not affected by implants, metal materials or other high-density materials.

Powerful Data Sharing Function

No matter whether you have installed the PACS system or not, HiRes3D can effectively guarantee the data storage and sharing.

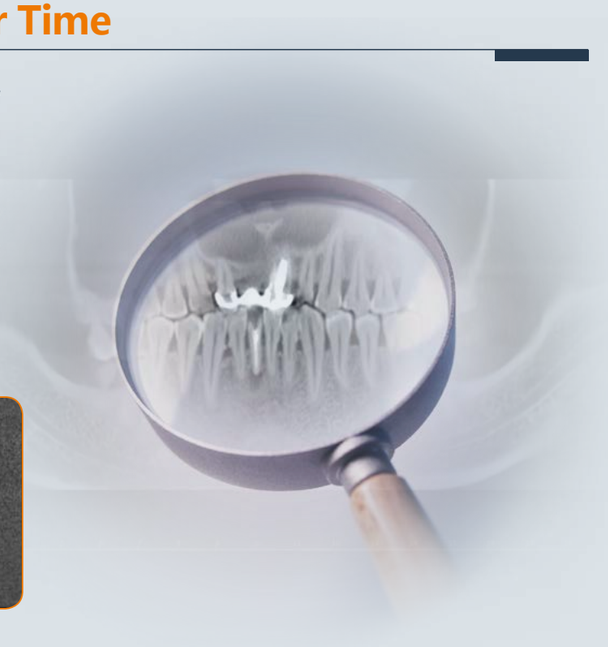
Comfortable Seat

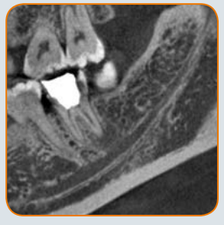
Provides guarantee for the best quality 3D image.

Better Quality in Shorter Time

HiRes 3D is able to get high-accurate 3D image of anatomical structures of the entire maxillofacial region within 15 seconds after one single scan.

HiRes 3D has a resolution as high as 2.0 lp/mm, able to clearly display the microscopic structures, effectively meeting the requirements of various dental applications, such as dental implant, impacted teeth positioning, oral surgery evaluation, and dental disease diagnosis, etc.

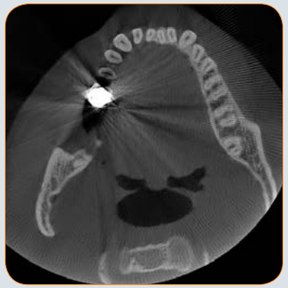




Large FOV

The large FOV of HiRes3D can cover the whole maxillofacial region, satisfying the clinical requirements to the maximum extend.

Metal Artifact Removal



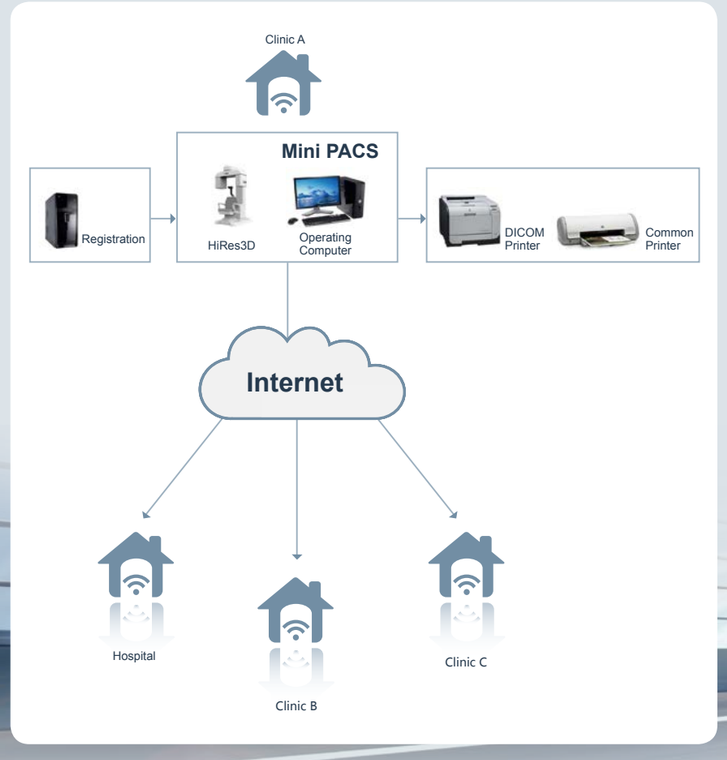
Before Correction

After Correction

The unique metal artifact removal function of HiRes3D can reduce the influence of the metal or other high density materials, and significantly improve the image quality.

Data Sharing with Build-in Mini PACS

HiRes3D's built-in MINI PACS module can ensure effective storage, use and share of images in different sites.

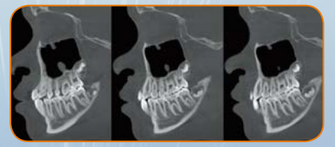


SmartV – Powerful Dental Application Software

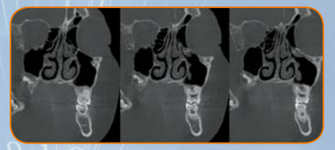
Multiple Planar Reconstruction

Axial, coronal and sagittal slices can be observed simultaneously.

Besides, the slice in any direction is available.



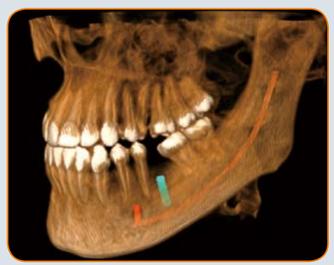
Slices in Near-end, Middle and Far-end

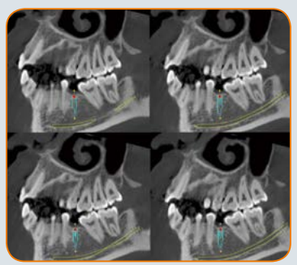


Side Buccolingual Slices

Implant Simulation

Based on the 3D image of the maxillofacial region generated by HiRes3D, the sclerotin and bone mass in the implanting area can be evaluated, and the location of implants and adjacent anatomic structures (e.g., mandibular canal, the submandibular gland, nasal cavity and maxillary sinus, etc.) can be determined, so that the implants' position, length and diameter can be determined, which helps to reduce the risk of neurovascular injuries complications and improve the success rate of implanting. The 3D data can also be used in to the computer-aided design and manufacturing of implant guides.





Skull PA & LAT

SmartV is able to reconstruct cephalometric image, helpful for orthodontic treatment.

Panoramic Image

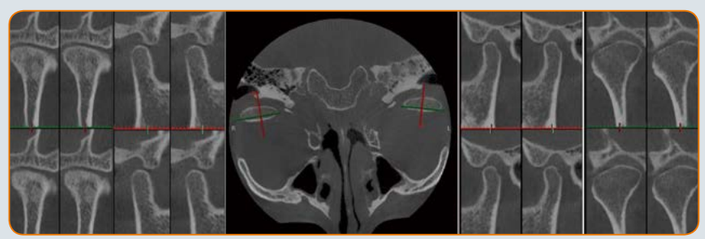
The panoramic image can be reconstructed from the 3D image data with imaging in 1:1 scale. Thus, it can overcome the inherent problems of the traditional panoramic images, such as overlap and distortion.

Panoramic Image of HiRes3D

Traditional Panoramic Image

Temporomandibular Joint (TMJ) Image

SmartV can display the left and right TMJ on one screen, providing more information for the diagnosis and treatment of TMJ disorders.



Worldwide After-sales Service System

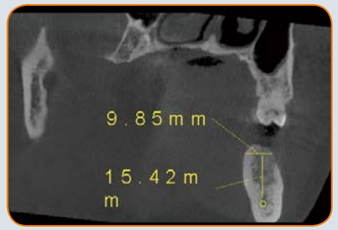
With the support of its parent company Nuctech, LargeV parent company Nuctech, LargeV has set up seven regional centres for more than 120 countries and regions all over the world.

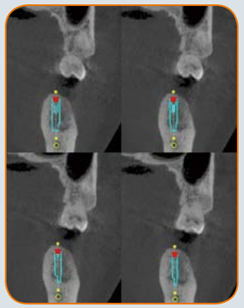
LargeV provides life-long equipment maintenance as well as 24 hours after-sales services and spare parts.

Clinical Case Studies

Diagnosis and Planning Design before Implantation

Examine the thickness of alveolar bone and the distance to nerviduct before implanting, so that the doctor can choose the most proper implant.





Evaluation after Implantation

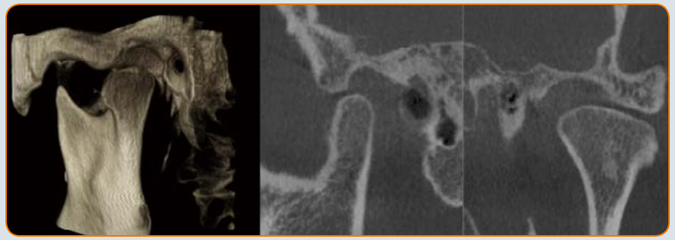
Use the cone beam computed tomography to examine the position and orientation of implant after the implanting procedure. The effective metal artifacts removal technique can help the doctor to determine the synosteosis.

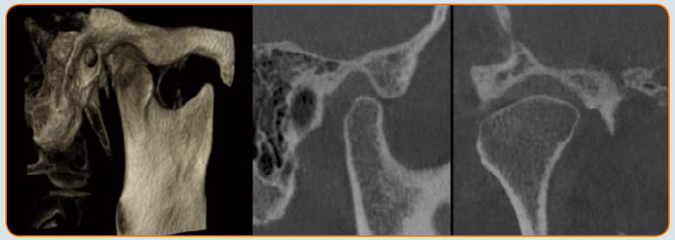
Before Metal Artifact Removal

After Metal Artifact Removal

Examination of Temporomandibular Joint

The high-resolution 3D images produced by HiReS3D and the cross-section reconstruction of SmartV help to display condylar structure clearly, providing more information for the diagnosis and treatment of temporomandibular joint disorders.





Temporomandibular Joint Disorders

Examination of Eendodontic and Periodontal Diseases

The pixel size of reconstructed images of HiRes3D can reach 0.125 mm, and the resolution is as high as 2.0 lp/mm, providing rich and accurate information for the examination of endodontic and periodontal diseases. Compared with ordinary X ray image, HiRes3D's image avoids overlapping of the teeth and the jaw, clearly shows the anatomical structure of tooth root canal, internal and external root resorption, side perforation, omission of root canal, longitudinal crack on root, periapical bone destruction, the location and degree of alveolar bone defect. HiRes3D is very effective for preoperative diagnosis and follow-up observation of dental diseases, especially root canal anatomy, complicated periapical periodontitis and periodontitis.

Root Fracture

Periapical Periodontitis

Examination of Crystis and Tumor

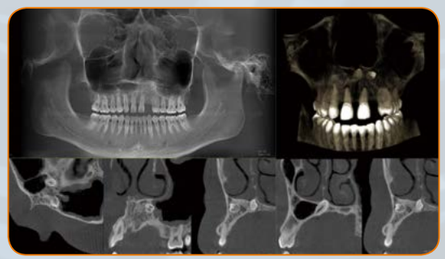
The panoramic view and 3D slice view of HiRes3D can help the doctor to detect the crystis and tumor more directly, which is important for the diagnosis and treatment planning.

Bone Tumor

Maxillary Sinus

Positioning of Impacted and Supernumerary Tooth

Compared with traditional 2D images, the 3D image of HiRes3D has great advantages in the impacted and supernumerary tooth positioning. HiRes3D can accurately show the shape and location of teeth, its positional relation with the adjacent teeth or adjacent important anatomical structures (such as the maxillary and mandibular canal, etc.), and the external resorption of adjacent teeth, which helps dentists make more accurate treatment plan, evaluate the operation risk and prognose.



Supernumerary Teeth

Impacted Tooth