NeuViz 64
Innovating the Standard in Multi-Slice CT Scanners
Setting the Pace in CT Evolution

- **1998**: CT-C2000
- **2000**: CT-C2800/3000
- **2002**: CT-C2800/3000 Dual
- **2004**: Neusoft forms a joint venture with Philips Medical Systems
- **2005**: NeuViz Dual
- **2007**: More than 1000 Neusoft CT installations worldwide
- **2009**: NeuViz 16
- **2012**: NeuViz 64
- **2015**: NeuViz 128
- **2009**: NeuViz 16
The NeuViz 64 design is focused on minimizing patient x-ray dose while maintaining exquisite image quality. The result is a low-dose CT scanner that delivers high patient throughput, is easy to use, performs advanced cardiac imaging and provides for a wide variety of post-processing and diagnostic operations.

**Two NeuViz 64 configurations** offer cutting-edge technology to match varying imaging needs.

**64 En**
Delivers maximum tube power — upgradeable to Neusoft’s powerful full-featured cardiac imaging system.

**64 In**
For the radiology department, the 64In delivers 64-slice imaging at a 32-slice price.

**Features**
- Quad-Sampling Technology
- High-Efficiency Detector
- ClearView Iterative Reconstruction
- Low-Dose Design
- Robust, Low-Dose Cardiac Imaging
- Powerful Workstation/Range of Applications
- Intuitive Workflow
Quad-Sampling Technology

By quad sampling the entire imaging volume, isotropic resolution and image quality improvement are achieved. This technique allows a pitch of 1.7 to be performed, extending scan range while reducing scan times and patient dose.

High-Efficiency Detector

A patented manufacturing process reduces afterglow (< 2 us) and maximizes dose efficiency (99.99%). This results in the lowest possible patient dose and superior image quality.

Clinical Benefits:

High-resolution scanning (1024 x 1024 matrix with a small focal spot) provides the spatial resolution necessary to perform difficult-to-image lung-nodule and inner-ear studies.

1024 Matrix Lung Image
Multiplanar reformation showing a solitary pulmonary nodule in the left upper lobe. Nodule presents with irregular margins, lobulate sign and hollowed pleura. There are clinical indicators for carcinoma.

High-Resolution Inner Ear
Coronal and axial multiplanar reformation showing the small structures of the inner ear (cochlea, semicircular canals and acicular).

“I like the additional anatomical coverage I get with QUAD SAMPLING technology and I really appreciate the quick scan times. I can get motion-free studies even from patients with breath-hold limitations.”
ClearView Iterative Reconstruction

By performing iterative image processing operations in both projection and image space, the noise that accompanies low-dose acquisitions can be removed while preserving all edges, gutters and anatomical detail and pathology.

Clinical Benefits:

ClearView transforms noisy, low-dose images into high-quality studies that deliver improved diagnostic capacity.

"Low-dose imaging shouldn’t leave you wondering if more than just the noise was removed in the image reconstruction. If you have to repeat a study due to image quality concerns, the benefit of an iterative reconstruction product is lost. Neusoft’s ClearView removes the noise, leaving a clear image that gives me diagnostic confidence."
A Focus on Low-Dose Design

**Advanced Detector Design**
Modular design delivers 99.9\% x-ray conversion efficiency, enhancing low-dose imaging.

**240° Exposure**
Dose to the patient is reduced.

**Organ Safe**
Reduces dose to radiosensitive organs — eyes, thyroid and breasts.

**Pediatric Protocols**
Protocols are designed specifically for pediatric anatomy.

**ClearView**
Provides diagnostic confidence to low-dose imaging.

**Dose Check**
Fully implemented Dose Check ensures that a patient cannot be over radiated.

**3-D Dose Modulation**
Tube current is modulated based on the anatomy in the scan field to deliver an anatomically optimized dose.

**ECG Dose Modulation**
Reduces tube current during non-imaging phases of the cardiac cycle to minimize patient dose.

“I have more imaging procedures in my future, so it eases my mind to know that the Neusoft CT will keep my exposure to a minimum while delivering the best images to guide my medical team.”
Robust, Low-Dose, Cardiac Imaging

By reducing the tube current during periods of the cardiac cycle when image data is not being acquired, patient dose can be significantly reduced. Low-dose cardiac images can be acquired and then processed with ClearView iterative reconstruction reducing patient dose.

Clinical Benefits:

The NeuViz 64 provides superior coronary artery visualization.

Reduced kV Cardiac scanning lowers patient dose.

Adaptive Multi-Segment Reconstruction improves temporal resolution for difficult cardiac rhythms.

“Organ-safe filters allow me to modify the dose profile to my patients based upon their size and the area of the body we are imaging. This helps me achieve “ALARA,” keeping patient x-ray dose to a minimum without compromising the quality of the study.”
Powerful Workstation (AVW) — with a full range of clinical applications

**Abdominal/Pelvis**  
Coronal MPR quickly and easily provides detailed clinical information.

**Brain CTA**  
This volume rendering of a low-dose brain image demonstrates superior diagnostic quality.

**Pulmonary Embolism**  
A maximum intensity projection (MIP) reformat provides clear, concise visualization of both thrombosis and occlusion.

**Run-Off CTA**  
Volume rendering (VR) studies takes advantage of the extended scanning range capability of the NeuViz 64.

**Lung Density**  
Advanced analytical software enables the quantification of pulmonary function.

**ECG-Gated Cardiac Scan**  
3-D reformats of a low-dose cardiac study provide a powerful tool for the diagnosis of coronary artery disease.

“As a CT tech, I really feel the workflow benefits of our Neusoft workstation. It makes it easy for the physician to view the study without interrupting patient scanning. It also allows me to reconstruct views for the radiologist and quickly provide my patients with a study CD to take with them.”
Brain Perfusion
Analysis of brain hemodynamics.

Virtual Colonoscopy
Full featured, complete with filet view and fly-through features.

Dental
Powerful tool for the design of prosthetics based on life-sized tooth modeling capabilities.

Neuro DSA
One-click technology allows for quick, intuitive reformatting so that head and neck vasculature can be clearly visualized.

“With other vendors, I’ve come to expect the hide-and-seek routine when evaluating CT systems. What’s included? What’s left out? Neusoft was a refreshing change providing a fully configured quote that clearly stated the short list of options. This made it easy to evaluate the configuration needed to meet our clinical and budget needs.”
Optimized, Intuitive Workflow

- Intuitive workflow and user interface guides the healthcare provider through the study using a “guided tool bar.”
- High-speed data acquisition and transmission increases patient throughput.
- Quick, easy-to-use post processing and diagnostic software applications.

FEATURES

- MPR/CMR, 3D/SSD, MIP/MinIP/AIP/VE/VR
- SAS on supported injectors, Bolus Tracking
- Networking 100/1000 Mbps
- Auto Voice and Film
- Volume Calculation
- Vessel Analysis
- ClearView IR
- Calcium Scoring
- Bone Removal
- Neuro DSA
- ECG gating
- Dental Analysis*
- Brain/Body Perfusion*
- Lung Density and 3D Lung Nodule Analysis*
- Coronary Artery and Cardiac Function Analysis*
- Neusoft Virtual Colonoscopy*
- Tumor Evaluation*
- CCT*
- Retrospective and Prospective Cardiac Imaging
- Organ Safe
- Quad-Sampling
- Pediatric Protocols
- Adaptive Multi-Segment Reconstruction
- Advanced Detector Design
- Improved, Intuitive User Interface
- High-Speed RF Data Transmission

* may be optional

“The NeuViz CT scanner helps me get my job done more efficiently because it works like I do. The interface is easy to use and understand eliminating any concerns about having to learn a new user interface.”
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### SPECIFICATIONS

<table>
<thead>
<tr>
<th>64 In</th>
<th>64 En</th>
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<tbody>
<tr>
<td><strong>Minimum room size</strong>&lt;br&gt;scan and operator combined</td>
<td>254 sq/ft</td>
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<tr>
<td><strong>Minimum ceiling height</strong></td>
<td>6’7”</td>
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<tr>
<td><strong>Gantry dimension (L x W x H)</strong>&lt;br&gt;7’ 4.75” x 2’ 11” x 6’ 3.6”</td>
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<tr>
<td><strong>Main power requirement</strong>&lt;br&gt;80 KVa</td>
<td>100 KVa</td>
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<tr>
<td><strong>Aperture</strong>&lt;br&gt;72cm</td>
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<tr>
<td><strong>Scan field</strong>&lt;br&gt;50cm</td>
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<tr>
<td><strong>Tilt</strong>&lt;br&gt;plus/minus 30°</td>
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<tr>
<td><strong>Rotation times</strong>&lt;br&gt;0.5s, 0.6s, 0.8s, 1.0s, 1.5s, 2.0s</td>
<td>0.39s, 0.5s, 0.6s, 0.8s, 1.0s, 1.5s, 2.0s</td>
</tr>
<tr>
<td><strong>Partial rotation times</strong>&lt;br&gt;0.32s, 0.39s, 0.52s, 0.65s, 0.97s, 1.3s</td>
<td>0.25s, 0.32s, 0.39s, 0.52s, 0.65s, 0.97s, 1.3s</td>
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<tr>
<td><strong>Temporal resolution</strong>&lt;br&gt;83ms</td>
<td>66.7ms</td>
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<tr>
<td><strong>Focus-to-isocenter distance</strong></td>
<td>570mm</td>
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<tr>
<td><strong>Focus-to-detector distance</strong></td>
<td>1040mm</td>
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<tr>
<td><strong>Detectors</strong>&lt;br&gt;32</td>
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<tr>
<td><strong>Slices</strong>&lt;br&gt;64</td>
<td></td>
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<tr>
<td><strong>Number of detector elements</strong></td>
<td>672x32</td>
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<tr>
<td><strong>Total channels per slice</strong></td>
<td>1344</td>
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<tr>
<td><strong>Number of projections</strong></td>
<td>4640</td>
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<tr>
<td><strong>Sequence acquisition modes</strong>&lt;br&gt;64x0.625, 32x0.625, 16x0.625, 8x0.625, 4x0.625, 2x0.625</td>
<td></td>
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<tr>
<td><strong>Spiral acquisition modes</strong>&lt;br&gt;64x0.625, 32x0.625, 16x0.625</td>
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<tr>
<td><strong>Detector</strong>&lt;br&gt;99.9% x-ray conversion efficiency; &lt;=2 us afterglow</td>
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<tr>
<td><strong>X-ray tube</strong>&lt;br&gt;CTR2250</td>
<td>CTR2280</td>
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<tr>
<td><strong>Tube current range</strong>&lt;br&gt;30mA~420 mA</td>
<td>30mA~667 mA</td>
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<tr>
<td><strong>Voltage</strong>&lt;br&gt;80kV, 100kV, 120kV, 140kV</td>
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<tr>
<td><strong>Heat storage</strong>&lt;br&gt;5.0 Mhu</td>
<td>8.0 Mhu</td>
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<tr>
<td><strong>Cooling rate</strong>&lt;br&gt;815 KHU/min</td>
<td>931 KHU/min</td>
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<tr>
<td><strong>Focal spot (mm)</strong>&lt;br&gt;0.6x1.2 (Small); 1.1x1.2 (Large)</td>
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<tr>
<td><strong>Filter</strong>&lt;br&gt;Al Equivalent Tube: 1.5mm Al</td>
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<tr>
<td><strong>Beam-limiting device</strong>&lt;br&gt;Equivalent to 6.68mm Al</td>
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<tr>
<td><strong>Generator</strong>&lt;br&gt;50KW</td>
<td>80KW</td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Maximum table load</strong>&lt;br&gt;205kg/452 lbs</td>
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<tr>
<td><strong>Table feed speed</strong>&lt;br&gt;1mm/s-160mm/s</td>
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<tr>
<td><strong>Verticle table/travel range</strong>&lt;br&gt;430mm-970mm</td>
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<tr>
<td><strong>Verticle travel speed</strong>&lt;br&gt;9 mm/s-15 mm/s</td>
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<tr>
<td><strong>Scannable range</strong>&lt;br&gt;1750mm</td>
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<tr>
<td><strong>Host computer</strong>&lt;br&gt;Intel Quad Core Xenon processor technology; 2.40 Ghz</td>
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<tr>
<td><strong>Display</strong>&lt;br&gt;1,280 x 1,024 resolution</td>
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<tr>
<td><strong>Image storage</strong>&lt;br&gt;500 GB; 960,000 uncompressed images</td>
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<tr>
<td><strong>Additional storage</strong>&lt;br&gt;CD-R, DVD</td>
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<tr>
<td><strong>Scout length</strong>&lt;br&gt;50-1700mm</td>
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<tr>
<td><strong>Scan times</strong>&lt;br&gt;1.5-18s</td>
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<tr>
<td><strong>Scout views</strong>&lt;br&gt;AP, Lateral, Dual</td>
<td></td>
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<tr>
<td><strong>Axial reconstructed slice thicknesses</strong>&lt;br&gt;0.625, 1.25, 2.5, 5, 10mm</td>
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<tr>
<td><strong>Dynamic multi-scan</strong>&lt;br&gt;Multiple continuous scans without table movement</td>
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<tr>
<td><strong>Spiral acquisition reconstruction slice thicknesses</strong>&lt;br&gt;0.625, 0.8, 1, 1.25, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10mm</td>
<td></td>
</tr>
<tr>
<td><strong>Spiral acquisition reconstruction slice thicknesses</strong>&lt;br&gt;0.625, 0.8, 1, 1.25, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10mm</td>
<td></td>
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<tr>
<td><strong>Slice increment</strong>&lt;br&gt;0.1-20mm</td>
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<tr>
<td><strong>Maximum scan time</strong>&lt;br&gt;100 seconds</td>
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<tr>
<td><strong>Pitch</strong>&lt;br&gt;.13-2.0</td>
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<tr>
<td><strong>Real-time display</strong>&lt;br&gt;Yes</td>
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<tr>
<td><strong>Scan field</strong>&lt;br&gt;50cm</td>
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<tr>
<td><strong>Recon field</strong>&lt;br&gt;5-50cm</td>
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<tr>
<td><strong>Recon matrices</strong>&lt;br&gt;512x512, 768x768, 1024x1024</td>
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<tr>
<td><strong>HU scale</strong>&lt;br&gt;-3,2768 to +3,2767</td>
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<tr>
<td><strong>Recon speed</strong>&lt;br&gt;20 images/second</td>
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<tr>
<td><strong>Cine display rate</strong>&lt;br&gt;30 images/sec</td>
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<tr>
<td><strong>Full DICOM support</strong>&lt;br&gt;Yes</td>
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<tr>
<td><strong>Low-contrast resolution</strong>&lt;br&gt;4mm @ 3HU; 19.8 mGy</td>
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<tr>
<td><strong>High-contrast resolution</strong>&lt;br&gt;0%MTF 17lp/cm</td>
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