



NeuViz 64

The NEW Standard in Multi-Slice CT Scanners

Neusoft[®]



Setting a New Pace in CT Evolution



NeuViz 64

The NeuViz 64 is the most recent innovation in CT product offerings.

The new 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.

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



64i

For the radiology department, the 64i delivers 64-slice imaging at a 16-slice price.

64e Basic

Delivers maximum tube power and is upgradeable for cardiac imaging.

64e Cardiac

Neusoft's most powerful, full-featured cardiac imaging system.

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 dynamically deflecting the focal spot in both the axial and longitudinal planes, the NeuViz 64 increases sampling density, improving resolution, reducing artifacts and extending scanning ranges.

High-Efficiency Detector

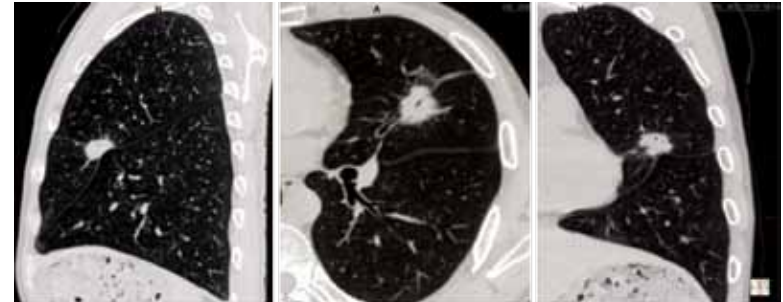
A patented manufacturing process reduces afterglow (< 2 us) and maximizes dose efficiency (99.99%). This results in the lowest possible patient dose and superior image quality.



"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."

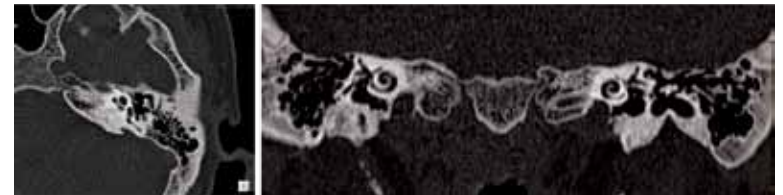
Clinical Benefits:

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.



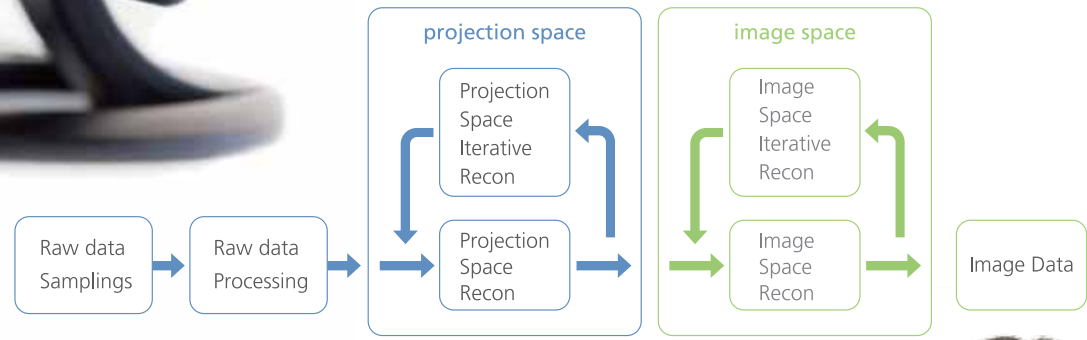
High-Resolution Inner Ear

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



ClearView Iterative Reconstruction

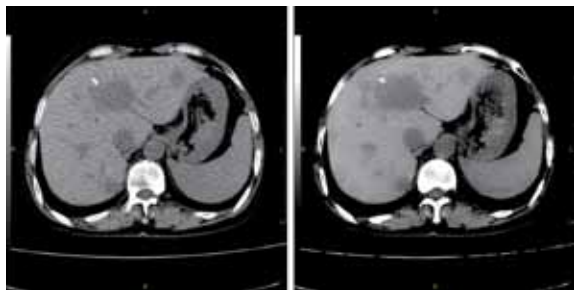
By performing iterative image processing operations in both projection and image space, the noise that accompanies low-dose acquisitions can be removed while preserving all edges, troughs and anatomical detail and pathology.



ClearView operational schematic

Clinical Benefits:

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



Low-dose image without ClearView

Low-dose image with ClearView

"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."





"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."

A Focus on Low-Dose Design

Shape Filter

Removes the x-ray dose that does not contribute to a diagnostic image. It is automatically deployed based upon patient age and weight. Patient dose is reduced without compromising image quality.

New 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.

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 to $\leq 3\text{mSv}$.

Clinical Benefits:

The NeuViz 64 provides superior coronary artery visualization.

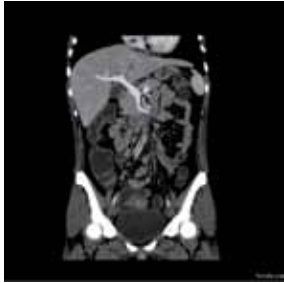
Reduced KV Cardiac scanning lowers patient dose.

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

"Organ-safe and shape 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.



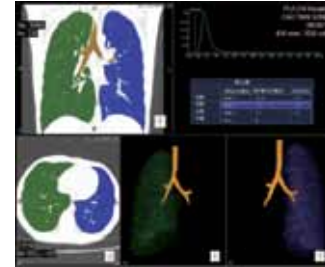
Long Leg Run-Off CTA
Volume rendering (VR) studies takes advantage of the extended scanning range capability of the NeuViz 64.



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



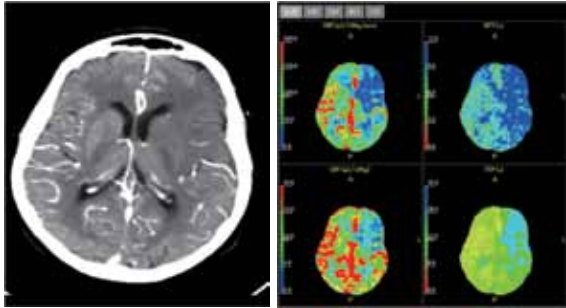
ECG-Gated Cardiac Scan
3-D reformats of a low-dose cardiac study provide a powerful tool for the diagnosis of coronary artery disease.



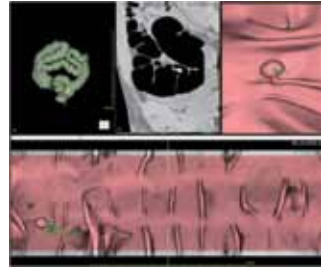
Lung Density
Advanced analytical software enables the quantification of pulmonary function.



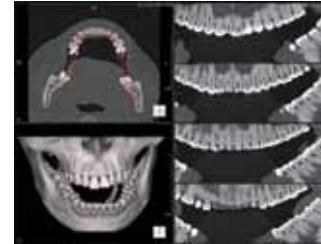
"As a CT tech, I really feel the workflow benefits of our Neusoft workstation. It makes it easy for the physician to view the study without interrupting patient scanning. It also allows me to reconstruct views for the radiologist and quickly provide my patients with a study CD to take with them."



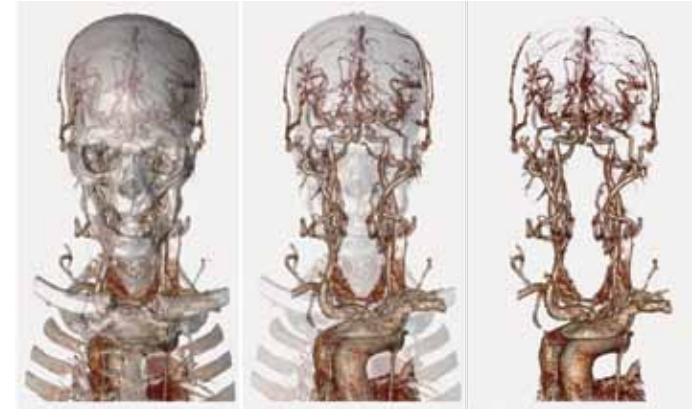
Brain Perfusion
Analysis of brain hemodynamics.



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."

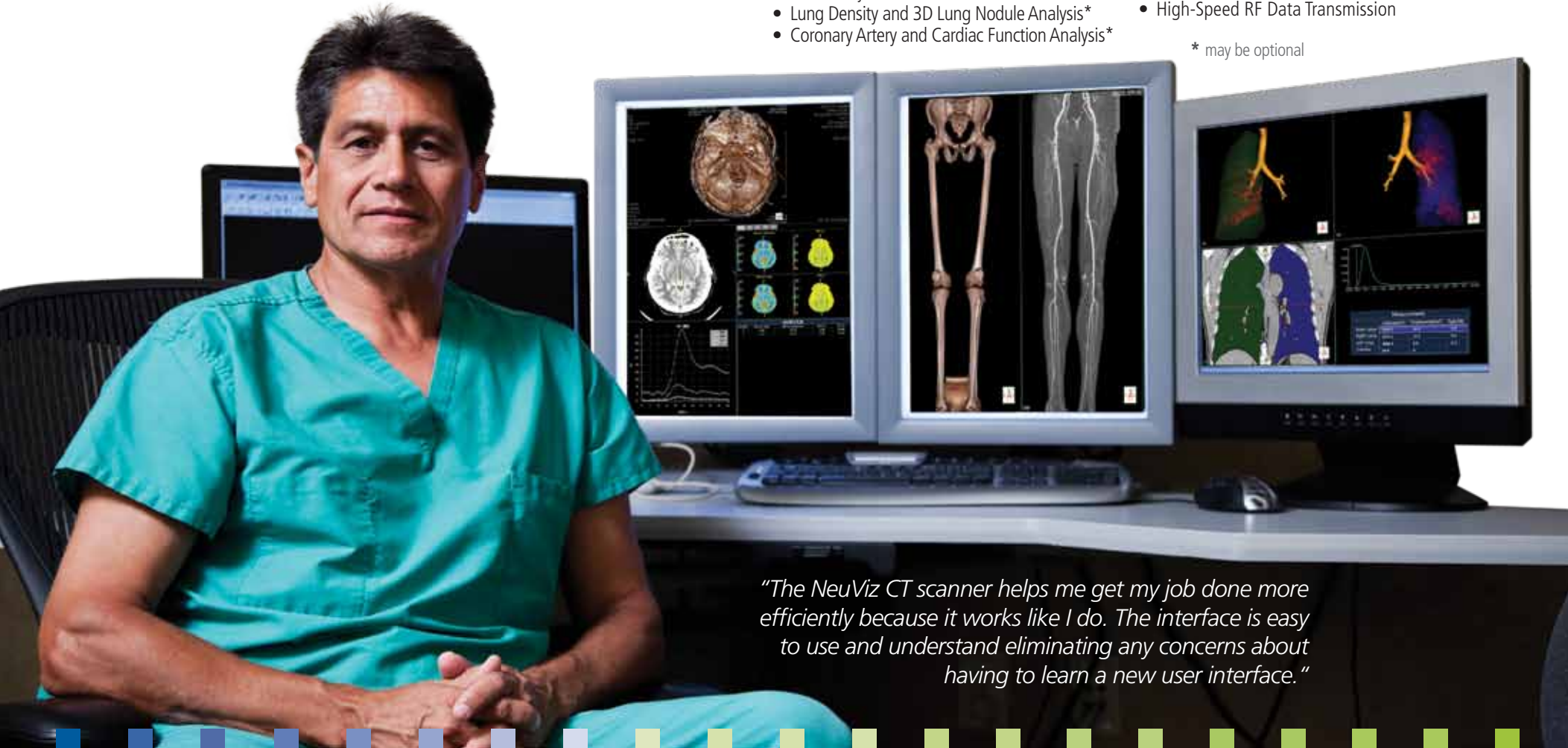
Optimized, Intuitive Workflow

- 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*
- Rendscopy CTC*
- QCT*
- Tumor Evaluation*
- CCT*
- Retrospective and Prospective Cardiac Imaging
- Organ Safe
- Quad-Sampling
- Pediatric Protocols
- Adaptive Multi-Segment Reconstruction
- Shape Filter
- 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.”

| SPECIFICATIONS | 64i | 64e Basic & 64e Cardiac |
|--------------------------------------------|---------------------------------------------------------|-----------------------------------------------|
| Minimum room size scan & operator combined | 254 sq/ft | |
| Minimum ceiling height | 6'7" | |
| Gantry dimension (L x W x H) | 7' 4.75" x 2' 11" x 6' 3.6" | |
| Main power requirement | 80 KVa | 100 KVa |
| Aperture | 70cm | |
| Scan field | 50cm | |
| Tilt | plus/minus 30° | |
| Rotation times | 0.5s, 0.6s, 0.8s, 1.0s, 1.5s, 2.0s | 0.39s, 0.5s, 0.6s, 0.8s, 1.0s, 1.5s, 2.0s |
| Partial rotation times | 0.32s, 0.39s, 0.52s, 0.65s, 0.97s, 1.3s | 0.25s, 0.32s, 0.39s, 0.52s, 0.65s, 0.97s, 1.3 |
| Temporal resolution | 83ms | 66.7ms |
| Focus-to-isocenter distance | 570mm | |
| Focus-to-detector distance | 1040mm | |
| Detectors | 32 | |
| Slices | 64 | |
| Number of detector elements | 672x32 | |
| Total channels per slice | 1344 | |
| Number of projections | 4640 | |
| Sequence acquisition modes | 64x0.625, 32x0.625, 16x0.625, 8x0.625, 4x0.625, 2x0.625 | |
| Spiral acquisition modes | 64x0.625, 32x0.625, 16x0.625 | |
| Detector | 99.9% x-ray conversion efficiency; <2 us after glow | |
| X-ray tube | CTR2250 | CTR2280 |
| Tube current range | 30mA~420mA | 30mA~600mA |
| Voltage | 80kV, 100kV, 120kV, 140kV | |
| Heat storage | 5.0 Mhu | 8.0 Mhu |
| Cooling rate | 815 KHU/min | 931 KHU/min |
| Focal spot (mm) | 0.6x1.2 (Small); 1.1x1.2 (Large) | |
| Filter | Al Equivalent Tube: 1.5mm Al | |
| Beam-limiting device | Equivalent to 6.68mm Al | |
| Generator | 50KW | 80KW |

| SPECIFICATIONS | 64i | 64e Basic & 64e Cardiac |
|-----------------------------------------------------|-------------------------------------------------------------|-------------------------|
| Maximum table load | 205kg/452 lbs | |
| Table feed speed | 1mm/s-160mm/s | |
| Verticle table/travel range | 430mm-970mm | |
| Verticle travel speed | 9 mm/s-15 mm/s | |
| Scannable range | 1750mm | |
| Host computer | Intel DUAL Core Xenon processor technology; 2.40 Ghz | |
| Display | 1,280 x 1,024 resolution | |
| Image storage | 500 GB; 960,000 uncompressed images | |
| Additional storage | CD-R, DVD | |
| Scout length | 50-1700mm | |
| Scan times | 1.5-18s | |
| Scout views | AP, Lateral, Dual | |
| Axial reconstructed slice thicknesses | 0.625, 1.25, 2.5, 5, 10mm | |
| Dynamic multi-scan | Multiple continuous scans without table movement | |
| Spiral Acquisition Reconstruction Slice Thicknesses | 0.625, 0.8, 1, 1.25, 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10mm | |
| Slice increment | 0.1-20mm | |
| Maximum scan time | 100 seconds | |
| Scan length | 1700mm | |
| Pitch | .13-2.0 | |
| Real-time display | Yes | |
| Scan field | 50cm | |
| Recon field | 5-50cm | |
| Recon Matrix | 512x512, 768x768, 1024x1024 | |
| HU scale | -1,0240 to +3,2767 | |
| Recon speed | 20 images/second | |
| Cine display rate | 30 images/sec | |
| Full DICOM support | Yes | |
| Low-contrast resolution | 4mm @ 3HU; 19.8 mGy | |
| High-contrast resolution | 0%MTF 17lp/cm | |

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