NeuViz 64

The NEW Standard in Multi-Slice CT Scanners

Neusoft®

Setting a New Pace in CT Evolution

2012 NeuViz 64

2008 NeuViz 16

2007 Over 1000 CT installations worldwide

2006 NeuViz Dual

2004 Neusoft forms a joint venture with Philips Medical Systems

2002 CT-C2800/3000 Dual

2000 CT-C2800/3000

1998 CT-C2000

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 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.

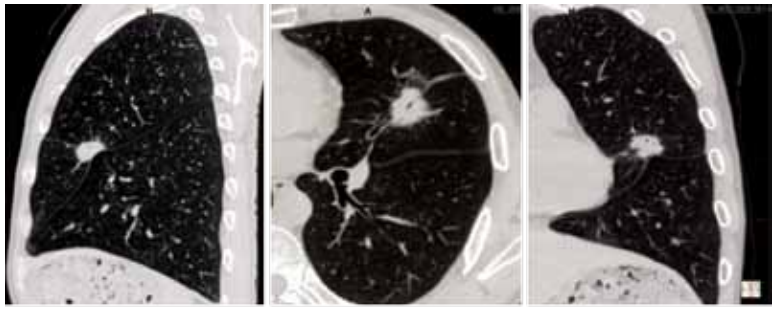
High-Efficiency Detector

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.

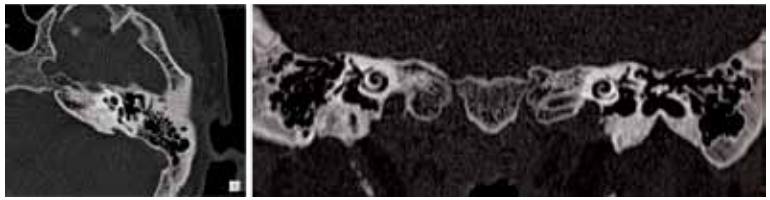
"I like the additional anatomical coverage I get with QUAD SAMPLING technology and I really appreciate the quick scan times. I can get motion-free studies even from patients with breath-hold limitations."

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.



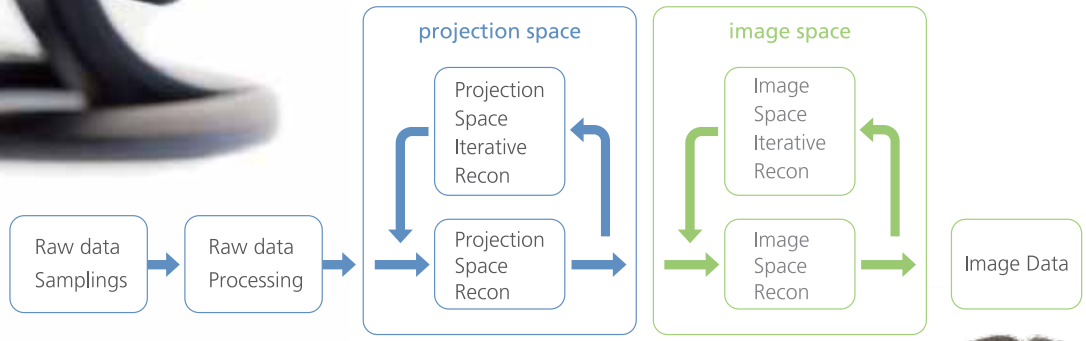
1024 Matrix Lung Image
Multiplanar reformation showing a solitary pulmonary nodule in the left upper lobe. Nodule presents with irregular margins, lobulate sign and hollowed pleura. There are clinical indicators for carcinoma.



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

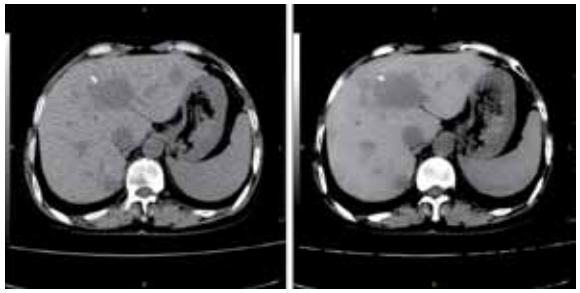
By performing iterative image processing operations in both projection and image space, the noise that accompanies low-dose acquisitions can be removed while preserving all edges, gutters and anatomical detail and pathology.



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.

240º 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 =< 3mSv.

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 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

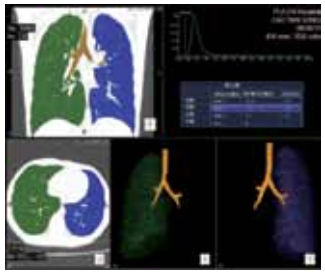
Abdominal/Pelvis
Coronal MPR quickly and easily provides detailed clinical information.

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

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

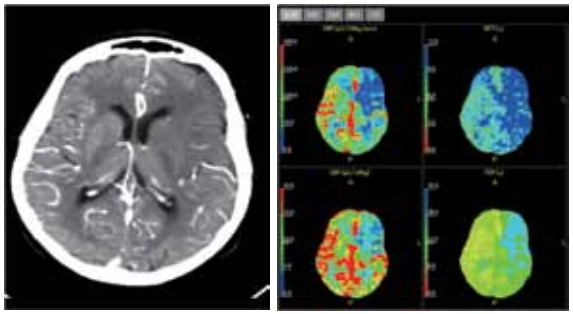
Pulmonary Embolism
A maximum intensity projection (MIP) reformat provides clear, concise visualization of both thrombosis and occlusion.

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

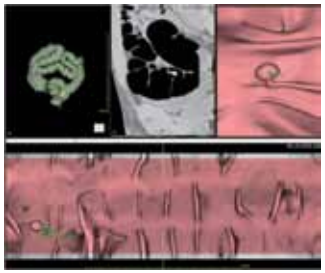


Lung Density
Advanced analytical software enables the quantification of pulmonary function.

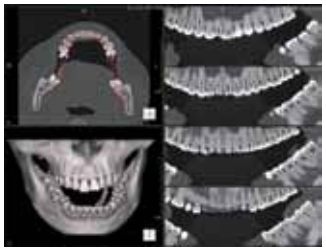
"As a CT tech, I really feel the workflow benefits of our Neusoft workstation. It makes it easy for the physician to view the study without interrupting patient scanning. It also allows me to reconstruct views for the radiologist and quickly provide my patients with a study CD to take with them."



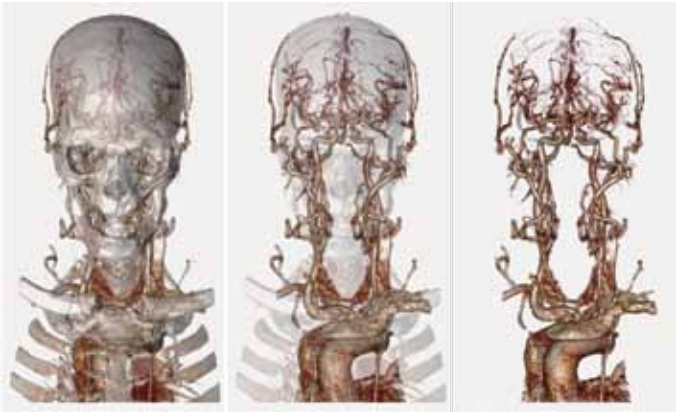
Brain Perfusion
Analysis of brain hemodynamics.



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."

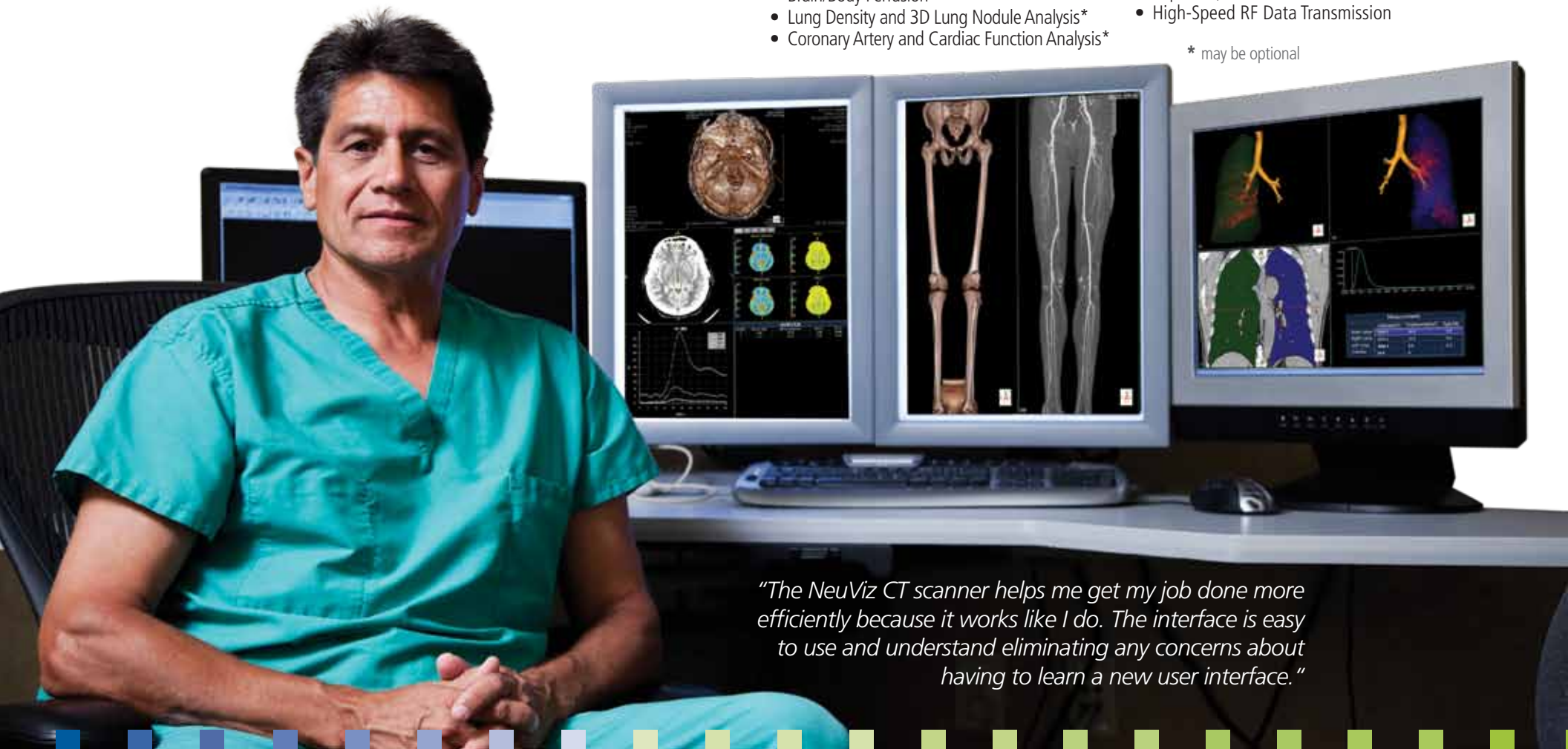
Optimized, Intuitive Workflow

- 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/CMPR,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*
- Rendoscopy 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 30º	
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 afterglow	
X-ray tube	CTR2250	CTR2280
Tube current range	30mA～420 mA	30mA～667 mA
Voltage	80kV, 100kV, 120kV, 140kV	
Heat storage	5.0 Mhu	8.0 Mhu
Cooling rate	815 KHU/min	931 KHU/min
Focal spot (mm)	0.6×1.2 (Small); 1.1×1.2 (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 reconstucted 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 Matris	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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