Key benefits include:

- High diagnostic image quality at lower dose for all patients and for most complex CT exams.
- Up to 60% dose reduction with SAFIRE* technology.
- Generates ultra-thin slices to routinely deliver high spatial resolution images that visualize even the finest image details for procedures such as enhanced calcified plaque and stent analysis.
- Increased signal-to-noise ratio on obese patients.
- 0.3-mm spatial resolution.

*In clinical practice, the use of SAFIRE may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. The following test method was used to determine a 54-60% dose reduction when using the SAFIRE reconstruction software. Noise, CT numbers, homogeneity, low-contast resolution, and high-contrast resolution were assessed in a Gammex 438 phantom. Low-dose data reconstructed with SAFIRE showed the same image quality compared to full-dose data based on this test. Data on file.

The outcomes achieved by the Siemens customers described herein were achieved in the customers' unique settings. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), there can be no guarantee that others will achieve the same results.

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Local Contact Information
Siemens Medical Solutions USA, Inc.
51 Valley Stream Parkway
Malvern, PA 19355-1406
USA
Phone: +1-888-826-9702
www.usa.siemens.com/healthcare

Global Business Unit
Siemens AG
Medical Solutions
Computed Tomography &
Radiation Oncology
Siemensstr. 1
DE-91301 Forchheim
Germany
Phone: +49 9191 18-0
www.siemens.com/healthcare

Global Siemens Headquarters
Siemens AG
Wittelsbacherplatz 2
80333 Muenchen
Germany

Global Siemens Healthcare Headquarters
Siemens AG
Healthcare
Henkestrasse 127
91052 Erlangen
Germany
Phone: +49 9131 84-0
www.siemens.com/healthcare

Legal Manufacturer
Siemens AG
Wittelsbacherplatz 2
DE-80333 Muenchen
Germany

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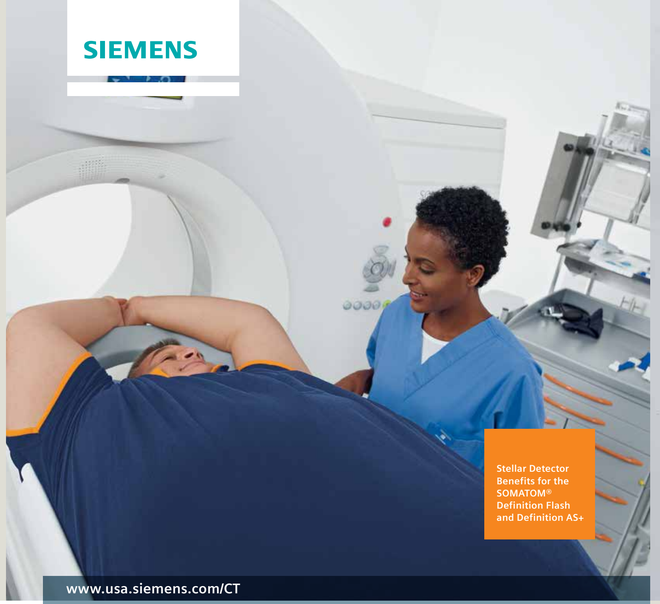

Stellar Detector Benefits for the SOMATOM® Definition Flash and Definition AS+

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Stellar Detector

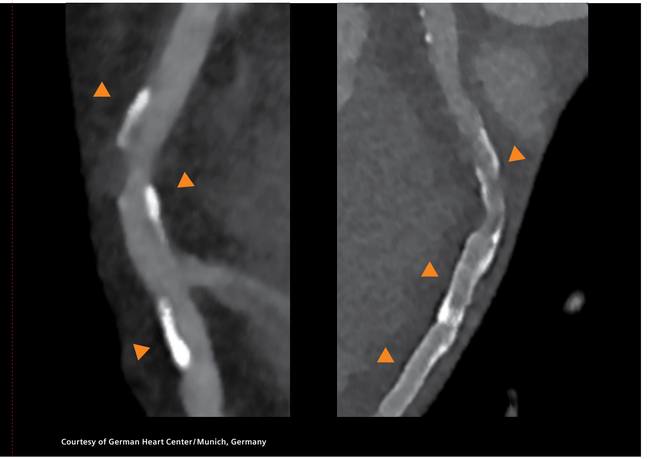
Excellent image quality at lower dose for most complex CT exams

Answers for life.

Stellar Detector— The First Fully Integrated Detector

The Stellar Detector in the SOMATOM® Definition Flash or Definition AS+ generates ultra-thin slices with very high spatial resolution for an extremely high level of visual detail. It provides ultra-low-signal imaging, which is invaluable, especially for obese and pediatric patients or Dual Energy applications.

Increased Sharpness and Reduced Blooming

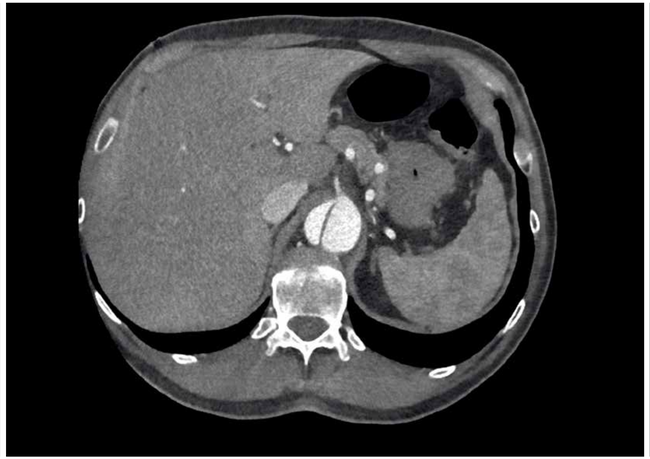


Courtesy of German Heart Center/Munich, Germany

The Stellar Detector provides high-quality imaging at a temporal resolution of 75 ms for sound calcified lesion evaluation and exclusion of in-stent restenosis in stents. The full electronic integration of the Stellar Detector elements minimizes cross-talk between neighboring detector rows. This significantly reduces slice blurring, resulting in a more precise slice profile, and generates 0.5-mm slices at a spatial resolution of 0.30 mm without increasing dose.

Adaptive Cardio Sequence
temp resolution: 75 ms
collimation: 128 x 0.6 mm
spatial resolution: 0.30 mm
scan length: 138 mm
rotation time: 0.28 s
120 kV, 296 mAs/rotation
heart rate: 69 bpm
CTDIvol: 11.0
DLP: 152 mGycm
eff. dose: 2.1 mSv

Less Noise for Improved Image Quality

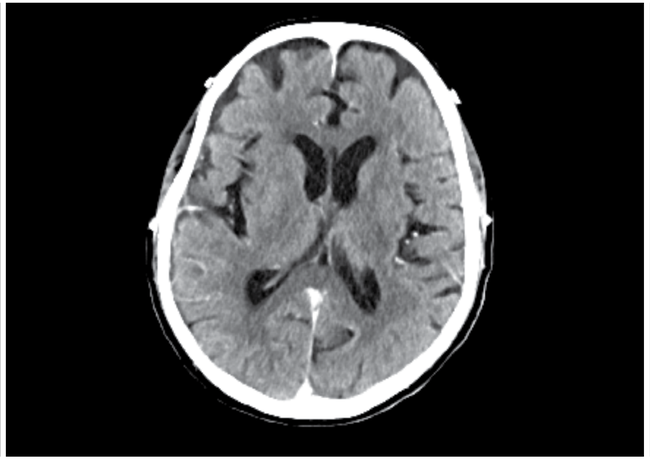


The full electronic integration of the Stellar Detector elements means that no analog electronic components or cables and connectors are mounted on the elements. This enables the Stellar Detector to minimize electronic noise, which significantly increases the signal-to-noise ratio for improved utilization of low signals at the detector, and supports improved image quality in all clinical examinations.

Flash Spiral* Scanning
collimation: 64 x 0.6 mm
spatial resolution: 0.30 mm
scan time: 2 s
scan length: 500 mm
rotation time: 0.28 s
120 kV, 72 eff. mAs
CTDIvol: 6 mGy
DLP: 300 mGycm
eff. dose: 4.4 mSv

*Flash Spiral is only available on the SOMATOM Definition Flash.

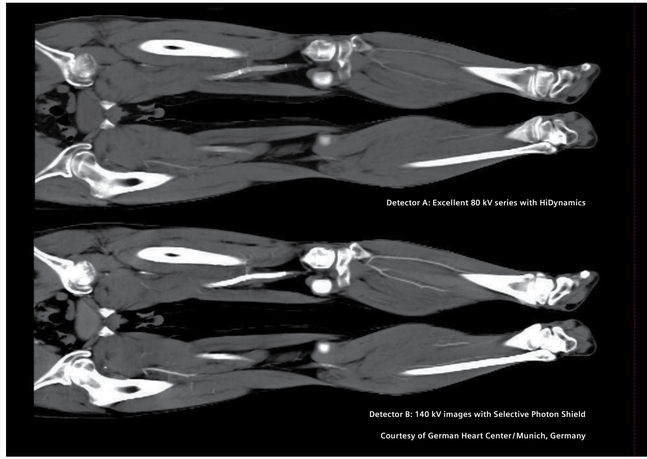
Improved Grey-White Matter Differentiation



The Stellar Detector improves visualization of bleeding, brain injury, and skull fractures in patients with head injuries with excellent grey-white matter differentiation for increased diagnostic certainty—while X-CARE protects the patient's eyes. It supports decision-making with unprecedented image sharpness without increasing image noise through Edge Technology. Additionally, TrueSignal Technology increases signal-to-noise ratio because of its more efficient X-ray quanta processing. Grey-white matter differentiation may also be used to visualize the early signs of a stroke.

X-CARE Acquisition
collimation: 64 x 0.6 mm
scan time: 8 s
scan length: 90 mm
rotation time: 1.0 s
100 kV, 580 eff. mAs
CTDIvol: 54 mGy
DLP: 608 mGycm
eff. dose: 1.3 mSv

High-Resolution Imaging and Low kV CT



Detector A: Excellent 80 kV series with HiDynamics

Detector B: 140 kV images with Selective Photon Shield

Courtesy of German Heart Center/Munich, Germany

The Stellar Detector with TrueSignal Technology makes HiDynamics imaging possible. Its full electronic integration significantly extends the dynamic bandwidth, which increases the image detail level especially for low-contrast objects in close proximity to high-contrast objects. This is important for low-kV scans, such as in the 80 kV data-set of Dual Energy scans or in 70 kV pediatric examinations.

Dual Energy Acquisition
collimation: 64 x 0.6 mm
spatial resolution: 0.30 mm
scan time: 24 s
scan length: 975 mm
rotation time: 0.33 s
80/140 kV, 121/53 eff. mAs
CTDIvol: 4.3 mGy
DLP: 419 mGycm
eff. dose: 1.6 mSv