

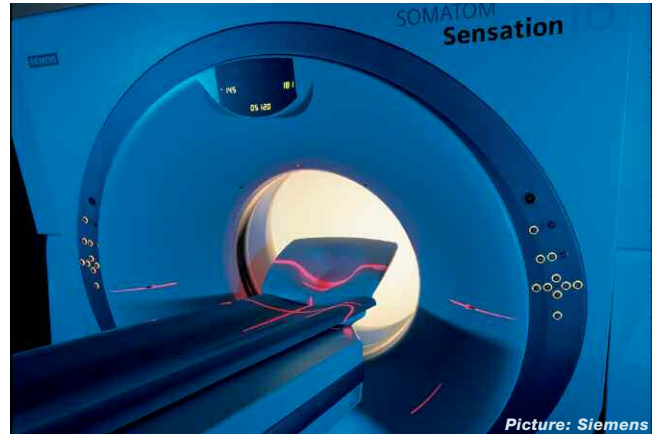
Siemens Computer Tomography with LWL Technology

Project

The best is just good enough: Siemens computer tomography with Hirschmann fiber optic cable technology.

About every fourth scan with computer tomography worldwide is performed with a CT system from Franken Forchheim. Siemens develops and produces worldwide state-of-the-art technology here.

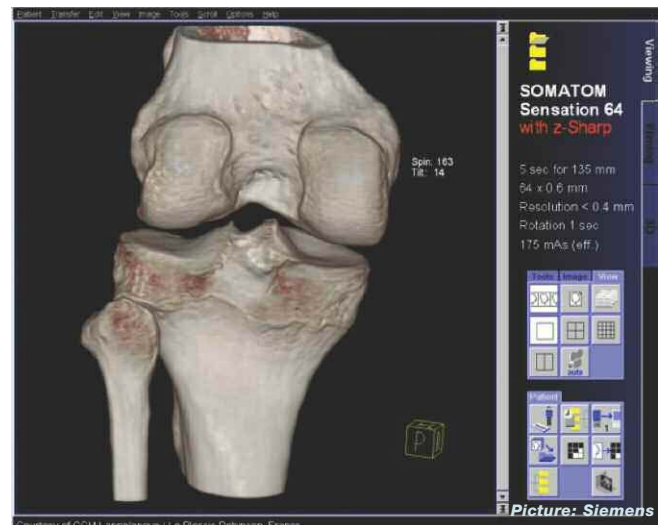
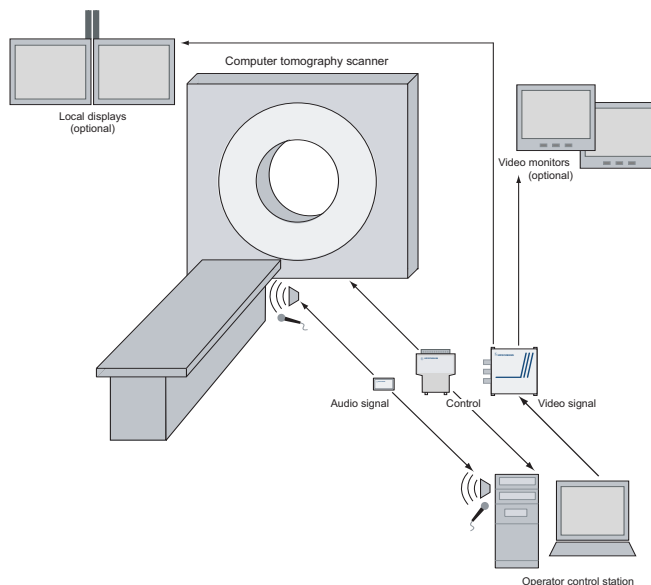
The highest demands are made on the representation of the computer-generated images. The fiber optic cable technology by Hirschmann makes a contribution here.



State-of-the-art technology made by Siemens: recording unit of modern computer tomography.

SIEMENS

Network diagram



New computer tomographs generate extraordinary sharp pictures.

Key products



OEVR 150M M 3 FSMA



OEVR 150M FSMA



OSVR 150M-PCI64 FSMA

Project details:

Computer tomography involves state of the art X-ray devices which offer completely new possibilities to physicians in medical diagnostics. The devices provide three-dimensional X-ray images and even moving images in real time. Modern flat detectors ensure a small, necessary exposure dose, which place only a minimum load on patients. While recording the X-rays, the X-ray device rotates at a high speed around the patient. The recorded raw data are sent to a powerful computer outside the patient area. That is where the actual image data is produced. It is sent to multiple viewing devices, and to patients as well, where high safety regulations regarding current safety must be followed. A sure diagnosis relies on that the images produced at great cost must be transmitted and displayed free of error. Safety and quality are ensured by fiber optic transmission systems.



Picture: Siemens

The X-ray device sets new standards in quality, resolution, and speed.

Project parameters

- Spatial X-ray image resolution 0.4mm
- Rotation of the recording unit in 370ms
- High-resolution X-ray detector lines with 64 simultaneous data channels
- Oscillation of the X-ray beam in the direction of the rotational axis at 5kHz.
- Two simultaneously working X-ray systems for heart-beat analysis
- Maximum power of the X-ray tubes is 60 kW at 140kV
- Image matrix 1280 * 1024 pixels

Requirement

- Transmission non-sensitive against disturbances by using fiber optic cable
- No worsening of the high-resolution image with longer cable lengths over a high bandwidth of the fiber optics
- Electrical isolation between patient area and diagnostic workplace due to material of fiber optics.

Solution

- Image data from the computer to the patient area and diagnostic rooms
- Audio connection between patient and doctor.
- Control signals between operating console and CT scanner
- 30m to 150m.
- 1 to 3 LWL video transmission paths
- 3 Audio paths
- 1 V.24 LWL connection

Why Hirschmann?

- Precise transformation on high-resolution images in optical signals
- Adapted mechanical design
- High quality standard

Germany

Hirschmann Automation and Control GmbH
Stuttgarter Straße 45-51
72654 Neckartenzlingen
Postfach 1649, 72606 Nürtingen
Phone. +49-71 27-14-14 80
Fax +49-71 27-14-14 95/-14 96
e-mail: sales@hirschmann.de