SHIMADZU
Excellence in Science

C506-E081E

SONIALVISION G4 LX edition

Multi-purpose Digital R/F System

Better Decisions in Different Examination Environments

Multi-purpose Digital R/F System

SONIALVISION™ G4 LX edition









With the SONIALVISION G4, Shimadzu offers a multi-functional universal system —one that is useful in a variety of examinations and examination environments, providing optimal image quality, ease of operation, and accommodating patients' comfort.

High Quality Images in Real Time

High-resolution and high-contrast images are achieved with real-time image processing.



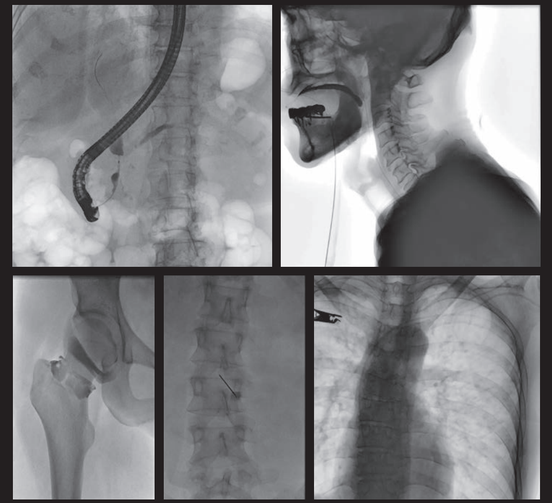


View both legs, entire chest, or abdomen with a large field of view (up to 17 × 17 inches). Switch to a small field of view for detailed examinations of fingertips or other orthopedic regions.

Advanced digital image processing

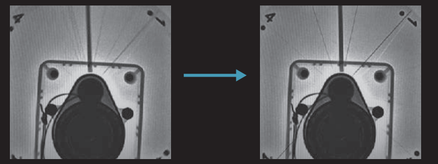
SCORE PRO Advance

SONIALVISION G4 provides sharp and clear images in various examinations. Especially with fluoroscopy, the background noise component is reduced in real time and the target object is emphasized efficiently.
SCORE PRO Advance offers lower exposure levels and optimal image quality.



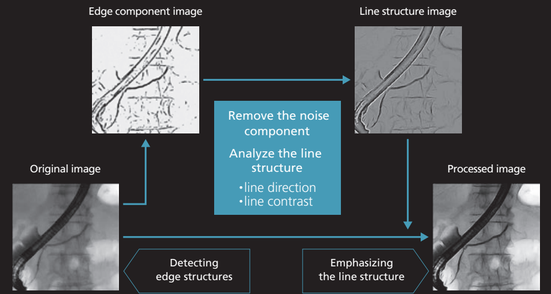
Adoption of the motion tracking noise reduction

By performing block matching between frames, and recursive processing between the most matched blocks, noise is efficiently reduced without any lag.



Line detected edge enhancement

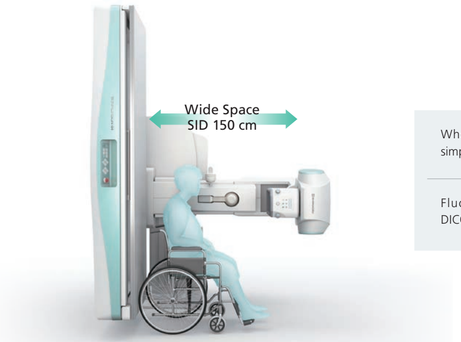
Emphasizes only the target object without enhancing background noise.



Gastrointestinal Series and Swallowing Examination (Video fluoroscopy)

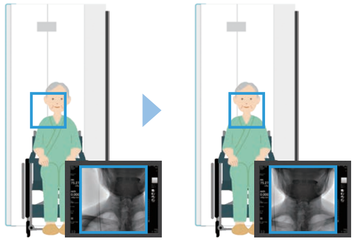
17 x 17 inches of large field of view and high image quality support a wide range of examinations, from routine checkups to specialized examinations and observations.





Wheelchair patients can be examined simply by extending the SID.

Fluoroscopic images can be saved in DICOM format.



Smart FOV (Field of View) OPTION

Even if the region of interest is not centered on the monitor, the position of the field of view can be easily adjusted without moving the patient.

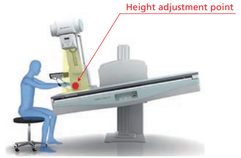
*This function is only available at 15 fps or lower.

Urological Examination

Urological imaging with a large field of view while being dose conscious, together with a wealth of additional functions, is provided in support of urological examination.

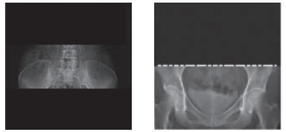
The edge of the imaging range can be positioned as close as 9.5 cm from the head-end of the table (given a 17-inch FOV), making it easy to perform procedures using an optical endoscope.

Uro Tracking



The table can be tilted relative to any reference position. Examinations can be performed without changing the region of interest height, even if the table is tilted moved without moving the patient.

Uro collimation



Normal collimation

Uro collimation

A specialized collimation function is used for effective dose reduction.

Options for urological examinations OPTION

A full range of urological accessories, such as Leg support and Drain bag, endoscopy support.



Leg support



Disposable drain bag



Voiding cystography chair



Foot controller



Endoscopic Examinations

Achieves both the high image quality and low dose levels necessary for sophisticated interventional procedures.



*The monitor support is not included in the system.
It is purchased item from other manufactures.

The vertical drive unit on the back side of the R/F table is designed to be very compact.
That ensures a high degree of freedom for laying out systems in combination
with a monitor support system.

Achieves High Image Quality with Low Exposure Levels

SCORE PRO Advance

Noise components are reduced in real time to efficiently enhance only the target areas being observed. That enables both intensive exposure reduction and improved fluoroscopic image quality even for biliopancreatic endoscopy.



The flat gutter-free table top design provides easy patient transfer and is easy to clean.
A wide, fully flat table with a high weight capacity enhances patient safety even during endoscopy procedures.



Angiography Examinations

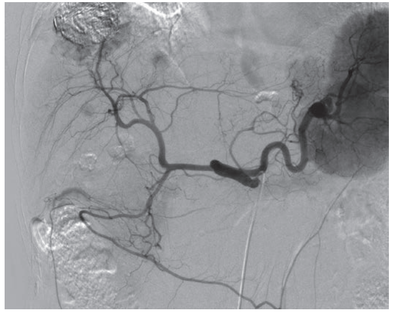
Blood vessels can be observed over a large area (Max. 17 x 17 inches).

DA (Serial radiography)

Maximum pulse rate 15 fps

DSA OPTION

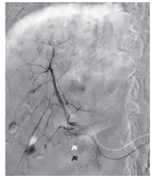
Maximum pulse rate 7.5 fps
Remask processing
Reregistration processing
Stacking processing
Land-marking Processing
Road-map fluoroscopy



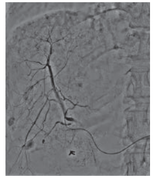
Movement-tolerant DSA RSM-DSA (Real time Smoothed Mask DSA)

RSM-DSA is a mask-free DSA imaging technique that Shimadzu succeeded in developing first in the market. Misregistration due to respiratory or body movements is less likely to occur, so the patient does not need to hold his or her breath during the test.

That means both DSA images and RSM-DSA images can be obtained from a single exposure, so that the RSM-DSA mode can be enabled to continue an examination if the patient moves.

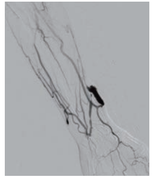


Ordinary DSA of Hepatic Artery

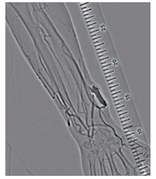


RSM-DSA of Hepatic Artery

More information can be obtained by comparing images to DSA images, such as by determining the relative positions of blood vessels and bones or displaying a scale with images.



Ordinary DSA of Shunt

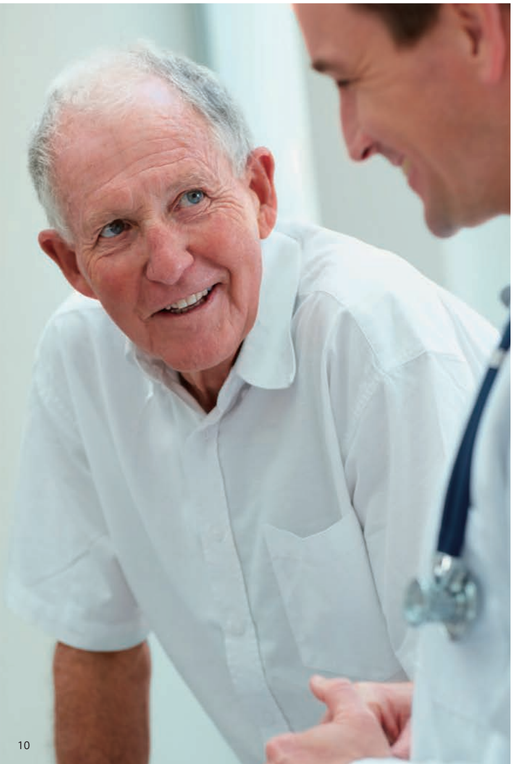


RSM-DSA of Shunt



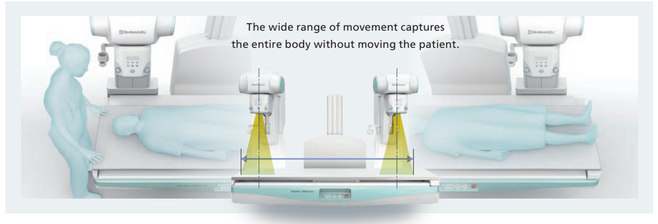
Orthopedic and General Radiography

The large field of view provides the flexibility to accommodate a wide variety of radiographic examinations.



Versatile Design for Various Examinations

The system has been thoughtfully designed to accommodate all users in a diversity of situations, making it ideal for a wide variety of examinations.

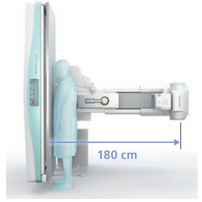




High-quality imaging with minimal halation is possible even with a large field of view.



The X-ray tube can be rotated 90°, allowing for imaging while using a stretcher.

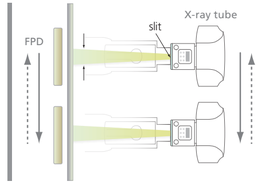


Simple chest imaging is possible by extending the X-ray tube column. OPTION

Applications for Supporting Orthopedic Examinations

SLOT Advance OPTION

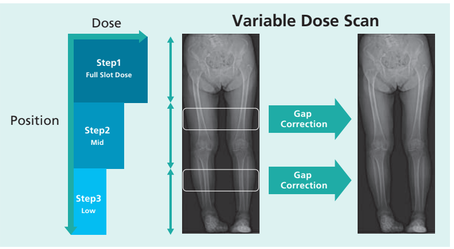
This produces long-view images by focusing X-rays through a slot as the imaging unit is moved parallel to the patient in order to acquire successive images that are automatically stitched together into a single long image.



A series of slot-shaped images is acquired several centimeters apart as the imaging unit (X-ray tube and FPD) is moved.



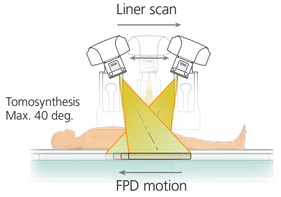
Slot images are automatically stitched together to create a single long-view image.



Lower dose SLOT Radiography (for lower limbs only)

Based on the thickness of the patient's body, the X-ray conditions are adjusted automatically, ensuring that an optimal amount of X-ray is radiated.

Tomosynthesis OPTION



Imaging technology that fuses cone-beam CT reconstruction with digital image processing.

Dual Linear Drive Tomosynthesis

This tomosynthesis radiography method moves the FPD parallel to the X-ray tube focal point. Tomosynthesis can increase the amount of information provided in images by minimizing the truncation area of incident X-rays and reconstructing a larger effective area. The smaller truncation areas also result in less radiation exposure that does not contribute to diagnosis.



T-smart PRO assisted by AI*

Shimadzu's Proprietary Reconstruction Method that Reduces Metal Artifacts

T-smart tomosynthesis includes AI image processing functionality based on deep learning technology. That means tomosynthesis images reconstructed with metal artifacts minimized can be acquired easily by simply pressing the exposure button one time to reduce the time and effort required for examinations.



*The AI (Artificial Intelligence) technology used in T-smart PRO is a "trained model" that was trained at some point and performed accuracy evaluation. It doesn't continue learning after installation.

Precise positioning without compromise

The combination of SONIALVISION G4 and the secondary X-ray tube enables accurate positioning, reduces retakes, minimizes operator workload, and supports smoother, more efficient examinations.



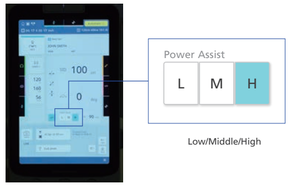
Power Assist Function OPTION

POWER GLIDE function



Motors assist handle operations. This reduces the burden on operators during movements by enabling the ceiling-mounted X-ray tube support to be moved quickly and lightly.

Change Assist Levels with One Touch



Large movements can be made quickly with lighter force, and precision movements can be made for detailed positioning.

The Vision Reflects New Possibilities

VISION SUPPORT OPTION

Positioning | **Pre-check Before Exposure** | **Exposure** | **Check the Image**

Retakes-positioning

Reduces Positioning Effort and Improves Accuracy

Live View Display

Showing overlay of detector area, irradiation field and AEC pickup fields*



*Guide line overlay is for reference only.

Less Retakes Due to the Positioning Error

Protocol Match Check

Automatically detecting the positioning error based on the selected protocol

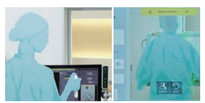


*Available depending on the DR system configuration.

Reduces Frequency of Retakes due to Body Movement

Motion Detection

Patient body movement can be confirmed*



*Check the patient's condition, even directly visually.

Smoother Positioning Correction during Retakes

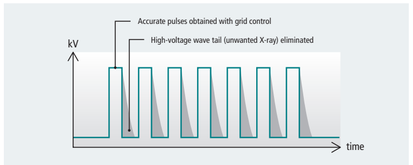
Last Position Display

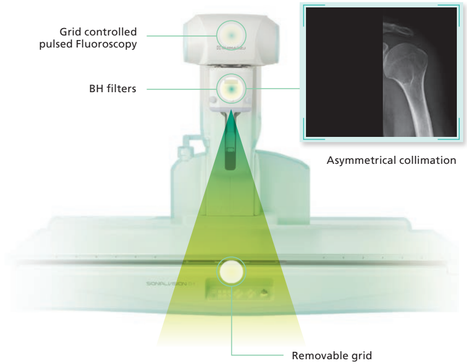
Checking the immediately previous Exposure positioning.



Functionality for Reducing Radiation Exposure Levels

To efficiently minimize exposure levels during examinations, the system features grid controlled pulsed fluoroscopy with wave tail elimination.
In addition, intelligent BH (Beam-Hardening) filters are automatically selected according to the type of examination, reducing unnecessary X-ray that do not contribute to the actual images.

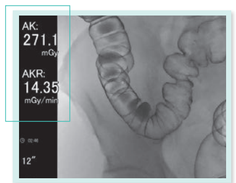




Exposure Dose Levels Displayed in Real Time

Calculated dose values are displayed on the monitor in real time. In addition to using the display as a guideline for exposure levels during examinations, the dose values can also be managed as examination information via the network.

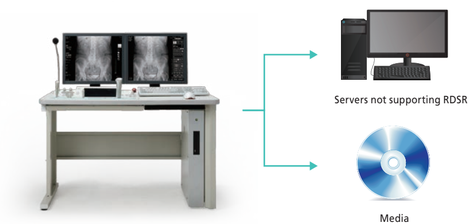
A dose area product meter can also be installed. OPTION



The removable grid provides a further advantage in dose reduction and is especially important when radiation exposure is of particular concern, such as in pediatrics, urology and gynecology.

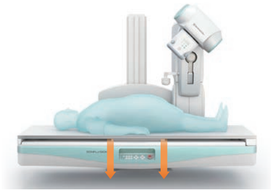
Advanced digital image processing

Dose information can be sent to the server via DICOM Storage. OPTION
CSV files can be exported to media.

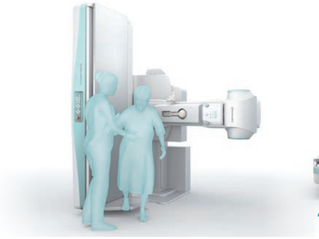


Solutions for Patient and Healthcare Worker Safety

The user-friendly system is designed to provide a more comfortable examination environment for both patients and medical staff.



The 318 kg (700 lb) weight capacity is ample for even very heavy patients.



The table can be lowered to help older patients easily get on or off the table.



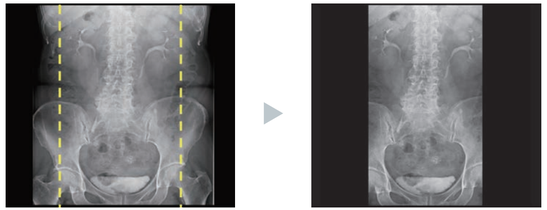
With a minimum table height setting of 47 cm, even older patients can get on and off the table with ease.



Soft rubber surrounds the collimator output port to provide cushioning in case the patient is bumped. The clean-look new design covering all the cables around the X-ray tube ensures hygienic advantages.

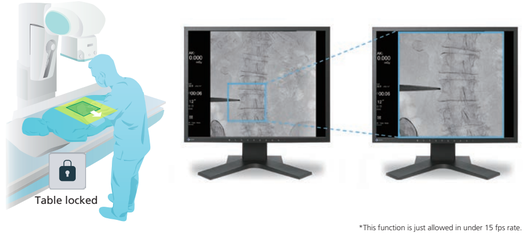
Virtual Collimation

Virtual collimation allows user to collimate the region of interest before X-ray exposure.



Smart FOV (Field of View) OPTION

Smart FOV allows easy adjustment of the field of view without moving the table and enables dose-less positioning without X-ray exposure.



*This function is just allowed in under 15 fps rate.



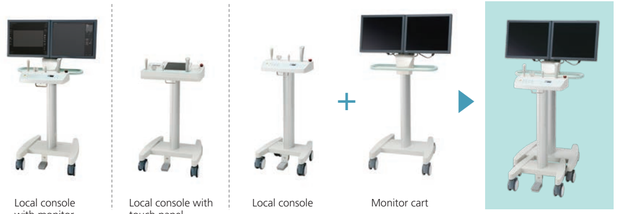
The console is designed so operations can be performed more comfortably for stress-free examinations.

The compact digital control system is tucked neatly away under the remote control console to provide an uncluttered look without consuming valuable space in the control room.

The dual system enables fully parallel processing for processing images, registering patients, transferring images, or performing other tasks concurrently during examinations.

Fluoroscopy table, X-ray controller, and digital image processing unit operations are always linked to minimize operating steps and ensure examinations can be accomplished easily.

Several types of monitor carts and local consoles are available for your selection to accommodate various examination room layouts and clinical applications. OPTION



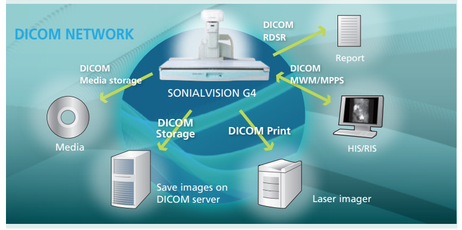
Local console with monitor

Local console with touch panel

Local console

Monitor cart

Excellent Network compatibility ensures smooth patient registration, image printing, and storage. OPTION



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