Trinas C16 unity edition

Digital Angiography System
Crossover Angiography System

Trinias C16 unity edition
Digital Angiography System
Based on our many years of experience, Shimadzu has added the latest advancements in imaging technology to our Trinias system to achieve the highest quality patient care in interventional procedures.

The result is a patient-centric experience, free from worry for operators to easily perform all types of interventional procedures.

Trinias Unity edition sets the bar high with improved functionality with new hardware and software features that provide simple workflow for cardiac and vascular procedures from head to toe.

The system uses Intelligent Design to provide Intelligent Care in minimally invasive procedures.

Our technology provides solution to the imaging problems that you face every day.

Intelligent Design for Intelligent Care

Limitless Potential for Efficient Workflow

Personalize your experience for ultimate flexibility

SCORE Imaging

SMILE Concept

SMART Design

C16 unity edition
SCORE PRO Advance

Equipped with advanced functionality for motion tracking noise reduction, and object isolation-based enhancement, the SCORE PRO Advance image processing unit was designed to achieve lower exposure levels and higher image quality. Shimadzu’s real-time image processing technology can isolate fine blood vessels, such as micro vascular arterioles during chronic total occlusion angioplasty (CTO) procedures, by enhancing only the target object without sacrificing image quality or increasing exposure dose. Consequently, Shimadzu supports advanced interventional procedures with even higher quality images.

The higher image quality offered by SCORE PRO Advance represents another step forward in the advancement of minimally invasive (low dose) procedures. By using an optimal combination of the low-dose mode and low pulse rate, optimized for each examination, Trinias systems can be expected to reduce exposure levels by about 50% per examination while also providing high image quality.
SCORE StentView

SCORE StentView is the latest, advanced version of StentView, considered truly revolutionary by many clinical users, allowing you to enhance stents and adjust positions in dynamic images in real time. The function for specifying the region of interest (ROI) now allows multiple markers to be used for accurate detection, which contributes to higher detection efficiency and shorter examination times.

Simply pressing the [StentView] button or pressing the foot switch automatically displays the StentView image on the live monitor that the operator is watching. Because StentView images can be viewed in real time without looking away from the live monitor, StentView can be used without interrupting the procedure.

1. Specify region with an ROI
2. Specify marker with an ROI

Regions of Interest Can Be Specified

Specifying a region of interest (ROI) improves device detection efficiency, even if multiple devices are present.

Real-Time Observation
Without Looking Away

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Outstanding stent visualization with SCORE StentShot enhances patients’ safety, and reduces treatment time. This application provides a static, noise-free, stent-enhanced image, for optimum, post-deployment stent visualization.

1. Post balloon
2. Post stent

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SCORE RSM

SCORE RSM is an extremely motion-tolerant DSA technique, achieved through Shimadzu’s high-speed digital image processing technology. This application is especially effective for tracking vessels across the entire lower extremities, for 3D imaging in combination with C-arm precession and pendulum modes and for examinations on patients who have difficulty holding their breath.

 SCORE RSM

View images from multiple directions with a single breathing session.

New Type of DSA Unaffected by Breathing Movements and Intestinal Gas

SCORE Chase Improves Visibility of Entire Lower Extremities Area

Shimadzu’s SCORE Chase enables freely panning longitudinally or laterally during exposures to trace blood flow through blood vessels. After exposure, SCORE Chase instantly creates a positionally-corrected stitched image automatically and displays it on the monitor so that the overall blood flow through blood vessels in the lower extremities can be determined easily.

Linking Images to Catheterization Table

Used in conjunction with a SMART Table multifunctional catheterization table, this links stitched images to the table, so that the SMART Table is automatically repositioned based on the region of interest during magnification or panning in that image. It supports minimally invasive procedures in the lower extremity areas by moving to the region of interest more smoothly and quickly.

Normal DSA

C-DSA RSM
Trinias includes a wide variety of roadmap functions that can be selected based on the body area, procedure, and technique in interventional procedures. Because MAP image settings are kept associated with images even after changing the field of view or magnifying the image or after switching to the frontal or lateral views, MAP functionality can be used without repeating exposures for MAP purposes.

TraceMAP

The TraceMAP function dramatically improves the visibility of wires and devices by automatically contouring an outline of vascular walls isolated from DSA images onto fluoroscopic images. It can be used for arterial or venous catheter applications or endovascular treatment (EVT) of arteries in the lower extremities.

Trace function

TraceMAP

Score MAP

The Score MAP function displays DSA images overlaid on fluoroscopic images. Either a without-bone display mode, used for areas such as the head, or a with-bone display mode for use as a reference can be selected.

DSA-MAP

This applies a subtraction process to the current fluoroscopic image and uses the resulting image of blood vessels as a MAP image. Because it does not require any additional exposures for the MAP function, it reduces the contrast media and radiation levels used. Either a without-bone or with-bone display mode can be selected.

Fluoroscopy

BlankMAP

This function enables easily drawing guidelines by hand on fluoroscopic images.

Sketch function

BlankMAP

Flex-APS saves time by automatically adjusting three-dimensional misregistration caused by body movements, including twist motion, providing enhanced DSA imaging.

Flex-APS ~Advanced real-time pixel shift for DSA~
The SCORE 3D application allows rapid display of the 3D reconstructed images automatically after rotational radiography. With a top rotational image acquisition speed of 60 degrees per second, the shorter contrast medium injection time reduces the burden on patients while suppressing the impact of movements on the images and ensuring high image quality. In addition, usability has been dramatically improved thanks to easy GUI customization via the pallet function.

SCORE CT
SCORE CT is an application for observing cross-sectional images of low-contrast regions, primarily tumor stains, during procedures. The application has two modes for use depending on the procedure and radiographic region of interest: a 10-second mode (20 degrees/second rotation) and a 20-second mode (10 degrees/second rotation). Axial, coronal, and sagittal images are displayed automatically after radiography.

High Image Quality C-Arm CT
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Confirm intracranial hemorrhages using post procedure C-arm CT.
Clearly renders low-contrast areas during TACE procedures.
High-Resolution C-Arm CT (CT-HR)
High-definition mode clearly renders intracranial stents.

Palette Function
User-customizable user interface

SCORE Navi / Navi+Plus
SCORE Navi/Navi+Plus is an application that utilizes preprocedural images to support minimally invasive interventions. By synchronizing C-arm projections to preprocedure MDCT images, the system enables three-MDCT images to be used as a reference during interventions, reducing contrast media usage and X-ray dose. Automatic registration of the MDCT images with live fluoroscopy images is easily achieved. With the MDCT image overlaying the live fluoroscopy it allows you to adjust the rate of blending. The Navi+Plus application also includes a simulation feature that allows you to simulate the stent size and placement position before carrying out a procedure.

Virtual Stent
SCORE Navi
Confirm stent deployment pre/post CAS.
Overlay any cross section image on fluoroscopy image.

Wide-Area CT Plus Fluoroscopy Display
Supports additional dose reduction by using the Fluoroscopy button.

Reference CT image tracks C-arm movement.
Supports additional dose reduction by reducing the Fluoroscopy aperture.

Bi-directional angle linkage between C-arm and MDCT image

Multi-Data Fusion
MPR Road Map
3D Road Map
Extender Function

SCORE Navi

SCORE Navi + Plus

SCORE Navi / Navi+Plus

SCORE Navi + Plus

SCORE Navi

SCORE Navi / Navi+Plus

SCORE Navi + Plus

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In the 16-inch large field of view FPD, the vertical and horizontal rotations of the FPD can be selectable according to the procedure and application, and a field of view matching the observation site can be secured. Also, by making the size of the FPD cover compact, it is possible to bring the C-arm closer to the patient at a deep angle, thus providing high image quality that can be sufficiently used even in the heart region.

SMART Assist
The system has been designed for single-action performance to make system control in the examination room and control room as simple as possible. This improves efficiency during procedures.

C-Arm Controller
The C-arm can be freely controlled using a lever-type Cyber Console.

SMART Access
The ceiling-mounted (C16) is designed to provide a broad operating range. The system layout can be freely configured based on the procedures performed and can flexibly accommodate installing peripheral equipment as well.

SMART Design
Changing the way. Making it possible.

Direct Memory
Registered clinical angles can be called up intuitively using a graphical controller layout.

Wide Coverage Reduces the Burden on Patients
The ceiling-mounted C-arm is capable of full-body coverage without moving the patient, thanks to a wide 210 cm coverage in the transverse direction and 190 cm in the longitudinal direction. Especially in the case of a patient with limited body movement, it can provide a safe-radial catheterization approach.

Direct Memory
A CyberGrip controller is also available, which can be operated with one hand.

16" x 12" FPD
In the 16-inch large field of view FPD, the vertical and horizontal rotations of the FPD can be selectable according to the procedure and application, providing high image quality that can be sufficiently used even in the heart region.
**Multifunctional SMART Table Accommodates a Variety of Procedures and Techniques**

Smart Table can be configured for approaches based on complicated procedures and techniques in various areas, from cardiovascular and head areas to lower extremities, to accommodate a wide range of imaging.

**Smart Table can be operated either manually with the ergonomic mushroom handle or electronically with the table control buttons.** Smart Table can also be synchronized to imaging, so that Smart Table is positioned within the region of interest after zooming/panning.

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**Multifunctional Wireless Foot Switch**

With no cables on the floor, it is easy to route the foot switch where the operator is standing.

**Supports a broad range of lower extremity areas.**

**6 in. function adjustable based on procedure/technique.**

**SMART Display**

With the large 58-inch high-resolution color LCD and touch panel controller, the operator can select the optimal display of image data to suit the current procedure.

**SMART Touch Provides Smooth Operability**

All screen operations are consolidated in one place on the touch panel, including for changing the fluoroscopy/radiography program required during surgical procedures, switching between a wide variety of functionality, and selecting images. By making operations easier to understand and intuitive, it supports a more sophisticated use of surgical procedures and techniques.

**Parallel Processing Achieves an Efficient Workflow**

A multiprocessor enables parallel image processing during examinations providing an efficient workflow.

**Dynamic Reference**

Reference images can be changed, replayed, or paused during fluoroscopy. Moving images from before and after surgical procedures can be compared and replayed.

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SMILE Concept
Safety + Comfort = SMILE

Patient-Friendly Clean Design

The color design not only creates a slim form and clean look.

Seven Features That Reduce Exposure

SMILE Dose-eye achieves an excellent system-wide optimization between lower dose and high image quality.

1. MB Filter
   Efficiently eliminates unnecessary soft X-rays.

2. Patient Position
   Selects from 10 different views depending on the procedure.

3. Grid Control
   Enables collimation without fluoroscopy.

4. Pulsed Fluoroscopy
   Blocks unnecessary soft radiation.

5. Virtual Collimation
   SCORE PRO Advance ensures lower dose and higher image quality.

6. Image Processing
   High-definition fluoroscopy can substitute for radiography.

7. Fluoroscopy Video Recording
   The monitor displays the actual dosage in real time.

SMILE Dose-eye

High-Speed Setup

All functions are available within two minutes after the power is turned ON.

Data Mirroring

The mirroring architecture provides data storage redundancy.

Backup Filament

If a filament burns out during an examination, the other filament will be automatically selected so the examination can be continued.

SMILE Recovery

Anode
X-ray Filament for large focus
Focal spot
Filament for small focus

Effectively eliminates unnecessary soft X-rays.
1 MBH Filter
Select from 10 different rates depending on the procedure.
Pulsed Fluoroscopy
Blocks unnecessary soft radiation.
Virtual Collimation
Enables collimation without fluoroscopy.
Image Processing
High-definition fluoroscopy can substitute for radiography.
Fluoroscopy Video Recording
The monitor displays the actual dosage in real time.

Backup Filament
If a filament burns out during an examination, the other filament will be automatically selected so the examination can be continued.
Even More Worry-Free and Reliable Japanese Quality for Interventional Procedures

Shimadzu manufactures Trinias products at Shimadzu’s own advanced technology plant, where all processes from production to quality control and shipping are performed within the Shimadzu facility, to ensure these products are delivered with the highest quality.

Within the Shimadzu facility, Shimadzu has built a Quality Center that is equipped with state-of-the-art equipment for various evaluation and analysis necessary to ensure that only the highest quality products are delivered. The Quality Center is also used for product development, quality assurance, and to ensure compliance with various regulations and standards.

Advanced Quality Center Ensures High Quality

Worldwide Service Network

SUBSCRIBERS
OFFICE
J.V.
Sales & Service Agents

Proactive Service Support Program

Periodic Maintenance
• Our professional service experts visit periodically and inspect the system.
• Mechanical, electrical and safety checks are performed. Calibration is carried out whenever necessary to ensure optimal system performance.

Emergency Service Support
• Shimadzu local service centers provide rapid response times.
• 24/7 call support is available for your emergency needs.

Parts Warranty Program
• A selection of parts warranty programs is available for you to select to manage your service needs and plan your running costs.

Remote Maintenance Service
The Shimadzu “Site-ViewBB” provides you with remote maintenance service.

• In the event of possible system errors, the Site-ViewBB automatically generates an alert message for proactive service support by our field service engineers.
• Some software updates can be performed by the Shimadzu Remote Maintenance Center through Site-ViewBB, further improving system uptime.
• Our system experts periodically analyze system log files through Site-ViewBB.