

SONIALVISION 100 Digital Table

New Mechanism Achieves Excellent Operability (Part 2 of 3)

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1. Introduction

This is the second part of a 3-part series on the advanced technologies incorporated into the new SONIALVISION 100 Digital Table.

This part introduces the system design features for comfort, particularly ease of operation and ease of examination.

2. Ease of Operation

The SONIALVISION features an ergonomically designed operating console, which is the part the user contacts directly during operation.

<System-integrated Operating Panel>

The Digital Imaging unit, X-ray generator, and R/F table of conventional X-ray TV systems each had an independent operating panel, and each unit had to be operated from its own individual operating panel. Now, the SONIALVISION centralizes all examination functions at a single location. Table operations, X-ray control, and image processing are all controlled from a single operating panel, such that the operator's line of sight moves along a single straight line through the examination room, monitor, and operation panel, allowing the operator to concentrate on the examination. (Fig. 1)



Fig. 1

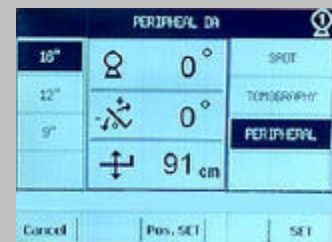
<Action Memory>

The action memory function allows common operations (presets) to be customized and stored for each type of examination, and then called when required by a single action. (Fig. 2) For example, the technique and

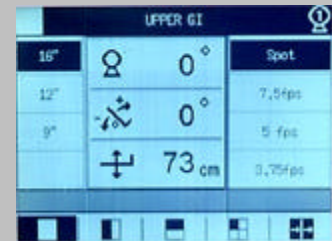
exposure parameters can be switched from spot imaging to serial imaging or digital tomographic imaging by a single action, allowing rapid selection of the next exposure.

Peripheral DA mode

The Peripheral DA start position and end position can be set.

**Upper GI mode**

Spot or serial imaging programs can be set.

**Tomography mode**

Exposure angle, layer height, and layer pitch can be set.



Fig. 2

<Clear Operating Panel>

The arrangement, size, and shape of the switches were designed according to the application and function, to permit rapid switch selection and operation while avoiding incorrect operation.

<Customizable Parameters>

The parameters can be set according to the user's requirements.

*** Tabletop lateral travel speed**

The tabletop lateral travel speed has two set values, which can be selected by the button on the tabletop operating lever. Each set value can be selected and saved from seven speeds.

* **Return position** (tabletop height, imaging chain position)

The SONIALVISION offers a Horizontal Return function (return table to horizontal position with a single action) in addition to the Vertical Return function of conventional X-ray TV systems. The tabletop height at a horizontal position can be saved as any value. For example, by setting the tabletop height to stretcher height, with just a single action the tabletop can be set to the height for easy patient transfer.

Also, for a system with an I.I. retracting function, the tabletop height can be set to the minimum height when the I.I. is retracted.

<**Table Movement Referenced to Image Movement**>

The image on the monitor is inverted (laterally and transversely) when the patient lies on the table with head and feet reversed, such as for ERCP, but the operator is easily confused because the direction of image movement and operation of the lever are reversed. However, SONIALVISION controls the table movement to maintain a constant relationship between the movement of the monitor image and operation of the lever, irrespective of whether the image is inverted

3. Ease of Examination

<**Wide Imaging Area**>

An imaging area up to 198cm from the head to feet is achieved by the imaging chain movement alone, without moving the tabletop. (Fig. 3) This permits patient movements to be minimized during puncturing for IVR examinations or bronchial endoscopy, for example. It is

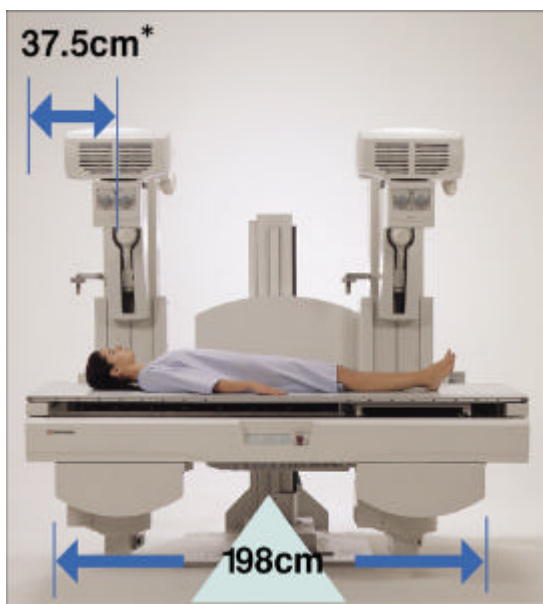


Fig. 3

* Model without I.I. retracting function and with 30cm I.I. mounted.

also useful for emergency examinations and examinations of elderly patients.

The imaging chain does not need to be retracted at any tilt angle, permitting easy examination at any angle for dynamic study of knee joints and venography of lower extremities, for example.

The imaging chain reaches the edges of the table, minimizing the operator's workload for fluoroscopy, such as ERCP, bronchial endoscopy, and urological examinations.

<**Approach from the Complete Table Perimeter**>

A patient on the tabletop can be approached from almost the entire perimeter (Fig. 4). A simplified table structure has expanded the approach area, particularly at the rear, and decreased the distance to the tabletop. This provides support for nursing staff during IVR and ERCP examinations and support when transferring the patient to and from the tabletop.

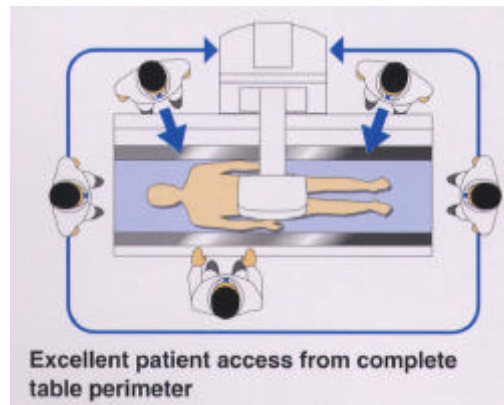


Fig. 4

<**Increased Speed**>

The speed of all table movements (tilting, imaging chain movement, tabletop lateral movement) has been increased to permit rapid positioning, greater examination efficiency, and less stressful examinations.

<**0.5s from Fluoroscopy to Radiography**>

Incorporation of the newly developed 750kHU X-ray tube achieves a time from fluoroscopy to radiography of just 0.5s. This world-beating time of 0.5s seems instantaneous, such that the imaging timing is never displaced.

In combination with the fully flat tabletop with elevation function introduced last time, these measures facilitate tableside examinations.