

# RADON

## MEDICAL IMAGING



Hitachi Arietta 850

[radonmedicalimaging.com](http://radonmedicalimaging.com)

We focus on people, innovative products,  
and service excellence

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**HITACHI**  
Inspire the Next



# ARIETTA 850

DESIGNED FOR HIGHER EXPECTATIONS

Ultrasound System for Radiology



Ultrasound Solutions Clearly Defined™



Ultrasound Solutions Clearly Defined™

# Advanced Applications

**ULTRASOUND CONTINUES TO EXPAND ITS UTILITY AS TECHNOLOGICAL ADVANCES CREATE NEW COST-EFFECTIVE USES FOR THE MODALITY.**

## Combinational Elastography

Ultrasound Elastography has been shown to be an accurate non-invasive method of assessing the progression of liver disease by depicting the level of fibrotic change. In the 850, Hitachi has combined the two methods of Elastography (strain and shearwave) into a single liver Elastography exam. This fast examination is able to produce the quantitative data provided by Shearwave Elastography while also exploiting Strain Elastography's unique advantages in patients with inflammation, fatty replacement, and ascites. The combination provides a comprehensive picture of liver health including indices that reflect

- Overall Fibrotic Progression
- Extent of fatty replacement
- Presence of Inflammation

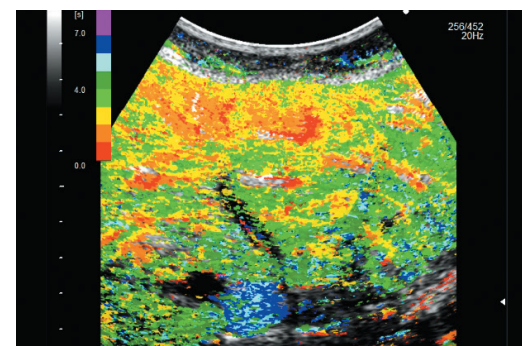
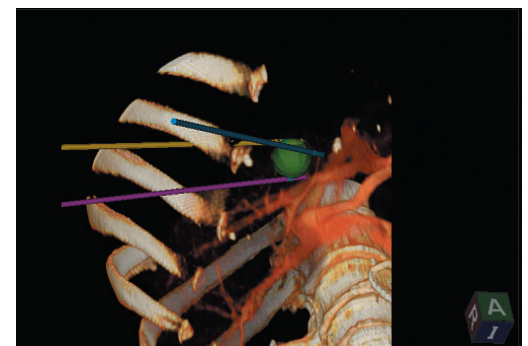
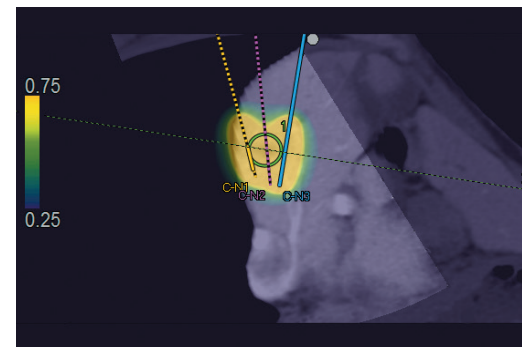
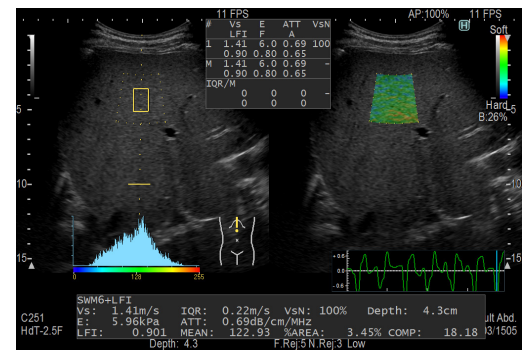
## Multi-modality Image Fusion with Real-time Virtual Sonography (RVS)

Hitachi continues to expand its RVS fusion capabilities with a new suite of visualization and efficiency tools to enhance its ability support a variety of interventional procedures.

- **3D Sim-Navigator** - Provides simulation of single or multiple needle paths during navigation to a target. The positional relationship between the marked target and needle paths can be assessed in real time using the 3D body mark reconstructed from the virtual CT volume data and an additional C-plane display that is orthogonal to the needle path.
- **E-Field Simulator** - designed to streamline RFA procedures, E-field Simulator superimposes a color map onto the CT image that simulates the estimated distribution of the electric field (E-field) based on the position of multiple electrodes during RFA treatment. The simulation provides instant visual feedback to understand the potential effects of needle positioning.
- **Body Motion Tracking** - Working in concert with the omniTRAX™ Active Patient Tracker from CIVCO™, this feature enables instant registration between the live ultrasound image and previously acquired volumes. It also corrects in real-time for patient motion during scanning.
- **Needle Tracking** - Using data from the RVS sensor and the VirtuTRAX™ biopsy bracket from CIVCO allows real-time tracking of needle placement, automatically correcting for needle flexion.

## Contrast Harmonic Imaging

With multiple acquisition modes and analytical tools like Inflow Time Mapping, which displays a color-coded graphical representation of enhancement and wash-out times, the 850 positions users to increase utilization of a technique that has been adopted throughout the rest of the world.





# ARIETTA 850

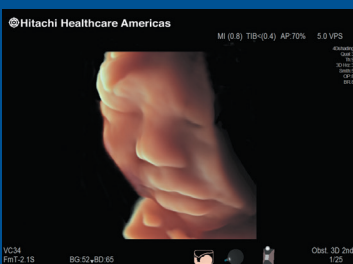
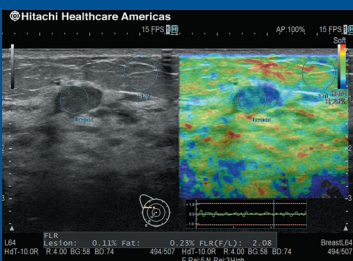
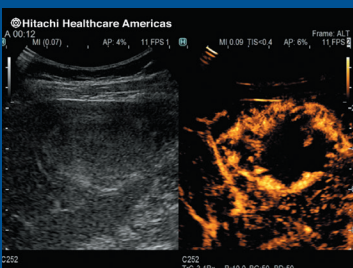
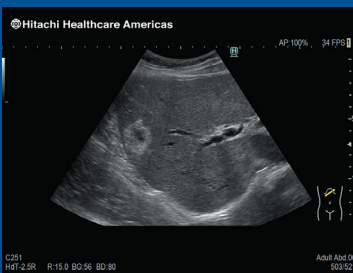
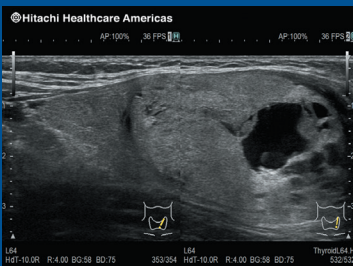
DESIGNED FOR HIGHER EXPECTATIONS  
For Radiology

The ARIETTA 850 was designed to address the ever-increasing clinical and operational demands of today's Radiology suite. It pairs advanced hardware with new and innovative image acquisition techniques to deliver crisp, high-resolution imaging. Efficiency solutions like Protocol Assistant and a new annotation package enable it to be tailored to each individual user's workflow needs. Finally, ARIETTA 850 expands the overall utility of ultrasound as a modality through optional image fusion, Elastography, and CMUT probe capabilities.

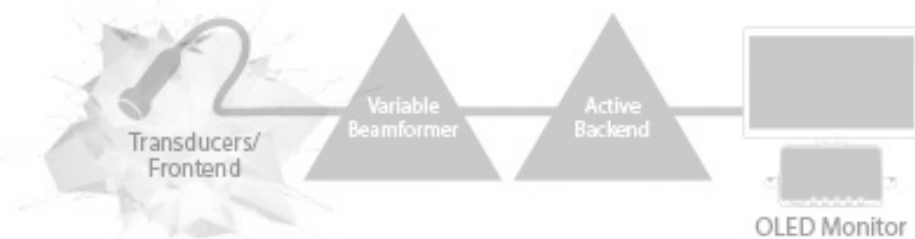
ARIETTA 850 produces images of exceptional clarity by carefully shaping its sonographic pulses and then precisely managing the resulting echo data throughout the entire signal-processing chain: from probe to final image display. This process, Pure Symphonic Imaging, ensures that only the purest data is used to fuel the advanced imaging capabilities of the 850.



## STATE-OF-THE-ART DIGITAL ARCHITECTURE AND ADVANCED IMAGING FEATURES TO REDEFINE THE CAPABILITIES OF ULTRASOUND



### PURE SYMPHONIC ARCHITECTURE



- 4G CMUT Probe** - While ultrasound technology has evolved drastically over the last half-century, probe technology has seen little change as researchers sought transducers that could improve on the performance of piezoelectric material. ARIETTA 850 makes this technological leap, supporting the world's first fully-featured Capacitive Micro-machined Ultrasound Transducer. The SML44 probe contains thousands of high-sensitivity, wide-bandwidth CMUT cells that are printed onto a silicon substrate using techniques first developed in the semiconductor industry. The resulting operating bandwidth of 2-22MHz, enables the probe to perform the work of multiple conventional probes.
- eFocusing** - eFocusing employs the 850's advanced variable beamformer to perform real-time focusing along the entire depth of the image. The technique obviates the need to set or adjust focal zones, automatically providing optimal focusing from near to far-field.
- Active Backend** - Powerful computing and image-processing hardware manages the acquired ultrasound signal, performing countless data-enhancement algorithms like Acoustic Noise Reduction and Nearfield Noise Reduction, while maintaining high frame rates.
- OLED Monitor** - The 850's 22-inch display uses an Organic LED monitor to deliver exceptional image fidelity. Because the monitor technology does not require backlighting, true-black can be more accurately represented, resulting in greater image contrast.





## SEAMLESS WORKFLOW

Healthcare providers continue to expect more efficiency from their Sonographers; and ARIETTA 850 is designed to help facilitate these advances in workflow while offering an ergonomic work environment to safeguard users from the fatigue and long-term injury that can result from repetitive scanning.

### Ergonomics

From its flexible monitor arm that adds smooth back and forth movement, independent of positioning, to the unique programmable 5-switch control center on the console, which streamlines advanced functions, measurements, and analysis, the 850 is engineered to deliver a fast and safe scanning experience.

### Protocol Assistant

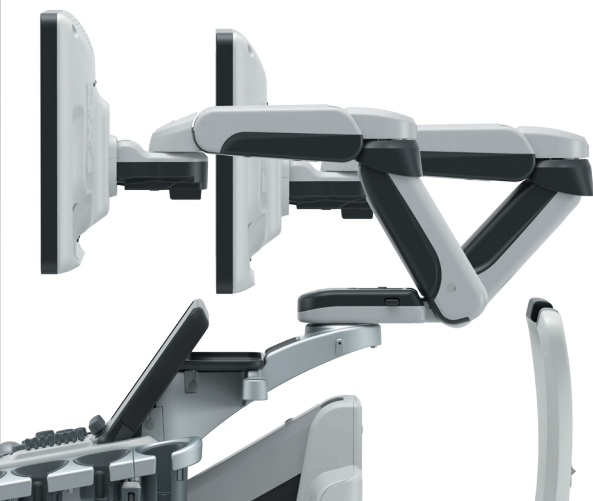
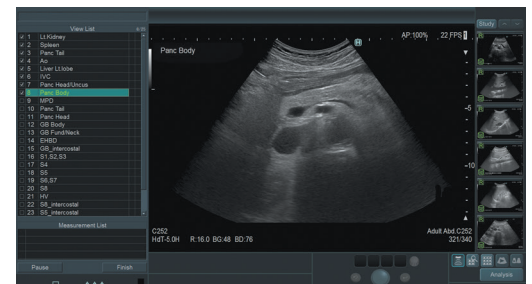
Protocol Assistant can bring standardized scanning protocols to any department in a way that is efficient and reproducible. The system learns how each user wants to perform individual studies and anticipates the Sonographer's next step, providing the correct annotation, system parameters, and measurement tools automatically as each new image is acquired.

### Automated Measurements

The 850 automates complex, repetitive measurement routines to simplify time-intensive processes like optimal frame selection for Elastography interpretation, placement of Strain Ratio regions of interest, and Estimated Fetal Weight measurements.

### Adjustable Panel Height

The panel height can be lowered to 70 cm, allowing the operator to perform lower extremity examinations with the control panel comfortably within reach.



# ARIETTA 850

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For Radiology



## Innovating Healthcare, Embracing the Future

For a society where all can enjoy a secure, safe, healthy way of life, Hitachi delivers innovation for implementing healthcare services tailored to individuals.



Ultrasound Solutions Clearly Defined™

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