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ARIETTA S70

ARIETTA S70

Next Solutions

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From prevention through diagnosis and treatment, ultrasound platforms are used to provide ever increasing levels of diagnostic information for many clinical applications. What ultrasound platform can meet these challenging requirements? We manufactured one of the world's first diagnostic ultrasound platforms in 1960, and today have brought a new system onto the market using all our technical know-how cultivated from our vast experience. With a strong level of basic performance able to detect the subtlest of changes and featuring many innovative technologies, the platform offers a high level of diagnostic performance and reliability to all users.
It is ARIETTA S70. Tune the future to visualize ultrasound.

ARIETTA S70

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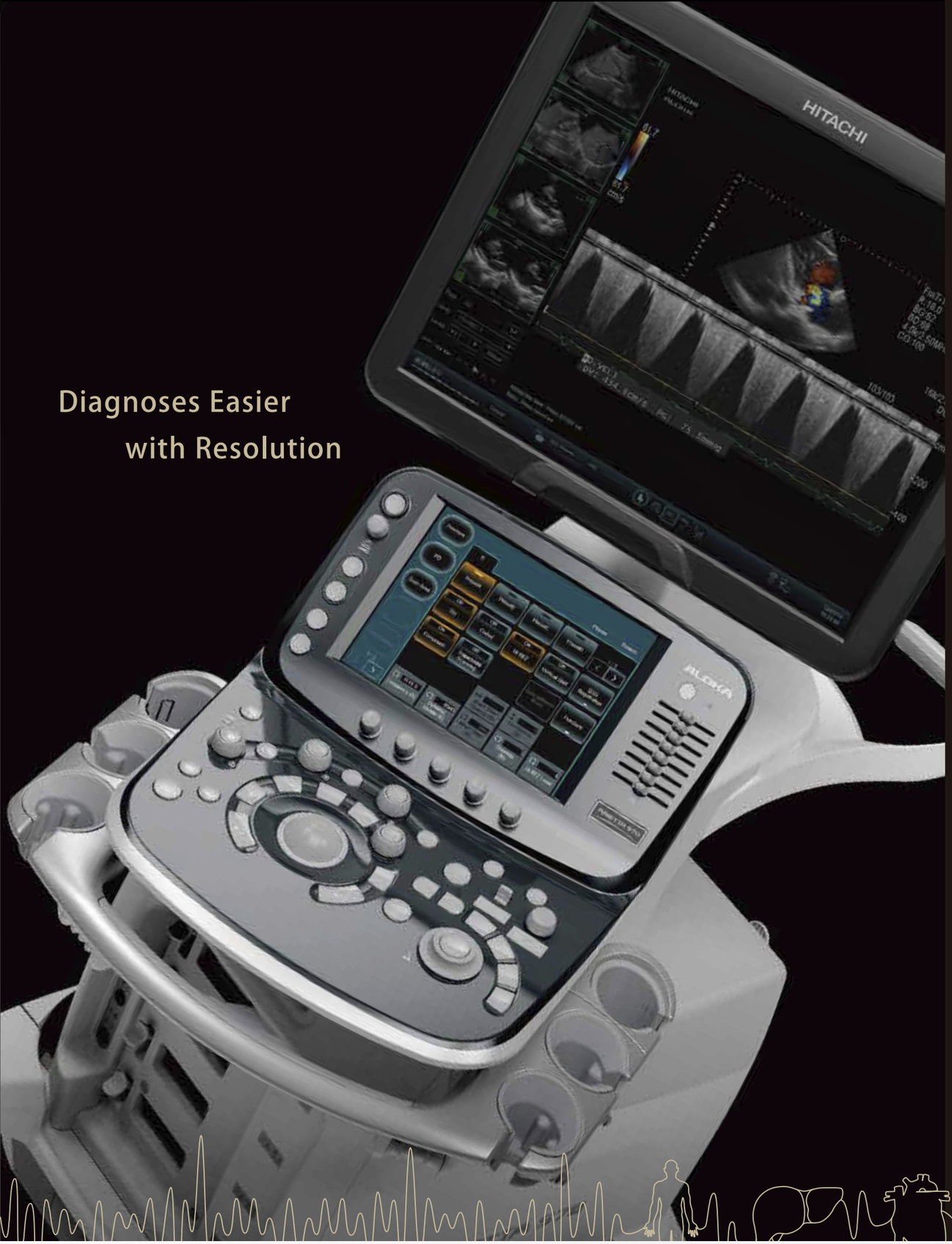
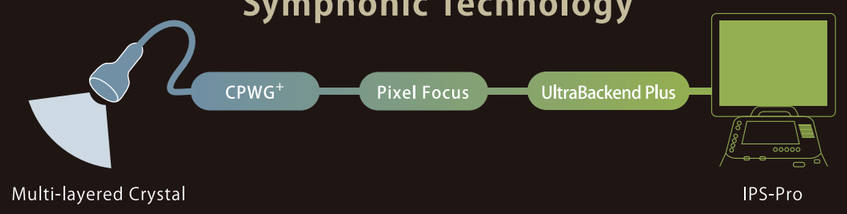


Diagnoses Easier
with Resolution

Clearly defined technologies of ARIETTA S70 underpin the outstanding quality of diagnostic images

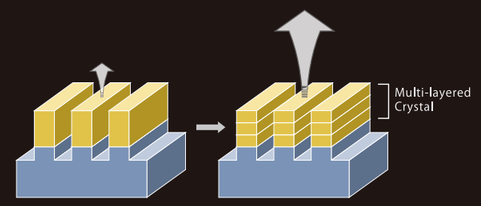
The clinical performance of a diagnostic ultrasound system is built on the quality of the individual ultrasound beams. The advanced architecture of the ARIETTA S70 has been redesigned, its unprecedented performance created by the commitment to produce the highest quality "sound". Clearly defined technologies capture the subtlest of changes, steering you towards a rapid and definitive diagnosis.

Symphonic Technology



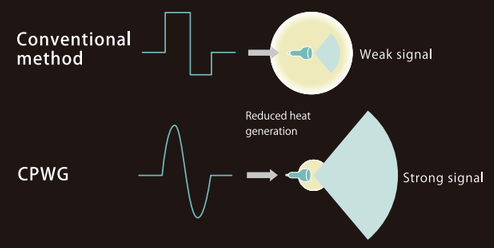
Multi-layered Crystal Technology

Hitachi uses a unique technology to layer the piezoelectric elements, allowing more efficient transmission and reception of the ultrasound pulse with minimal energy loss, increasing both the sensitivity and clarity of the images.



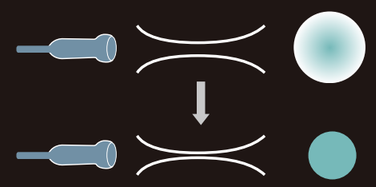
Front-end Technology

Integrating components of the probe connector suppresses noise and enhances S/N (signal to noise ratio). The Compound Pulse Wave Generator (CPWG+) produces efficient transmission waveform to obtain high sensitivity and resolution.



Pixel Focus

Focusing at pixel level for increased precision and clear delineation of the region of interest.



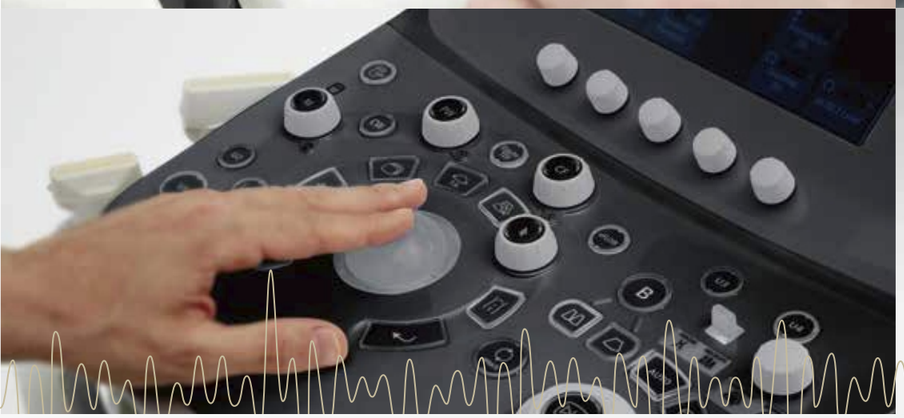
UltraBackend Plus

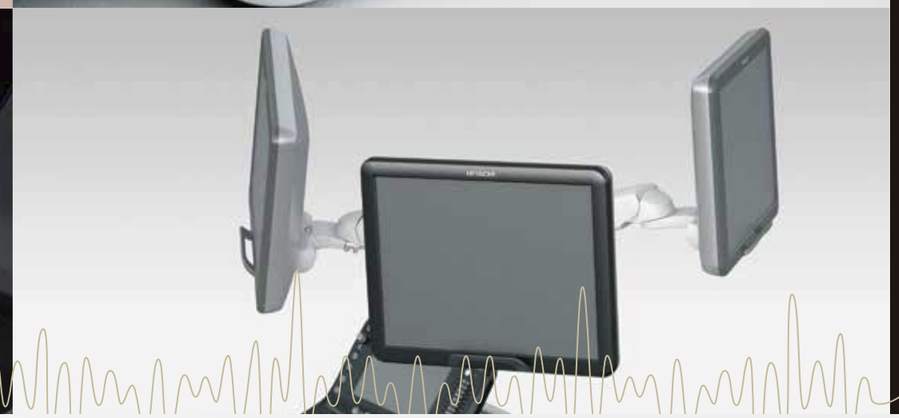
Fully software-oriented, high-speed computing is employed in the back-end enabling powerful image processing producing images with outstanding clarity.

IPS-Pro (In-Plane Switching) Panel Technology

With a high contrast ratio and wide viewing angle, the IPS-Pro monitor gives a rich representation of the displayed image.

Comfortable and Easy to Use





Unparalleled scanning comfort supported by ARIETTA S70's usability

To realize the ideal that high quality diagnostic images can be achieved in any clinical setting, the ARIETTA S70 incorporates features that reduce stress and improve its ease-of-use. Detailed ergonomic design that meets recommended industry standards supports a comfortable working environment.

Lighter by 45%

We have achieved a weight reduction of 45% compared to our previous models. Combined with the adoption of large-sized casters, it makes the system very mobile.

User-friendly Operation Panel

Two-way multi rotary encoders enable the adjustment of many functions in one control, significantly reducing hand and arm movements. The large palm rest at the center of the operating console is designed to give optimum wrist support.

Adjustable Panel Height for Your Ease of Use

The panel height can be lowered to 70 cm, allowing the operator to perform lower extremity examinations with a safe, comfortable reach to the operating console.

RADIOLOGY CLEARLY DEFINED

Reduce Patient-dependent Variability for Safer, More Accurate and Faster Examinations

In the radiology field, high-level of accuracy and reliability are necessary to ensure early detection, precise diagnosis, and appropriate treatment. The ARIETTA S70 is equipped with advanced technologies that facilitate fast and accurate examinations.

High Quality Imaging

High-Resolution B-mode/ Doppler-mode

From wave generation to image display, Symphonic Technologies are harmonized, resulting in images with less noise, high penetration, and less patient dependent variability.

HdTHI

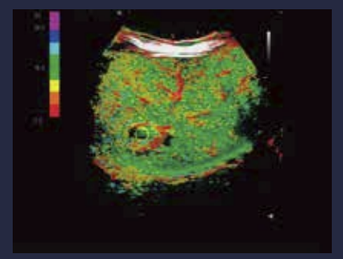
Frequency bandwidth of harmonic signals are broadened, and the low-frequency coupled wave is shifted into the range of transducer frequency bandwidth, most of which previously had not been used for imaging. This improves spatial resolution and deep area penetration.

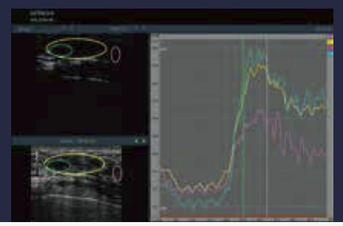
HI REZ

HI REZ performs spatial image processing several tens of thousand times per second. It reduces speckle noise, an artifact inherent in ultrasound images, to display the tissue structures more clearly without reducing the frame rate.

*e*FLOW

The high spatial resolution of *e*FLOW produces an accurate display of blood flow confined within the vessel walls even in fine vessels.





Contrast Harmonic Imaging (CHI)

Increase Your Diagnostic Capabilities Using CHI

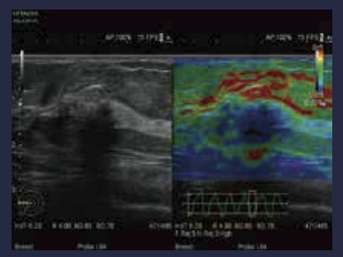
Contrast-specific software is supported for use with contrast agents used with acoustic pressures from low to high MI. This is compatible with transducers for abdominal, cardiac and small parts.

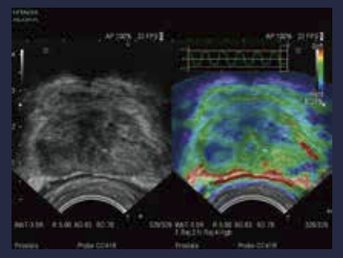
Inflow-time Mapping (ITM)

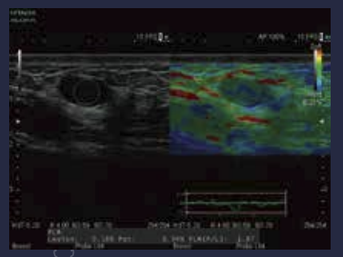
ITM is a colored parametric display of time to peak enhancement for each pixel in the display, to better differentiate tissues by their speed of contrast agent uptake.

Time Intensity Curve

Time intensity curves can be used to quantify and display changes in contrast agent enhancement with time after injection in selected regions of interest.







Elastography

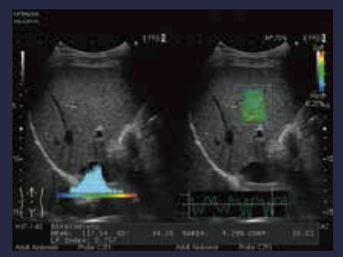
Real-time Tissue Elastography (RTE)

RTE assesses tissue strain in real time and displays the measured differences in tissue stiffness as a color map. Its application has been validated in a wide variety of clinical fields: for the breast, thyroid gland and urinary structures. Using the abdominal convex transducer, it can also be applied for assessment of diffuse liver/pancreatic disease.

Advanced Workflow

Auto Frame Selection: Higher reproducibility of Elastography is achieved and appropriate images for measurement are selected automatically without operator bias.

Assist Strain Ratio: Fat Lesion Ratio (FLR) can be used for quantification of regions of interest in the strain image. Assist Strain Ratio provides automatic FLR measurement, improving the reproducibility and the objectivity, while shortening the measurement time.

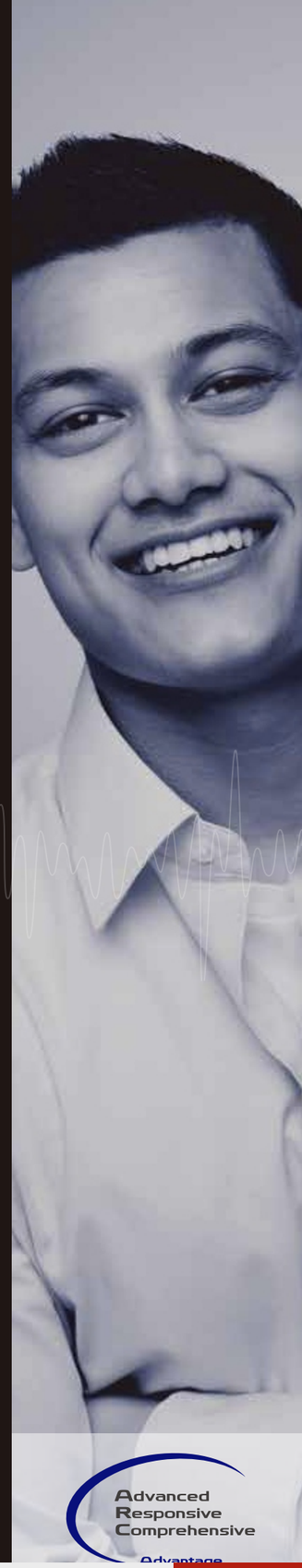


RTE with the Abdominal Convex Transducer

RTE with the convex abdominal transducer offers intuitive assessment of liver fibrosis as an extension of the conventional B-mode examination. Its wide field of view enables easy ROI positioning, free from vessel artifacts and rib shadowing.

Shear Wave Measurement (SWM)

SWM incorporates a reliability indicator, VsN, from which the precision and reproducibility of the median shear wave speed measurement can be assessed.
Combination use of SWM and RTE is now achievable with one transducer, to gain a better understanding of the clinical condition of the liver.



Advanced
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Advantage

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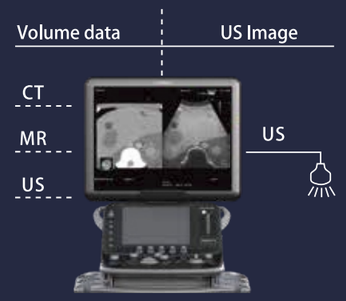

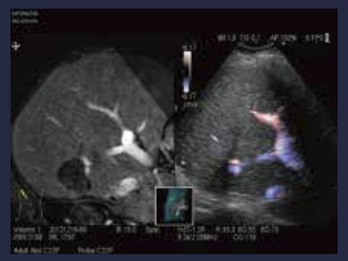

Liver (Used with *e*FLOW)

Liver (3D Sim-Navigator)

Real-time Virtual Sonography (RVS)

Real-time Virtual Sonography (RVS)

MPR images constructed from CT/MR/US volume data can be synchronized to real-time ultrasound imaging.
It allows a direct comparison of the lesion depicted by each imaging modality, taking advantage of the different imaging methods.

3D Sim-Navigator

In addition to Real-time Virtual Sonography (RVS), the 3D Sim-Navigator simulates needle placement in fusion imaging mode. The positional relationship of multiple needles used for ablation treatment can be assessed using the 3D body mark created from the virtual CT or MR volume data.

Puncture

Micro-convex Transducer for Biopsy Procedures

This transducer with a small footprint enables easy access and angulation of the scan plane from narrow intercostal spaces. This is advantageous for biopsy of liver segments V-VIII, and can be used in conjunction with RVS to offer visual guidance for RFA treatment.

Needle Emphasis (NE)

NE enhances visibility of the needle to assist safe and accurate procedures.

Liver (CHI)

Liver (RTE)

Various Scanning Applications for Safe Surgery

Transducers are selectable to match your particular surgical approach from our wide-ranging specialty lineup.
Each transducer is designed for compactness and lightweight for easy operation while providing excellent performance.

Intraoperative Convex Transducer (T type)

Held between the fingers, this transducer provides stability for scanning. Contrast Harmonic Imaging and RTE complement the high-definition B-mode and high-sensitivity Color Flow Doppler. It can provide detailed information that contributes to the selection of the optimal surgical technique.

SURGERY CLEARLY DEFINED

Emerging Technologies Offer Optimum Support for Surgical Precision

A diverse selection of transducers provide versatility for different surgical approaches. Advanced imaging modalities offer support that can lead to safer, more accurate diagnosis and treatment.

Flexible Laparoscopic Transducer Manipulated with Forceps

The L43K transducer can be used with forceps commonly employed in laparoscopic procedures. Its compact design allows manipulation in small surgical fields.

Intraoperative Linear Transducer (T type)

The T-shaped linear transducer can be gripped firmly, and together with the high frequency and large transducer width, ensures high-resolution images across a wide field of view.

4-way Laparoscopic Transducer

Flexible laparoscopic transducer with vertical and horizontal flexion.

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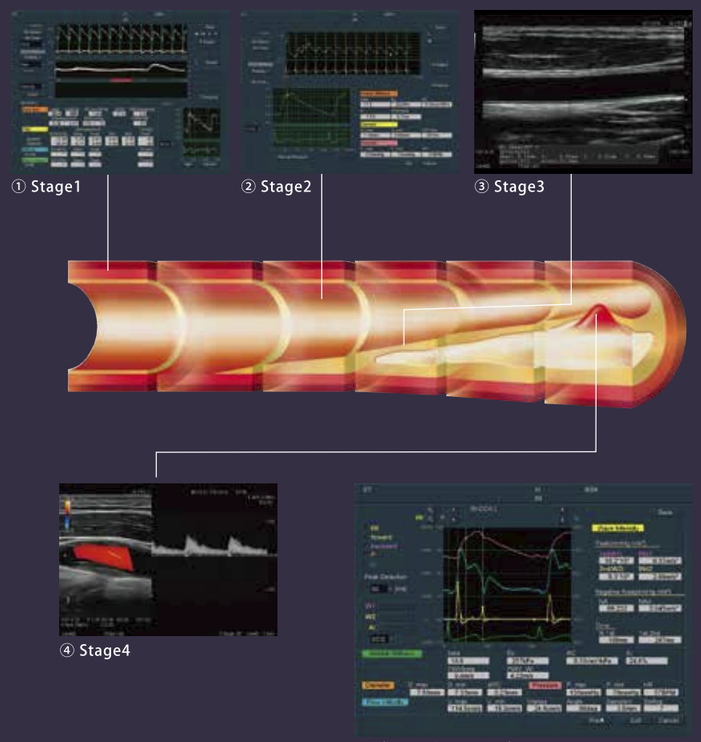
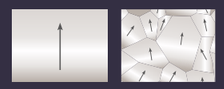


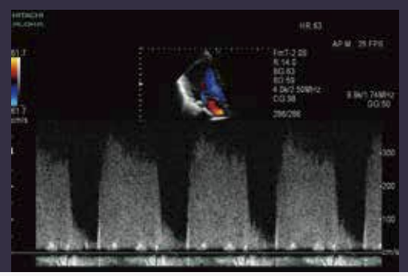
CARDIOLOGY CLEARLY DEFINED

From the Heart to Monitoring of Vessels – Support Disease Prediction, Early Detection and Diagnosis

ARIETTA S70 contributes to the early detection and diagnosis of cardiovascular disease using a variety of dedicated tools.



Single Crystal Piezoceramics



Vascular System Evaluation

Atherosclerosis Diagnosis

① Flow Mediated Dilatation (FMD)

FMD enables non-invasive evaluation of endothelial function.

② Evaluation of Early Atherosclerosis (*e*Tracking)

Raw data is used to track the RF signal from the arterial wall to analyze changes in vessel diameter in real time.

③ Automatic Measurement of Intima-media Thickness (IMT)

The maximum and mean IMT are automatically calculated following the placement of the ROI on a long-axis section of the blood vessel.

④ Linear CW Mode for Evaluation of Blood Flow

With CW Doppler mode, an accurate evaluation of high grade stenosis is attainable with the linear transducers.

Interaction between Blood Vessels and Cardiac function-Wave Intensity (WI)

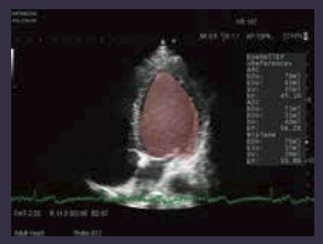
WI evaluates the way in which the heart interacts with the arterial system. WI is a calculation based on changes in blood pressure and flow velocity obtained at an arbitrary point in the circulatory system.

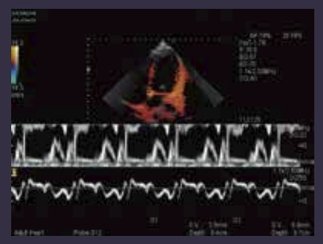
Excellence in Cardiac Imaging

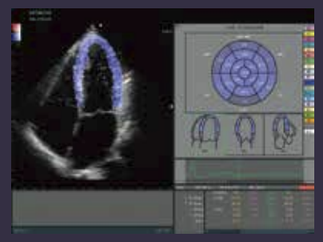
B-mode images are displayed with minimal patient-dependent variability.
Clarity of imaging with less noise contributes to faster examination time and improved workflow.
A full complement of transducers include versions for neonatal, pediatric and adult patients.

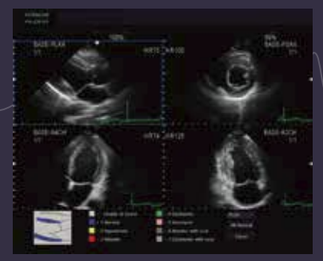
Single Crystal Transducers

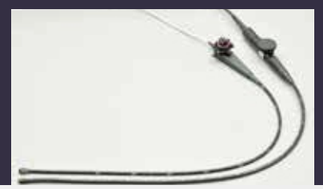
This transducer employ single crystal as piezoelectric elements. It features high sensitivity owing to high piezoelectric effects and offers improved resolution.











Advanced Function & Workflow

By implementing tools to support efficient examination, the burden of examiner and patient is reduced.

EyeballEF

Eyeball EF automatically traces the endocardium based on a built-in database of multiple tracings.

Dual Gate Doppler

Dual Gate Doppler enables observation of Doppler waveforms from two separate locations during the same heart cycle.
A combination of blood flow and Tissue Doppler is available.
Measurements such as E/e' ratio can be performed while eliminating beat-to-beat variation.

Two-dimensional Tissue Tracking (2DTT)

2DTT can be used to quantify the movement of the entire left ventricle or a local movement of cardiac muscle. This speckle tracking technique provides precise and accurate analysis of the movement of the cardiac muscle.

Stress Echo

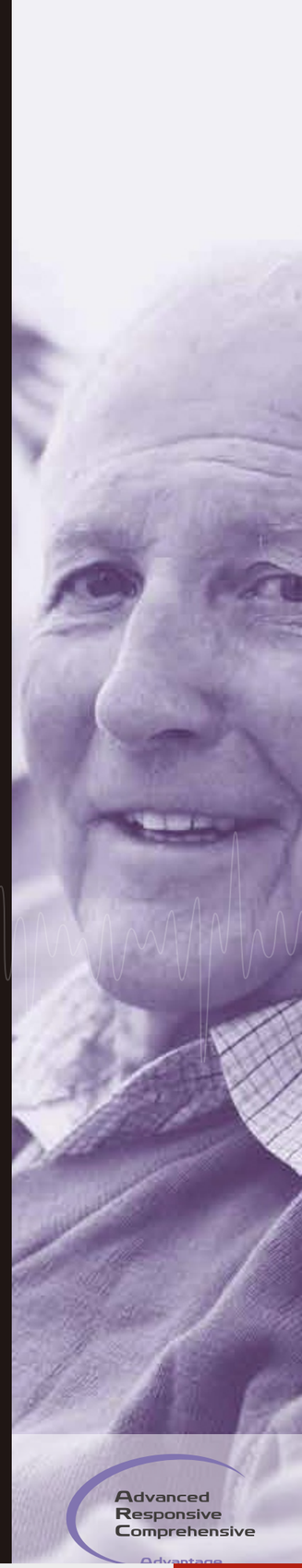
Multiple dynamic images taken before and after stress are simultaneously reproduced for effective evaluation of ischemic conditions and viability of cardiac muscle.

Automated Cardiac Measurement

Cardiac function measurements can be performed effectively with reference to a vast knowledge-based patient data bank. EF (Teichholz) measurement is performed automatically, and Simpson method semi-automatically.

Variety of Transesophageal (TE) Transducers

The form of the TE transducers are designed to reduce patient discomfort while providing high imaging performance.
- Rotary-plane TE transducer



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WOMEN'S HEALTH CLEARLY DEFINED

Reassurance Delivered With More Accurate, Earlier Diagnoses

Accurate diagnosis of maternal and fetal well-being can be provided using a diverse range of advanced functions that offer more reliable diagnostic information, providing reassurance to parents.

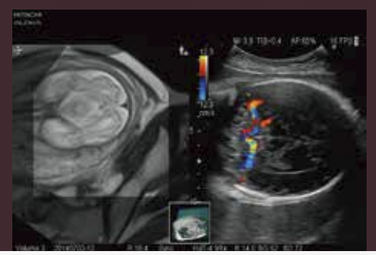
Bonding of Mother and Child

3D/4D Ultrasound Encourages Maternal-fetal Bonding

Three- and four-dimensional imaging can play a role as a prenatal communication tool connecting a mother with her fetus. AutoClipper automatically defines the optimal cut plane to remove the placenta or other unwanted tissue signals in front of the fetal face, resulting in a clear surface-rendered fetal image.

High Resolution B-mode Imaging

Clarity of detail in B-mode imaging is essential for fetal ultrasound examinations to define pregnancy, to observe fetal growth, and to exclude anomalies.



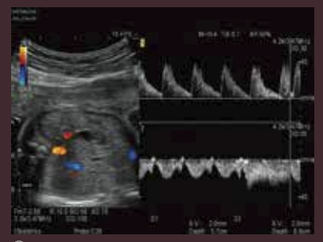
*e*FLOW

*e*FLOW is a flow mapping technology with exceptional spatial resolution.
With accurate and detailed depiction of blood flow dynamics, both fine and larger vessels can be accurately presented.

Real-time Virtual Sonography (RVS)

RVS fuses real-time ultrasound imaging with previously acquired CT/MR data, taking advantage of the strengths of each imaging modality.

①



②

③

Functional Diagnostic Tools for Examination of the Fetal Heart

Starting from early pregnancy, we offer both basic and advanced features for detailed, reliable assessment of the fetal heart. Tools for screening, early detection, and follow-up treatment of fetal heart disease are supported.

① AutoFHR

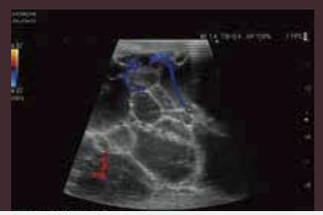
The fetal heart rate is automatically calculated from a tracking ROI placed over the fetal heart on the B-mode image. AutoFHR provides measurement of this important parameter without increasing the ultrasound power as with the Doppler or M-mode method.

② Dual Gate Doppler

Dual Gate Doppler allows observation of Doppler waveforms from two different locations during the same heart cycle. Simple measurements from the two different waveforms can be useful in the diagnosis of fetal arrhythmia.

③ Spatio-temporal Image Correlation (STIC)

For the fast-moving fetal heart, multi slice 3D volume data sets of one cardiac cycle are reconstructed for better observation of the normal and abnormal heart.



Supporting Women's Health

Tools for Treatment

A variety of transducers support infertility treatment and other gynecological diseases, as well as applications for therapy assistance.

Transvaginal Transducer

The transvaginal transducer is designed for patient comfort with a small insertion tip and thin shaft. It offers exceptional image quality throughout the wide sector angle. Real-time Tissue Elastography is also supported.

4-way Laparoscopic Transducer

The flexible tip ensures a broad range of motion, and its trapezoidal scan mode effectively widens the field of view.

Accurate
Responsive
Confidence

Работайте с лучшими,
всё остальное компромисс!

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