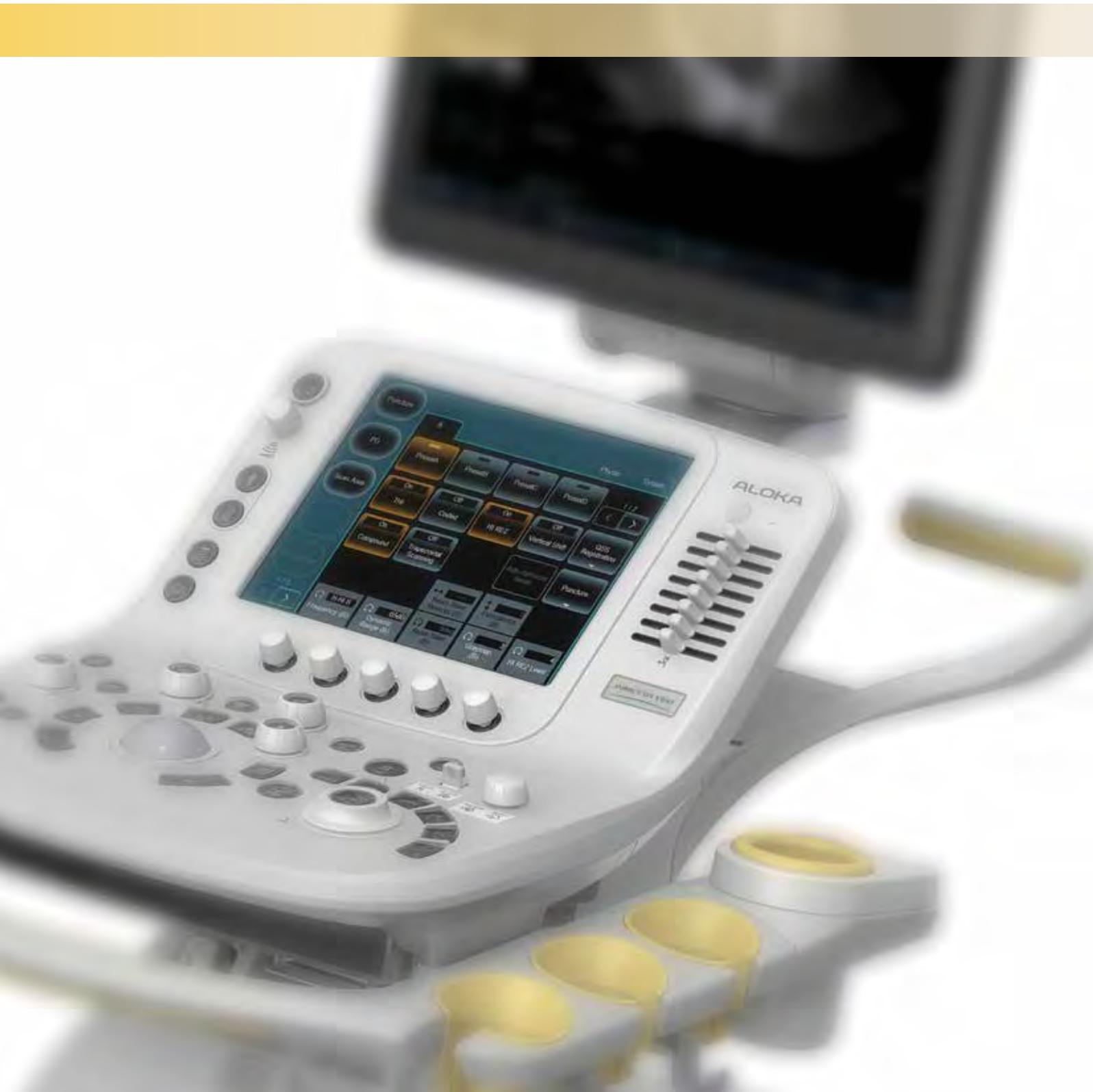


HITACHI
Inspire the Next

ARIETTA V60

NEXT GENERATION ULTRASOUND SYSTEM



Sense and Visualize Ultrasound



Diagnostic ultrasound has become the first-choice imaging modality for many disorders and an indispensable part of contemporary medicine. Hitachi manufactured one of the world's first diagnostic ultrasound platforms in 1960, and today ARIETTA incorporates all this technical know-how cultivated from our vast experience. Established operability is developed further achieving a comfortable examination environment for both operator and patients. New imaging technology has been developed enabling detection of the subtlest of changes and offering a high level of image definition and reliability. It is ARIETTA V60. Next Generation Ultrasound System.

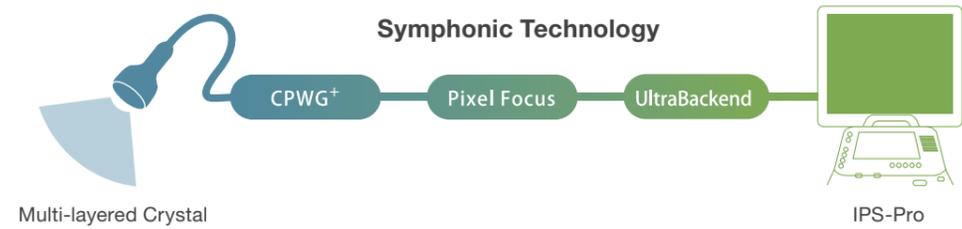
ARIETTA V60





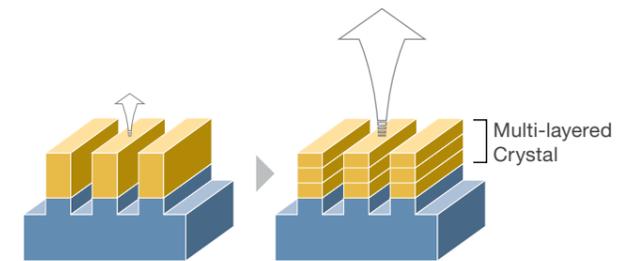
Symphonic Technology

The advanced architecture of the ARIETTA V60 delivers excellent performance, designed with the commitment to produce the highest quality "sound". Clearly defined technologies capture the subtlest of changes, steering you towards a rapid and accurate diagnosis.



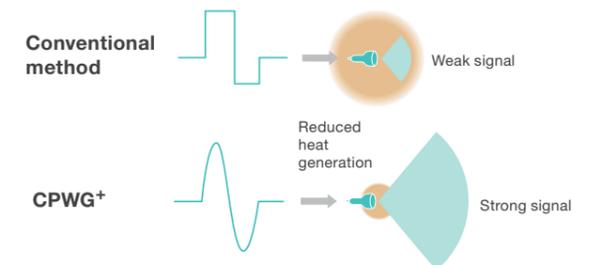
Multi-layered Crystal Technology

Hitachi uses an original 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.



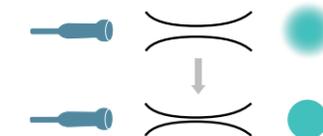
Front-end Technology

Enhanced S/N (signal to noise ratio) is achieved by integrating components of the probe connector to suppress noise. The Compound Pulse Wave Generator (CPWG⁺) produces efficient transmission waveforms that result in high sensitivity and resolution.



Pixel Focus

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

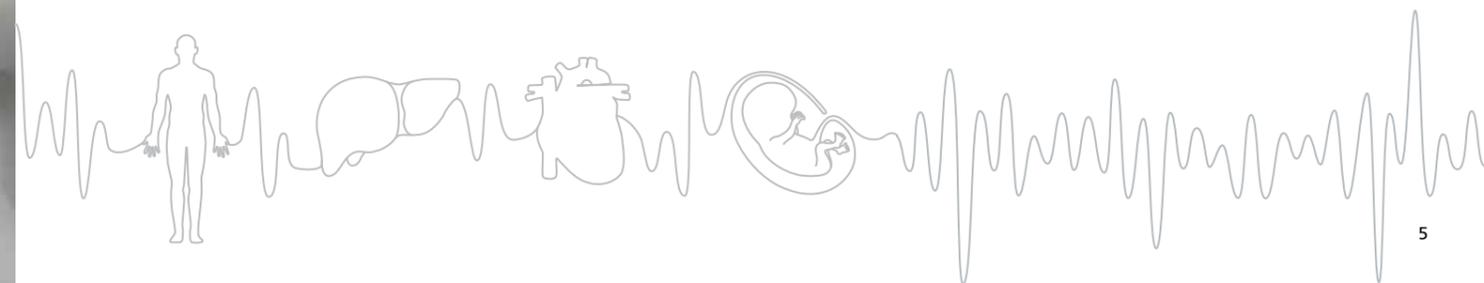


UltraBackend

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

IPS-Pro (In-Plane Switching) Panel Technology

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





Usability of ARIETTA V60, a Solution for Comfort

High-performance features normally reserved for premium systems are packed into its compact housing. ARIETTA V60, almost 25% lighter in weight than conventional systems (in-house comparison), can be moved around with little effort and operated easily in confined spaces.



Ergonomic Design

ARIETTA V60 is ergonomically designed to allow the examiner to scan in comfort irrespective of the type of patient or clinical examination. The adjustment of the panel height between 70 and 100 cm is one of the key contributory elements.

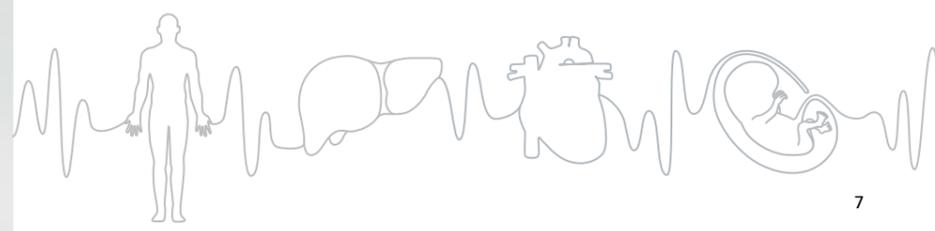
Console Design

The console layout is arranged to provide intuitively smooth operation, with a large palm rest provided centrally to give optimum wrist support.



Multiple Auto-adjust Functions

Optimization in real time: In B-mode, the image brightness is automatically optimized to the users preference with a single button press, and the speed of sound is corrected for different tissues, bringing all areas of the image into sharper focus. In Doppler mode, the velocity range and baseline position are instantly optimized with a single key stroke.



RADIOLOGY CLEARLY DEFINED

Dependable results provided by high-definition image quality

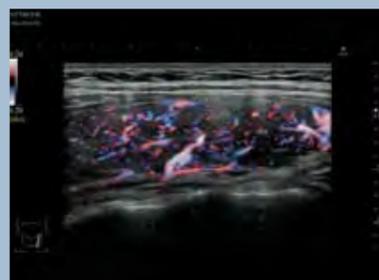
ARIETTA V60 offers imaging solutions from diagnosis through to treatment, in a wide variety of clinical fields. To complement the high-definition image quality, a broad range of transducers and advanced functionality offer increased diagnostic confidence.



Small gallstone in B-mode



Fatty liver in B-mode



Thyroid lobe with eFLOW



Liver enhancement in CHI accumulation mode

High Quality Imaging

High-resolution B-mode

ARIETTA V60 provides an image quality that excels in both lateral and axial resolution.

HdTHI and HI REZ

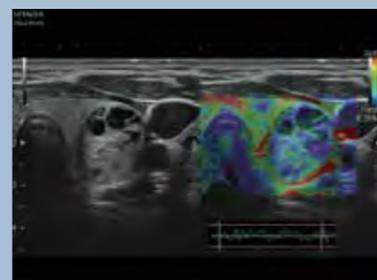
HdTHI technology exploits the wide frequency bandwidth of the tissue harmonic response and HI REZ uses high-definition, tissue-adaptive filter technology to optimize contrast resolution and signal to noise ratio, displaying the tissue structures more clearly without reducing the frame rate.

eFLOW

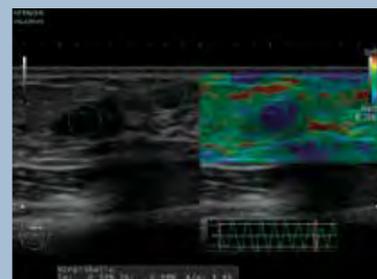
The high spatial resolution of eFLOW produces an accurate display of blood flow confined within the vessel walls even in fine vessels.

Contrast Harmonic Imaging (CHI)

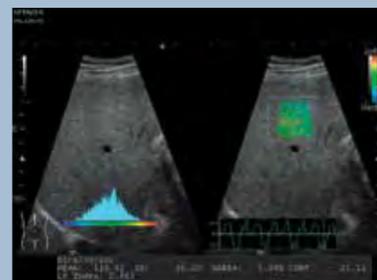
Contrast enhanced ultrasound, a technique widely used in clinical diagnosis, can also be performed with this compact system. It delivers homogeneous enhancement throughout the field of view.



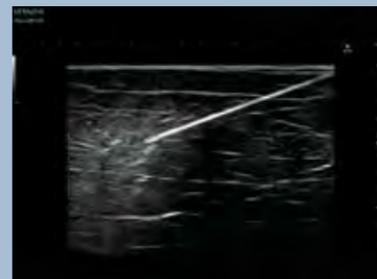
Complex thyroid nodule with RTE



FLR measurement of a breast lesion



Liver RTE with abdominal convex transducer



Needle Emphasis



Digital flexor tendon (transverse view)

Elastography

Real-time Tissue Elastography (RTE)

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

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, whilst shortening the measurement time.

Liver RTE

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 artefacts and rib shadowing.

Needle Emphasis Mode (NE)

NE mode provides enhanced visibility of the needle to assist with safe and accurate puncture procedures.

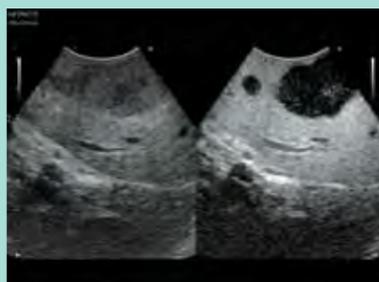
Musculoskeletal

Dynamic ultrasound is the ideal imaging method for non-invasive assessment of the kinetic function of ligaments, muscles, tendons, etc. Additionally, ultrasound examination of joints can play an important role in the diagnosis and monitoring of the patient's response to therapy.

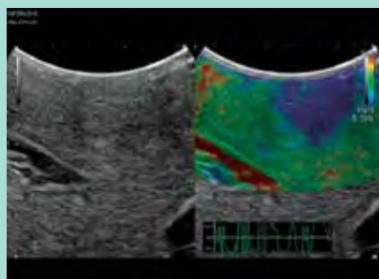
SURGERY CLEARLY DEFINED

Variety of transducers that support intraoperative examinations

The importance of intraoperative ultrasound is increasing in the quest to improve the safety of surgery. Choosing the best transducer to suit the procedure can lead to a more accurate diagnosis.



Liver CHI with convex transducer



Liver RTE with convex transducer



Liver CHI with linear transducer



Renal tumour with Colour Doppler

Various Scanning Approaches for Safe Surgery



Intraoperative Convex Transducer (T-type)

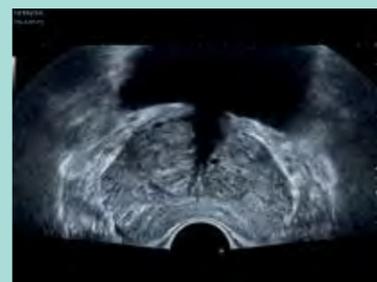
Held between the fingers, this transducer provides stability for scanning. CHI and RTE complement the high-definition B-mode and high-sensitivity Colour Flow Doppler. It can provide detailed information that contributes to the selection of the optimal surgical techniques.

Intraoperative Linear Transducer (T-type)

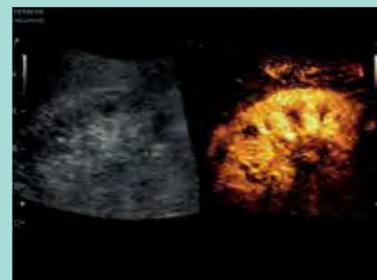
The T-shaped linear transducer can be gripped firmly, and together with its high frequency and large aperture, ensures high-resolution images across a wide field of view.

Flexible Transducers for Manipulation with Forceps

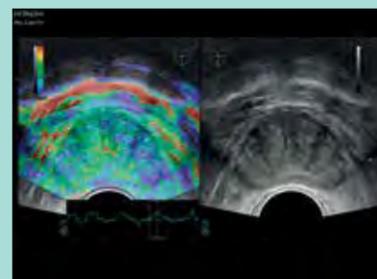
These transducers can be used with forceps commonly employed in laparoscopic procedures. The compact designs allow manipulation in small surgical fields.



Transversal view of prostate gland



Kidney enhancement with CHI



Normal prostate with RTE

Urology Applications

High performance reliability is provided by the wide range of ergonomic transducers for transperineal (TP), transrectal (TRUS), and transabdominal (TA) biopsy approaches. Dedicated urology measurement packages are available in the standard configuration.

Contrast Harmonic Imaging (CHI)

HdTHI technology can offer a reliable and accurate assessment of the anatomy, size, shape and location of the kidneys and ureters. The CHI mode provides additional dynamic assessment and quantification of the microcirculation without risk of nephrotoxicity; especially important in patients already suffering from renal impairment.

Real-time Tissue Elastography (RTE)

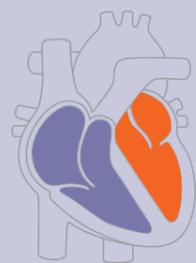
RTE of the prostate offers a new approach for the detection and visualization of cancer:

- RTE targeted biopsies have been shown to detect as many cancers as systematic biopsy with fewer than half the number of cores.
- In combination with other imaging modalities, RTE has great potential for improving cancer detection and staging.

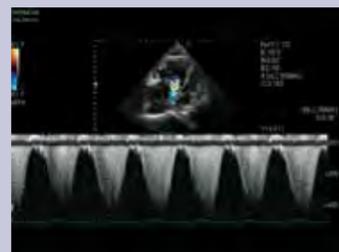
CARDIOLOGY CLEARLY DEFINED

Support for early detection and diagnosis
– from the heart to systemic blood vessels

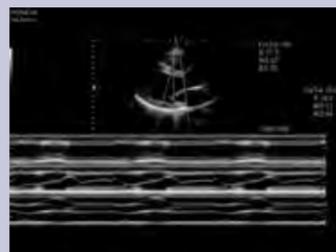
Even with its compact size, ARIETTA V60 features advanced tools that contribute to early detection and diagnosis of lesions in the heart and systemic blood vessels.



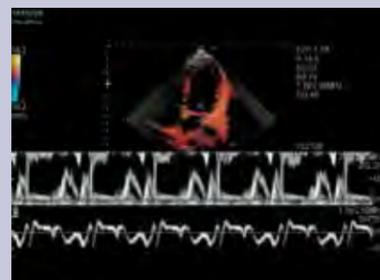
Long axis view in B-mode



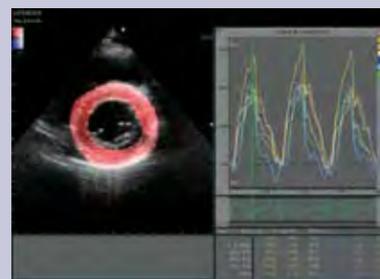
CW spectral trace with Doppler sensitivity



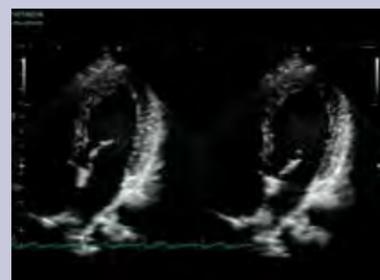
Long axis view in FAM



Dual Gate Doppler



Left ventricular wall motion with 2DTT



D.S.D. mode

High Quality Cardiac Imaging

High-resolution B-mode

The B-mode image can be realised with less patient-dependent variability. Clarity of imaging contributes to reduced examination time and improved workflow.

Doppler Mode Sensitivity

High-sensitivity Continuous Wave Doppler with waveform smoothing provides a continuity of display.

Free Angular M-mode (FAM)

The M-mode can be displayed using any cursor orientation. In this way, the wall motion or valve excursion can be compared from multiple angles in the same heartbeat.

Advanced Functions & Workflows

Advanced cardiac analysis tools improve operator efficiency and reduce exam time.

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 possible. Measurements such as E /e' ratio can be made, while eliminating beat-to-beat variation.

2D 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.

Dynamic Slow-motion Display (D.S.D.)

D.S.D. displays a real-time image and its slow-motion counterpart side by side on one screen. Rapid valve movements can be observed in detail.



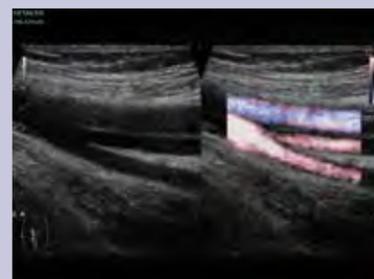
eTRACKING analysis



Auto IMT measurement in carotid artery



Distended vein in lower limb in trapezoid mode



Lower limb artery and veins with Dual CF



Automated Cardiac Measurement package



Transesophageal (TE) transducers

Monitoring the Vascular System

Evaluation of Early Atherosclerosis (eTRACKING)

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

Automated 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.

Trapezoid Mode

The trapezoid mode offers a wider field of view for the linear transducers, enhancing the visualization of vessels and organs and the tissues around them.

Dual CF

Dual CF is a simultaneous side-by-side display of the Colour Doppler and B-mode images, enabling the observation of the intravascular lumen and the blood flow together in real time.

Automated Cardiac Measurements

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.

Transesophageal (TE) Transducers

The TE transducers are designed to reduce patient discomfort while providing high imaging performance.

- Rotary-plane TE transducer
- Motorized TE transducer

WOMEN'S HEALTH CLEARLY DEFINED

Solid technology and outstanding usability for reassuring women's health

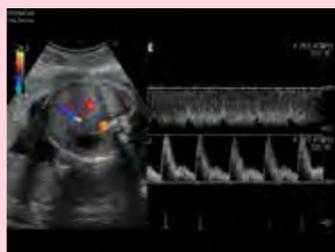
Early observation and accurate diagnosis of maternal and fetal well-being can provide the necessary support and reassurance to parents.



Early gestation sac in B-mode



Fetal brain in B-mode



Fetal abdomen with Dual Gate Doppler



AutoFHR on first trimester embryo



Fetal face and arm with 3D surface rendering



Fetus and placenta with 4Dshading



Fetal face with 4Dshading

Solutions for Early Diagnosis & Monitoring of High-risk Pregnancies

High-resolution B-mode Imaging

Clarity of detail is recognized as the key requirement for observation of fetal growth and to exclude anomalies in organs such as the heart and brain. ARIETTA V60's high contrast resolution allows detailed observation.

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.

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. This feature is extended to the transvaginal transducer, permitting assessment of the early gestation embryo.

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. 4Dshading is a rendering technology that simulates different positions of a virtual light source giving a more realistic appearance of natural shadows and skin texture to the 3D reconstructed image.



Multicystic ovary with transvaginal transducer



Uterine cervix with convex transducer



Laparoscopic view of uterus with L43K transducer

Women's Health

Our focus is to improve women's quality of life by making full use of technology to contribute to prevention, early detection and treatment of disease.

Transvaginal Transducer (with Biopsy Guidance)

Designed to accommodate easy needle insertion, supporting precision and safety for biopsy procedures.

High Frequency Convex Transducer

Offering a broad frequency bandwidth and high sensitivity, this higher frequency transducer permits detailed examination of the fetus in the early stages of pregnancy, the fetal brain or heart.

Flexible Intraoperative Transducer Manipulated with Forceps

The L43K transducer can be used with forceps commonly employed in laparoscopic procedures. The trapezoid mode widens the field of view providing excellent guidance for gynecological procedures.

ARIETTA V60

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