

HITACHI
Inspire the Next



Diagnostic Ultrasound System MODEL: PROSOUND α7



ALOKA
illuminate the change

prosound α7 Premier

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- The specifications, shape and color of this product are subject to change without notice.
- The standard components and optional items vary depending on the country.



We strive to provide quality products and services for our customers.
We operate with regard for the environment.

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Powerful, Friendly and Compact Ultrasound System



Powerful

ProSound $\alpha 7$ inherits the proven technologies and functions of our high-end model. The high quality images allow for reliable and efficient examination.



Friendly

User friendly, patient friendly and environment friendly; this is the premium feature of the ProSound $\alpha 7$. The universal design enables the system to fit your every need and improved efficiency reduces burden on the patient. The system is also environmentally-friendly, made of ecological materials and having low power consumption.



Compact

Can systems with high performance be compact? ProSound $\alpha 7$ has proven this possible. The compact and light-weight system can easily be moved throughout the hospital; examination rooms, ICU, operating theater, or patients' bedside, delivering high-quality examinations.

Specialized Throughout the Hospital

With outstanding versatility, ProSound $\alpha 7$ is ready for a broad range of clinical applications as a specialized system.

Breast Ultrasound

OB/GYN

Vascular

Cardiology

Abdominal

Urology

Interventional

Intraoperative

Anesthesiology

Musculoskeletal

Small Parts

Pediatrics

Many more . . .



Exceptional Image Quality for Your Diagnostic Confidence

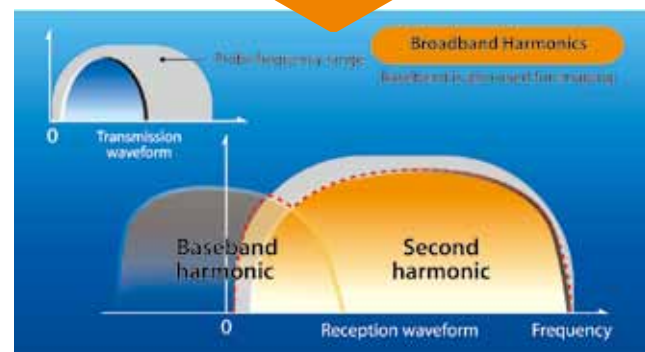
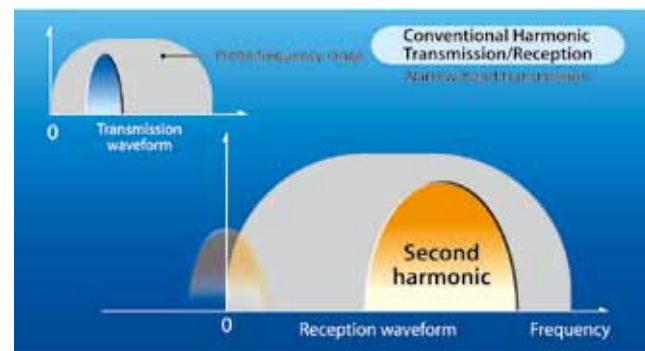


With the latest technologies and years of experience, ProSound α7 is ready for your clinical needs.

High versatility and specialized functions provide outstanding images with impressive contrast and spatial resolution. With high S/N ratio and reduced side lobes, this system presents you with all the information you need for confident diagnosis.

● Broadband Harmonics (BbH)

High penetration and spatial resolution co-exist in both fundamental and Harmonic Echo imaging, using broadband transmission. Making full use of the second harmonic that reduces side lobes and multiple echoes, Broadband Harmonics offers exceptional clarity on the entire image.

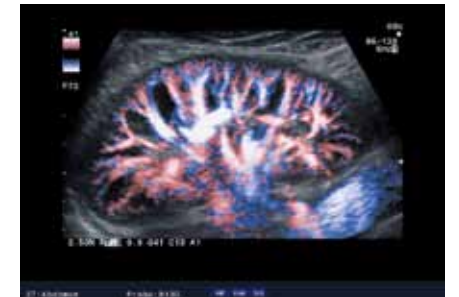


● eFLOW

Dynamic, detailed blood flow display

eFLOW features enhanced spatial resolution for greater detail. Blood flow can be displayed separately from tissues with only minimal overlapping.

Slow blood flow in the finest peripheral vessels such as in fingertips and fast flows in the largest great vessels can dynamically be observed together in one image.



Renal blood flow, clearly displayed to the very minute vessels

● Adaptive Image Processing (AIP)

Clearer edge definition

Differences in tissues can be clearly displayed with reduced speckle noise using AIP. Even clearer edges are delineated by selectively emphasizing boundaries. Operating while maintaining the frame rate, AIP is also beneficial in cardiac observations.



Aorta, displayed with clear edges

● Spatial Compound Imaging (SCI)

Sharper depiction of luminal structure

SCI enhances depiction of side wall structures of lumens by superimposing images acquired by steering ultrasound beams in multiple directions. Speckle patterns in parenchymal organs are more finely displayed, and artifacts depending on beam direction are reduced.



Carotid Artery, with clear cut vessel walls

● Trapezoidal Scan

Images scanned by linear probes can be displayed with a wider field of view, in a trapezoidal form.



Ordinary linear scan



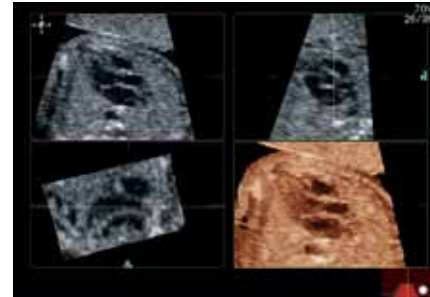
Trapezoidal scan

Women's Healthcare

Gently Supporting the Wellness of Mother and Baby

Spatio-temporal Image Correlation (STIC)

Complete 3D volume data set of one heartbeat of the fast moving fetal heart can be constructed, enabling MPR display in a moving image.



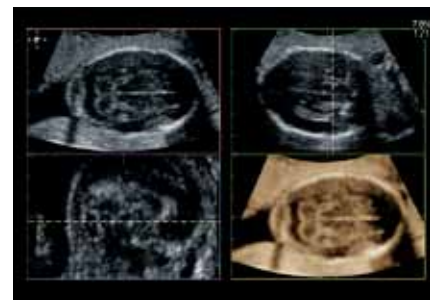
Dynamic Slow-motion Display (DSD)

While displaying a real-time image on the left, its slow motion image can be displayed on the right side of the screen. Each movement of fast moving fetal heart with complex structure can be caught, and details can be examined.



Volume Slice Imaging (VSI)

Displaying cross-sectional images with thickness, VSI improves image quality by enhancing contrast resolution and reducing speckle noise, and enables easier 3D understanding of the target.



Detailed image of the fetal brain using VSI

Automated Nuchal Translucency (NT) Measurement

Automated NT Measurement automatically detects and measures NT thickness. Set the region of interest (ROI) on the fetal neck's mid-sagittal view, and the ProSound α7 will do the rest. This easy, quick and efficient function supports accurate diagnosis of chromosomal abnormalities such as Down syndrome.



Courtesy of: Dr. Marc Althuser, France

Real-time Tissue Elastography

Stiffness of tissues can be visualized in real time. Using Strain Ratio Measurement to calculate the ratio of 2 areas of your choice, the ratio of stiffness between fat and region of interest (FLR: Fat Lesion Ratio) can be obtained.

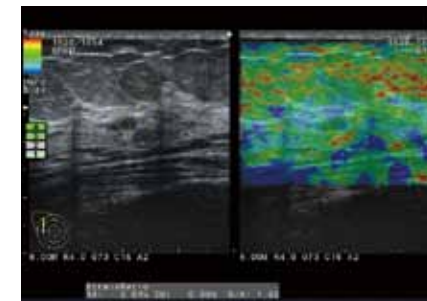
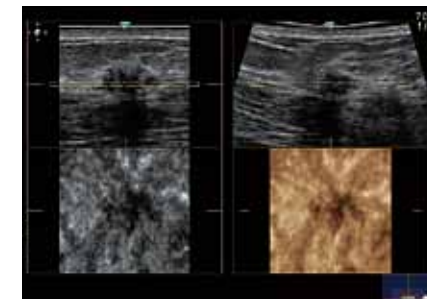


Image of the breast

Small part 3D Imaging

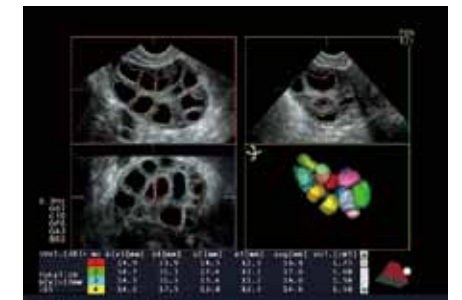
High resolution volume data of superficial areas such as the breast can be acquired using the high-frequency linear 3D probe.



Breast image of lesion pulling in its surrounding tissues, using VSI

Multi-follicle Volume (MFV)

Multiple follicles can automatically be detected in 3D, and the diameter and volume of each follicle can be displayed.



Easy understanding of follicles using MFV

Courtesy of: Dr. Chen, Nantang Hospital, Southern Medical University

eFLOW

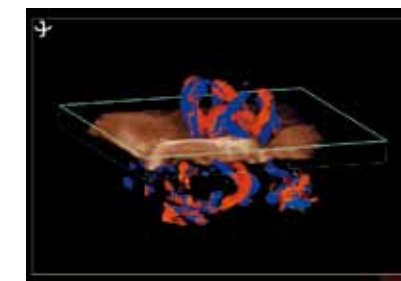
The high resolution eFLOW faithfully presents blood flow in minute vessels, without overlapping of color on the tissue.



Precise reproduction of the uterine artery



Real-time 3D (4D) fetal image



3D display of blood flow in the umbilical cord using Flow 3D



The fetal aorta using Multi-slice Imaging (MSI)

Cardiovascular

From Prevention to Diagnosis to Treatment
Quantitative Analysis Entirely Supports You



Early stage before organic change occurs

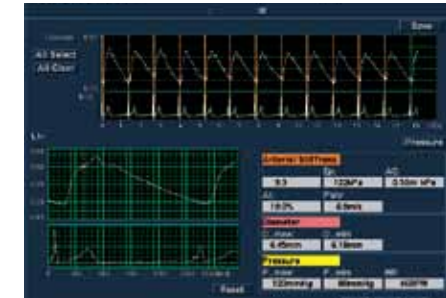
- Evaluations of endothelial function and arterial stiffness

eTRACKING (Echo Tracking)

The tracking gate automatically follows vessel wall movements, measuring vessel diameter change in real time at an exceptional accuracy of 0.01 mm.

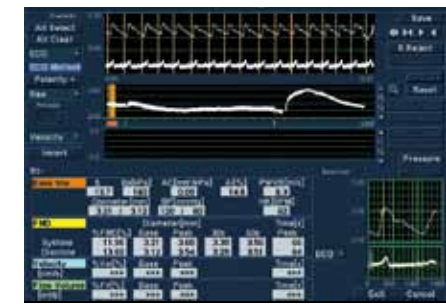
Arterial Stiffness

Parameters necessary for quantitative evaluation of early stages of atherosclerosis can be computed at once and displayed on the report. Such parameters include Beta and Ep values, Arterial Compliance (AC), Augmentation Index (AI), and one-point PWV.



Flow Mediated Dilatation (FMD)

Noninvasive method for evaluating the vascular endothelial function.



Wave Intensity (WI)

This hemodynamic index is expected to be beneficial for analyzing interaction between the heart and the vascular system.

Onset of organic change

- Measurements of IMT, flow velocity, and stenosis

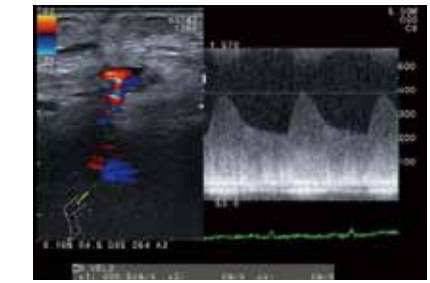
Automated Intima-media Thickness (IMT) Measurement

Simply by setting the ROI on a vessel's longitudinal image, max and mean IMTs can be automatically computed.



CW Doppler by the Linear Probe

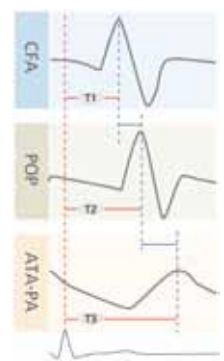
Faster blood flows can now be observed with the linear probe without having to change to a sector probe. Stenotic blood flow in superficial areas can sensitively be detected, with excellent image quality and wide field of view.



Courtesy of:
Saitama Medical University
International Medical Center
Tetsuya Yamamoto
Makoto Matsumura

Transit Time of Vessel Flow (TVF)

TVF is an index for estimating stenosis and occlusion in the artery of the lower extremities. The time it takes from R wave to the peak of each blood flow waveform in 3 arteries of the lower limb, common femoral artery, popliteal artery, and ankle are automatically measured and the left-right difference is compared.

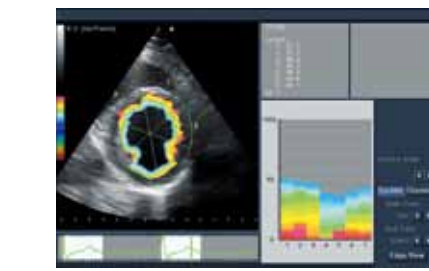


Onset of angina pectoris or myocardial infarction

- Evaluation of Ischemic Cascade

Automated Segmental Motion Analysis (A-SMA)

Cardiac wall movements can be quantitatively evaluated from changes in the areas of each cross section of cardiac chambers, by the automatically traced endocardiums.



Histogram display in systole

Stress Echo

With easy operation, exercise stress and pharmacological stress examinations can be performed. Simultaneous display of multiple moving images of before and after stress application contributes to evaluations of ischemia and myocardial viability.

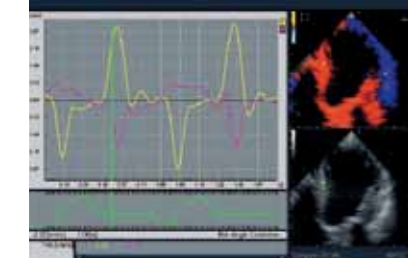


Treatment phase

- Contribution to Cardiac Resynchronization Therapy (CRT)

TDI (Tissue Doppler Imaging) Analysis

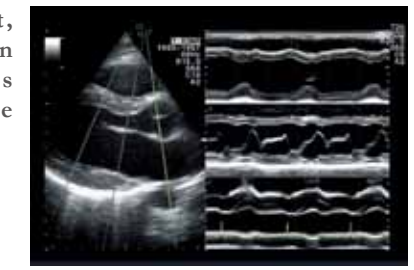
For further evaluation of regional cardiac functions, we focused on cardiac movements from the myocardia. Strain/Strain Rate, which is hardly influenced by tethering or translation, is becoming more and more recognized.



Strain Analysis using TDI

Free Angular M-mode (FAM)

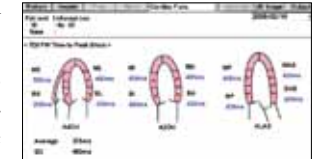
In one heartbeat, cardiac wall motion in multiple areas and valves can be compared.



FAM, analyzing 3 points

Asynchrony Measurement

Various parameters necessary for dyssynchrony evaluation of between ventricle and atrium, the two ventricles, or within a ventricle are provided as one study.



Asynchrony measurement report

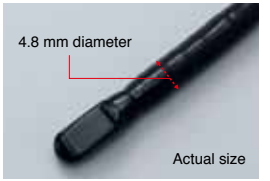
Patient Friendly Trans-esophageal Probes

Our trans-esophageal probes are designed for patient comfort, maintaining excellent image quality and features in the amazingly fine probe shape.

- Neonatal probe
- Pediatric rotary plane probe
- Rotary plane probe



UST-5293S-5
Rotary plane probe



4.8 mm diameter
Actual size

UST-52110S
Super fine probe for neonates

Abdomen/Digestive Organs

● High-definition Imaging

Broadband Harmonics (BbH)



High penetration and spatial resolution image of abscess in the liver

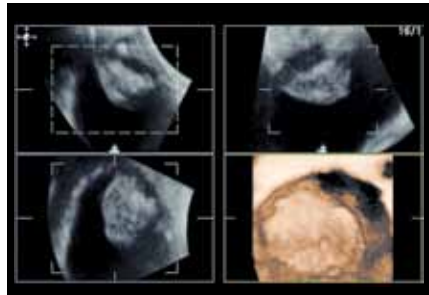
eFLOW



Dilatation of intrahepatic bile duct with detailed depiction of blood flow

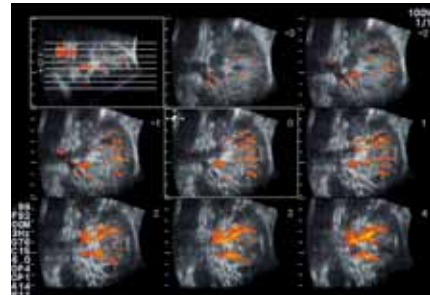
● 3D Imaging

Multi-planar Reconstruction (MPR)



Bladder tumor, viewed from multiple planes and in 3D

Multi-slice Imaging (MSI)



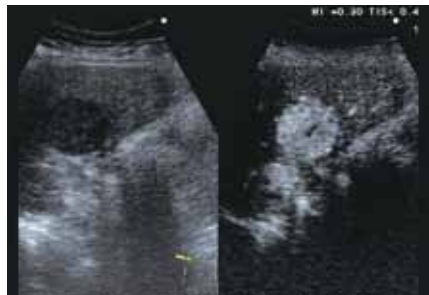
Multi-planar parallel display of the kidney's 3D volume data

● Contrast Echo

Supports all types of contrast agents of high to low acoustic pressures.

Dual Dynamic Monitor (DDM)

A fundamental image and its contrast enhanced image can be displayed side by side, in real time, simultaneously.



Micro-convex Probe

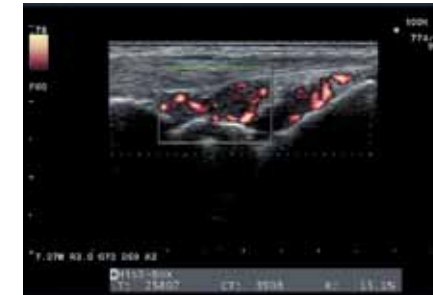
With the micro convex probe that fits in narrow intercostal windows, safer puncturing is possible with very minimal blind areas. This is advantageous in contrast echo evaluation before and after RFA treatment.



Musculoskeletal/Rheumatology

Ultrasound examinations are becoming more and more popular in the musculoskeletal and rheumatologic fields.

Power Doppler

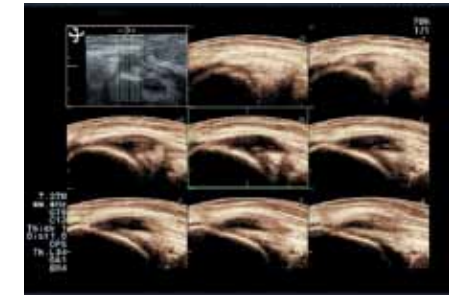


Joint Rheumatology

Bone erosion, synovial thickening, and synovial blood flow can easily be observed by simply placing the probe on your patient, over the targeted area. Quantification examinations obtained from the ratio of areas with color and without have been attracting attention as a way to evaluate disease activity.

Courtesy of:
Hokkaido Medical Center
for Rheumatic Diseases

Freehand 3D (MSI display)



Fluid in the Knee Joint

With Freehand 3D, volume data can be obtained with a 2D probe. Observing volume data using Multi-slice Imaging (MSI) enables easy understanding of lesion spread.

High-frequency Linear Probe



Clear depiction of the humeroradial joint

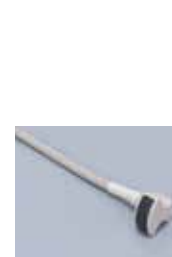


Extended Field of View (EFV)



Wide view of the lower extremity

Intraoperative



Case of hepatic hemangioma, before right hepatectomy. Displayed with marginal strong echo. Probe used: intra-operative probe, UST-9132T

Real-time Tissue Elastography

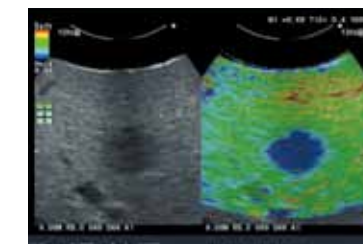
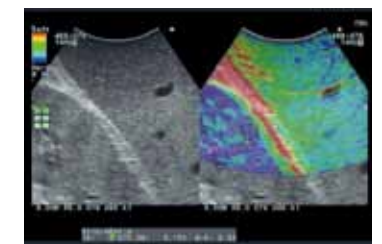
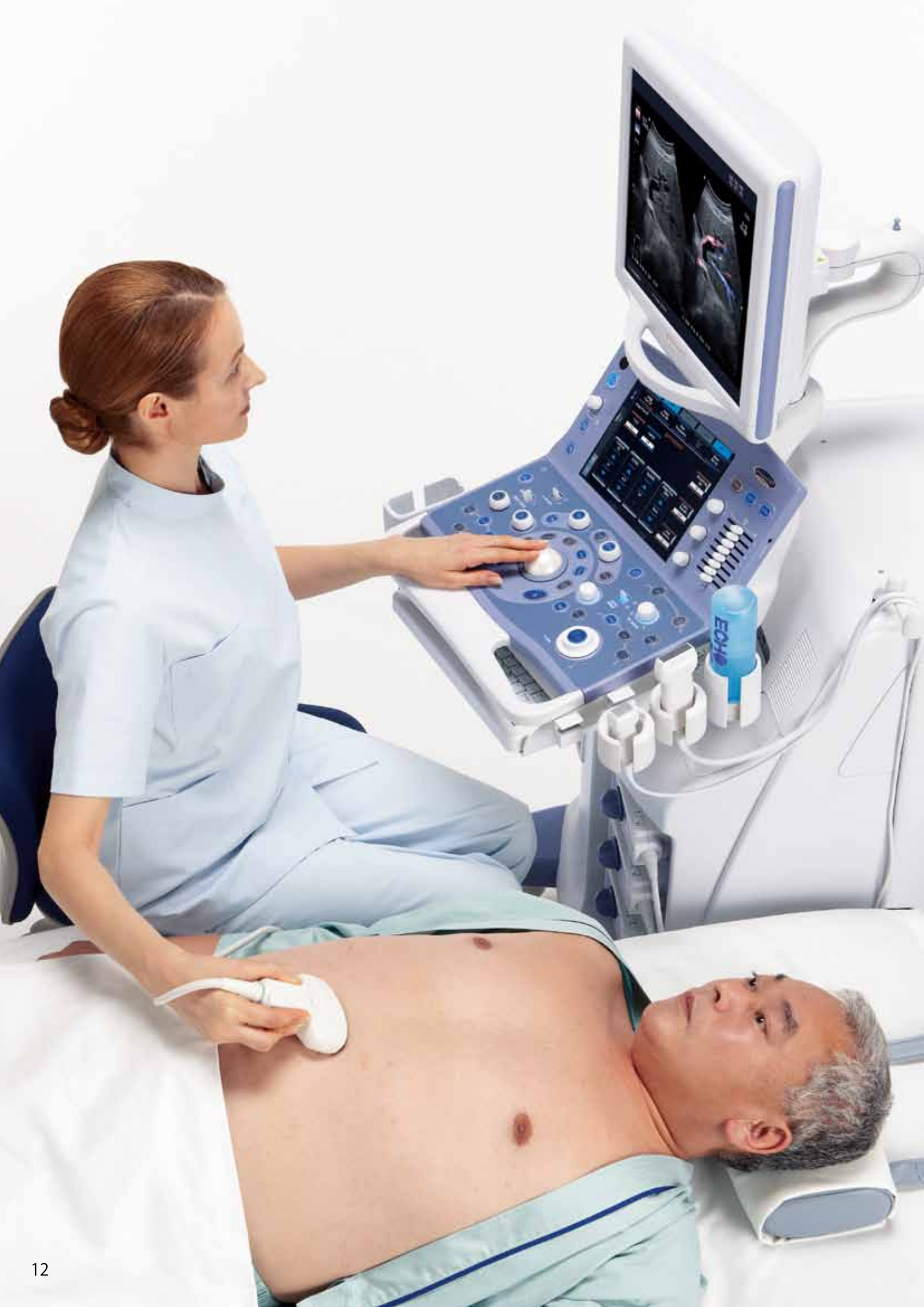


Image of metastatic hepatic cancer
Courtesy of: Dr. Yosuke Inoue & Professor Norihiro Kokudo, Graduate School of Medicine, University of Tokyo

Real-time Tissue Elastography



Strain Ratio Measurement of the liver
Courtesy of: Professor Keiji Sano, Professor of Surgery, Teikyo University School of Medicine



Abundant optional probes

As many as 50 types of optional probes, including those for routine examination and specialty use, are available.

- General abdomen
- Transvaginal
- Transrectal
- Intraoperative
- Small parts
- Biopsy
- Cardiology
- Transesophageal
- Laparoscopic
- Endoscopic ultrasound



Laparoscopic probe



Intercostal biopsy



Intraoperative (finger-grip type)



Bi-plane trans-rectal probe



Abdominal biopsy



Intraoperative (finger-grip type)

Endoscopic Ultrasound (Manufactured by Olympus Medical Systems)

● Convex scanning bronchofibervideoscope

Specifically designed for real-time endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA). With high resolution image quality and high sensitivity Color Doppler, the system allows for safer and more accurate biopsy in the mediastinal and hilar lymph nodes for the diagnosis and staging of lung cancer.



● Radial scanning scope

The radial scanning scope covers a wide 360-degree ultrasound scanning range and supports early detection and staging of diseases. This system is equipped with Color Doppler function that is useful for differentiating blood vessels from lymph nodes by displaying moving objects with color. This function also enables easier orientation in the pancreatobiliary region.



● Convex scanning scope

The convex scanning scopes are designed mainly for endoscopic ultrasound-guided fine needle aspiration. A wide 180-degree ultrasound scanning range and Color Doppler function enable differentiation between blood vessels and lymph nodes and ensure comprehensive imaging of all structures surrounding the region of interest.



Notes: The above endoscopes are not marked in some countries and areas. Marketable models are different from the above in some countries and areas.

Comfortable Examination and Working Environment The result of our efforts towards usability



● Operation panel with your switch layout

Most panel switches are customizable to match your needs, with replaceable key tops.

● 10.4 inch large touch panel

Able to customize the menu layout in a format most useful for you.

● Flexible monitor with handle

The monitor alone can be swiveled horizontally and slid vertically. With the monitor and operation panel moving individually, each can be set to their optimal positions.

● Adjustable panel height and angle for your ease of use

Short or tall, standing or sitting; you name the height, and ProSound α7 will adjust to it. The operation panel can also be swiveled for you to scan in comfort.

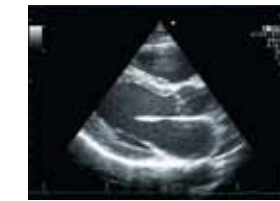


How to Streamline your Workflow

● You provide directions; let the automating functions do the rest

Image Optimizer

In addition to the ordinary B-mode Gain, STC settings in the depth and lateral Gain can also be optimized in one action. As the system learns the examiner's adjustment trends, it will grow to deliver images of your preference as more and more examinations are performed.



Before optimizing



Optimized

Doppler Auto Trace, Auto IMT Measurement, TDI Auto Trace function

Automated measurements not only shorten exam time but enhance accuracy, obtaining definite results regardless of the examiner.

● Protocol Assistant

With the Protocol Assistant, the system will guide you through your exam, preventing forgetting to capture or measure images. Pre-register the steps and they will be displayed on the touch panel with a body mark, measurement name, and annotation. As images are printed or stored along the protocol, checkmarks will appear in the checkboxes automatically. When exams are interrupted, a warning message will appear to ensure that the entire examination is performed.



● Remote Controller

Have you ever felt the need to reach the operation panel but was difficult to do so, such as when examining the lower extremities or when using a TEE probe? The ProSound α7 brings the small, simplified operation panel right in your hand as a remote controller. Looking for switches is unnecessary, as functions are selected from the monitor on the system.



Small is good.

● Looking for a place to fit your system?

The footprint of ProSound α7 is only 49 cm x 79 cm, compact and easy to fit in small spaces.

● Move your ProSound α7 throughout the hospital.

With the four swivel casters, this system is easy to move with tight turns. Swiveling of the casters can be locked for easier transportation when moving straight without drifting.

