Diagnostic Ultrasound System MODEL : PROSOUND α 7

prosound α7 Premier

ALOKA-An Environmentally Friendly Company

- 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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Printed in Japan 2009-11 E267 ③ (K)

ALOKA
illuminate the change

Powerful, Friendly and Compact Ultrasound System

Powerful

The ProSound α7 inherits the proven technologies and functions of Aloka's high-end model. The Broadband Harmonics realizes high sensitivity that is comparable to fundamental imaging even with Harmonic Echo imaging. Directional *e*FLOW features enhanced spatial resolution for greater detail of blood flow information.

Friendly

To reduce the burden on the examiner, the universal design ensures unparalleled ease of use. Improved efficiency of examination also reduces the burden on the patient. And the system is environment-friendly, being made of ecological materials and consuming little power.

Compact

The ProSound α7 is a diagnostic ultrasound system that contradicts the thought that high-performance systems are large. The system is easily transported from the examination room to the ICU, operating theater or patient's bedside to deliver high performance throughout the hospital.

High-performance for Easier Diagnosis

●Broadband Harmonics

The ProSound α7 has successfully achieved both high penetration and spatial resolution not only in the fundamental imaging but also in the Harmonic Echo imaging. More detailed image information and deeper penetration are available.

Abscess in the liver

●Directional *e*FLOW (D-*e*FLOW)

Displays high-resolution blood flow with directional information. Compared with conventional blood flow display methods, D-*e*FLOW features enhanced spatial resolution for greater detail. Blood flow can be displayed separately from tissues with little overlapping. It visualizes blood flow dynamics ranging from thin and low-speed flow at the tip of a finger, to thick and high-speed flow more faithfully.

Renal flow

●Adaptive Image Processing (AIP)

AIP clearly displays differences in tissues, reducing speckle noise while maintaining the high frame rate. It can also display tissue outlines more clearly by selectively emphasizing boundaries.

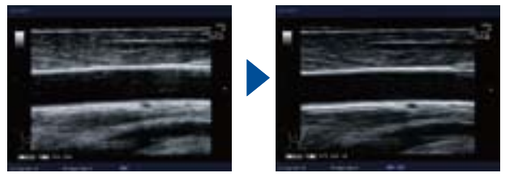
Aorta

●High-grade LCD Monitor

Aloka has carefully selected the LCD monitor for this system to fully exploit the high-quality image performance of the system. In addition to its rich representation, this monitor offers excellent contrast suitable for the characteristics of ultrasound examination.

●Spatial Compound Imaging (SCI)

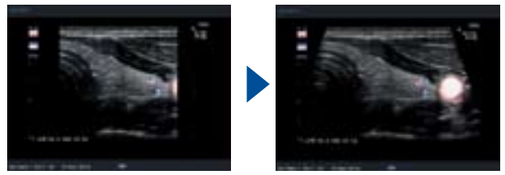
Offers enhanced capability for depicting sidewall structures of tubular cavities and the like by superposing images created by steering the ultrasound beam in multiple directions. Speckle patterns of the parenchyma of organs are depicted much smaller while reducing artifacts dependent on beam direction.



SCI: OFF　　SCI: ON

●Trapezoidal Scan

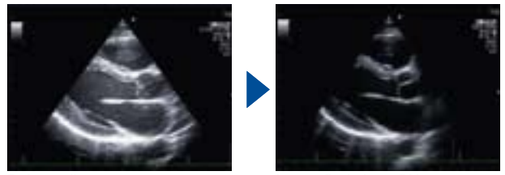
Images by linear probes are displayed as a trapezoidal form. This provides a wider field of view than with conventional displays, to facilitate anatomical understanding of the region of interest.



Ordinary linear scan　　Trapezoidal Scan

●Image Optimizer

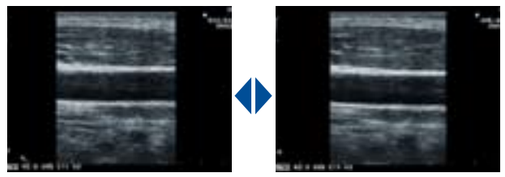
Instantly optimizes the brightness of the entire B-mode image. The user is freed from frequent image adjustments during examination, resulting in enhanced examination efficiency.



Before adjustment　　Image Optimizer: ON

●Edge Optimizer

The Edge Optimizer reduces speckle noise and emphasizes the tissue boundary to provide crisp images. The vessel intima and pericardia, in particular, are depicted with good continuity.

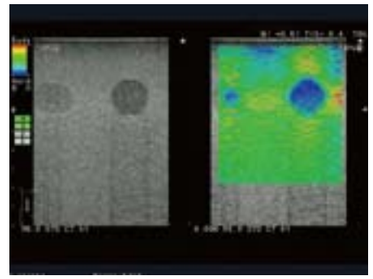


Soft image　　Hard image

For More Detailed Examination

Real-time Tissue Elastography®

This function is used to visualize the stiffness of a tissue in real time. The strain generated in a tissue on applying pressure is represented by colors: stiffer areas (areas of smaller deformation) are shown in blue.



B-mode image (left) and elastography image (right) displayed simultaneously in real time (using a phantom)

Real-time Tissue Elastography is a registered trade mark of Hitachi Medical Corporation
This function is licensed from Hitachi Medical Corporation.

Contrast Harmonic Echo (CHE)

The system supports a full range of contrast agents of high through to medium and low acoustic pressures.

Contrast enhanced image using SonoVue®
Courtesy of
Prof. Fabrizio Calliada, Radiology Department,
Policlinico San Matteo, University of Pavia, Italy

Capture Mode (CHE)

Narrow blood vessels are depicted with good continuity.

Dual Dynamic Monitor (DDM) mode

The fundamental monitor image and the contrast image are simultaneously displayed in real time.

IMT (Intima-media Thickness) automated measurement

It is possible to automatically extract max IMT and mean IMT only by setting ROI (region of interest) on a long-axis view of the vessel.

Women's Healthcare

Gently Supporting the Wellness of Mother and Baby

High Frame Rate

A high frame rate is indispensable for observing and analyzing the cardiac function of a fetus.

Fetal heart (22w1d)

*e*FLOW

Blood flow is depicted clearly with high resolution.

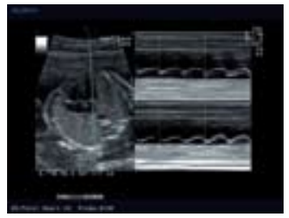
Fetal cardiac flow

Extended Field of View (EFV)

EFV is excellent for viewing the entire uterus for multiple gestations and placenta positioning. It is also possible to image whole body of a grown fetus.

Real-time Free Angular M-mode (FAM)

The user can set the M-mode cursor in any position and at any angle to facilitate examination of the cardiac function of a fetus. Reconstruction of M-mode images is possible as many times as desired after freezing the image by using the Cine Memory.



3D/4D Imaging

- Real-time 3D images (4D images) of smooth motion are displayed by using the dedicated probe.
- The user can construct 3D images manually using an ordinary 2D probe* (freehand 3D function).

* Contact us for the applicable probes.

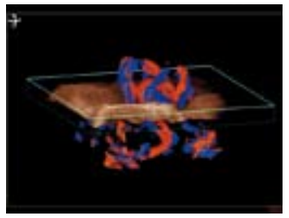
Multi Planar Reconstruction (MPR)

Fetus

Multi Slice Imaging (MSI)

Fetal aorta

Flow 3D



Umbilical cord

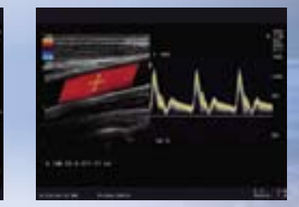
Gynecology

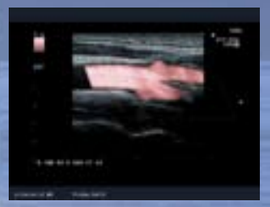
Uterine artery
Blood flow display by D-*e*FLOW

Image by 180-degree transvaginal probe

Mammary gland examination report

Providing total support from preventive medicine to treatment



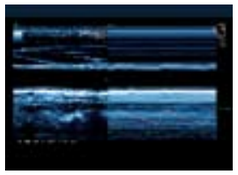
●Early detection of atherosclerosis and global analysis of the cardiovascular system

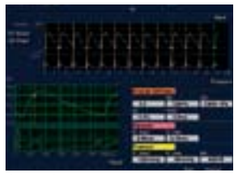
*e*TRACKING (Echo Tracking)

*e*TRACKING is designed to measure, automatically and in real time, changes in vessel diameter. The tracking gate follows movement of the vessel wall caused by pulsation with a precision as high as 0.01mm.

Arterial Stiffness

The parameters necessary for quantitative evaluation of early stage atherosclerosis— β (stiffness parameter), Ep, Augmentation Index (AI) and one-point PWV— are obtained at a single measurement and displayed onscreen.

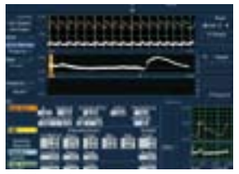

Measurement screen


Analysis screen

FMD (Flow Mediated Dilatation)

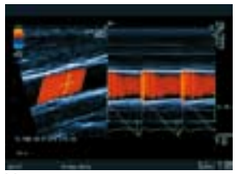
FMD analysis is known as an effective means for evaluating a blood vessel's endothelial function non-invasively.


Measurement screen


FMD analysis

WI (Wave Intensity)

Wave intensity is a hemodynamic index potentially useful for analysis of the interference between the heart and the vascular system.

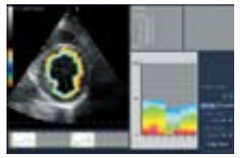

Measurement screen


Analysis screen

●Evaluation of Ischemic Cascade

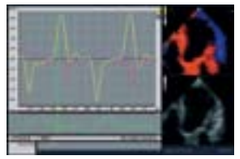
A-SMA (Automated Segmental Motion Analysis)

A-SMA employs a unique algorithm to automatically trace the endocardium. The cardiac wall motion is quantified by the change in the cross-sectional area of each segment.


Histogram (systole)

Strain/Strain rate

Strain analysis is used to examine local cardiac function by measuring the elongation and shrinkage of the regional myocardium between two designated points. Strain analysis is attracting attention since it is less affected by tethering and translation.


Strain analysis

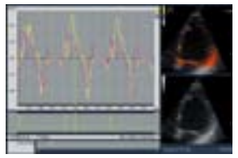
〈Useful analyzing functions〉

Wall Thickness (WT)
Myocardial Thickness
Stress Echo

●Contribution to CRT

TDI (Tissue Doppler Imaging) analysis

Asynchrony can be evaluated with greater precision using TDI analysis, which lets the ROI automatically track regional myocardial motion.


TDI analysis

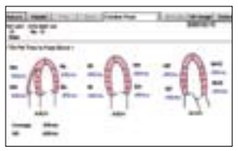
FAM (Free Angular M-mode)

FAM enables comparison of wall motion at multiple locations simultaneously.


FAM

Asynchrony measurement report

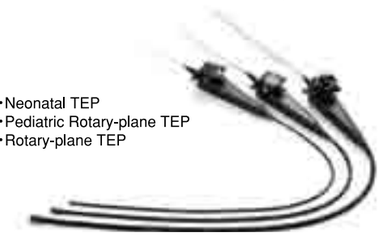
It offers the parameters necessary for evaluation of atrioventricular, inter-ventricular and intra-ventricular deficiencies in one Study.


Asynchrony measurement report

Patient Friendly Trans-esophageal probes (TEP)

Aloka's trans-esophageal probes are designed to be as thin as possible to reduce patient discomfort, while maintaining the highest image quality and performance.

・Neonatal TEP
・Pediatric Rotary-plane TEP
・Rotary-plane TEP




UST-5293S-5 Rotary-plane TEP

UST- 52110S Neonatal TEP

Note: Some models of transesophageal probes are not marketed in some countries and areas.

High Image Quality for Easier Diagnosis


Metastatic liver cancer


HCC

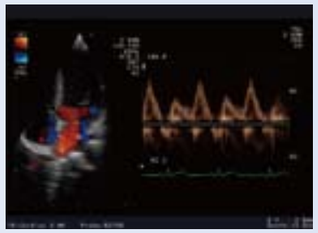

Biliary sludge


Umbilical cord


Fetal cerebral blood flow


ASD


TR


PV


Axillary lymph node


Thyroid tumor


Elbow joint


EFV image of upper extremity

Abundant Specialty Probes


UST-9130
Abdomen, OB/GYN


UST-9115-5
Abdomen, OB/GYN


UST-9101-7.5
Abdomen (High resolution)


UST-9128
Abdomen (Intercostal scanning)


ASU-1010
Abdominal 3D/4D


UST-9135P
Abdominal biopsy


UST-5045P-3.5
Abdominal biopsy


UST-9118
Endo-cavitary


UST-984-5
Endo-cavitary


ASU-1012
Transvaginal 3D/4D


UST-9136U
Superficial tissue


UST-9120
Intraoperative, Small part


UST-9104-5
Intraoperative, Small part


UST-9133
Intraoperative, Biopsy


UST-675P
Endo-cavitary


UST-677P
Bi-plane transrectal


UST-678
Bi-plane transrectal


UST-9132I
Intraoperative


UST-9132T
Intraoperative


UST-9146I
Intraoperative


UST-9146T
Intraoperative


UST-5412
Perpheral vessels, small part


UST-567
Small part


UST-5411
Perpheral vessels, small part


UST-5543
Superficial tissue


UST-5548
Peripheral vessels


UST-5712
Small part


UST-5713T
Intraoperative

UST-5550
Laparoscopic surgery
Flexeible type

UST-5536-7.5
Laparoscopic surgery
Flexeible type

UST-5534T-7.5
Intraoperative

UST-547
Intraoperative

UST-533
Microsurgery

UST-536
Intraoperative

UST-534
Intraoperative

UST-52109
End-fire laparoscopic probe

UST-52114P
Neurosurgery

UST-5293(S)-5
Rotary-plane TEP

UST-52119S
Padiatric Rotary TEP

UST-52121S
Padiatric Rotary TEP

UST-52110S
Neonatal TEP

UST-52120S
Neonatal TEP

UST-5296
Neonatal Cardiology

UST-52105
Cardiology

UST-52108
Pediatric Cardiology

UST-52124
Pediatric Cardiology

UST-2265-2
Cardiac CW Doppler

UST-2266-5
Peripheral vessels CW Doppler

Note: The compatible probes vary depending on the system version. Some probes require optional unit for connection.

Streamline Your Workflow

Menu items can be customized to individual likings on the large (10.4 inches) LCD touch panel. Virtual keyboard can be displayed on the touch panel.

The Flow, PW and M-mode control and gain features can be selected with the use of a single control.

Images can be easily frozen thanks to the integration of the gain control and freeze switch.


Retractable keyboard


Document tray

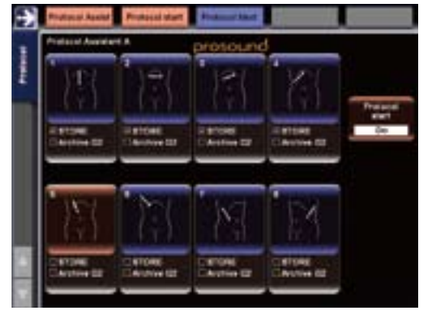
■The control panel can be turned horizontally and is height adjustable.
■The control panel is intuitive and has user-customizable panel switches.
■Image Optimizer instantly optimizes the brightness of the entire B-mode image.
■Retractable keyboard stored under the operation panel
■The document tray, convenient for holding documents, can be mounted in place of the standard keyboard.

Protocol Assistant

For smoother examination with no missing recorded images!

Smooth examinations are performed according to the pre-registered protocol (procedures).
By using the check function, it is possible to avoid forgetting to capture and/or measure images.

- Parts to be examined are registered with body marks and annotations.
- Measurement can also be registered as necessary.
- Registered protocols are displayed on the touch panel, enabling the user to check the progress of examination at any time.
- The acquired (recorded) sections are check-marked.
- A message appears if the user attempts to end the examination before completing all the registered procedures.



Remote Controller

Compact and Lightweight, Simple to Use, yet Multifunctional

- The main body of the remote controller is compact and light enough to fit easily in your breast pocket (40×90×10 mm thick; about 50 g). It comes with a neck strap.
- As the menu for the remote controller is displayed on the main screen, the controller can be manipulated while viewing images.
- The controller can control many functions including display mode switching, image adjustment, image freezing and various measurements.
- Can be used in the operating theater by placing it in a sterilized bag.

(Nearly the actual size)


Function menu for remote controller