Powerful, Friendly and Compact Ultrasound System

Powerful
ProSound α7 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 α7. 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 α7 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 α7 is ready for a broad range of clinical applications as a specialized system.

Breast Ultrasound
OB/GYN
Cardiology
Urology
Intraoperative
Musculoskeletal
Pediatrics
Anesthesiology
Small Parts
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.

- **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.

- **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.

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

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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.

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.

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.

Multi-follicle Volume (MFV)
Multiple follicles can automatically be detected in 3D, and the diameter and volume of each follicle can be displayed.

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.

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

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.

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.

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

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

Trans Esophageal Probes
UST-5208S-5
Rotary plane probe
UST-52110S
Super fine probe for neonates

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.

Free Angular M-mode (FAM)
In one heartbeat, cardiac wall motion in multiple areas and valves can be compared.

Asynchrony measurement report

Courtesy of:
Saitama Medical University International Medical Center
Tetsuya Yamamoto
Makoto Matsumura
Abdomen/Digestive Organs

- **High-definition Imaging**
  - Broadband Harmonics (BbH)
    - High penetration and spatial resolution image of abscess in the liver

- **3D Imaging**
  - Multi-planar Reconstruction (MPR)
    - Bladder tumor, viewed from multiple planes 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**
  - Bone erosion, synovial thickening, and synovial blood flow can 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.

- **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.

- **Joint Rheumatology**
  - Bone erosion, synovial thickening, and synovial blood flow can 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.

- **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

- **Real-time Tissue Elastography**
  - Case of hepatic hemangioma, before right hepatectomy. Displayed with marginal strong echo. Probe used: intra-operative probe, UST-9132T
  - Image of metastatic hepatic cancer
    - Courtesy of: Dr. Yosuke Inoue & Professor Norihiro Kokudo, Graduate School of Medicine, University of Tokyo
  - Strain Ratio Measurement of the liver
    - Courtesy of: Professor Keiji Sano, Professor of Surgery, Teikyo University School of Medicine
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

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.

- Convex scanning bronchofiberscope

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- 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 marketed 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

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.

  **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.

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- **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.

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Before optimizing

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