Diagnostic Ultrasound System MODEL：PROSOUND F75

HITACHI
Inspire the Next

prosound F75 PREMIER

We strive to provide quality products and services for our customers.

We operate with regard for the environment.

MIX Paper from responsible sources FSC® C002215

VEGETABLE OIL INK

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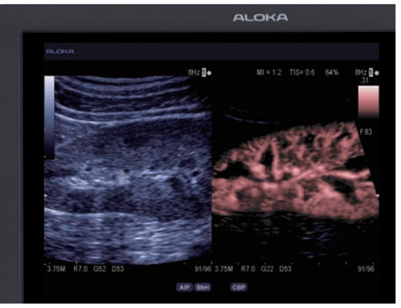
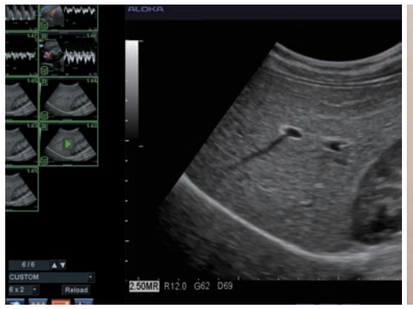
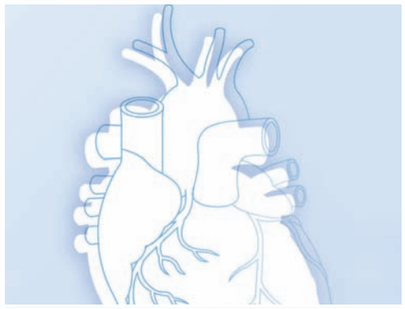
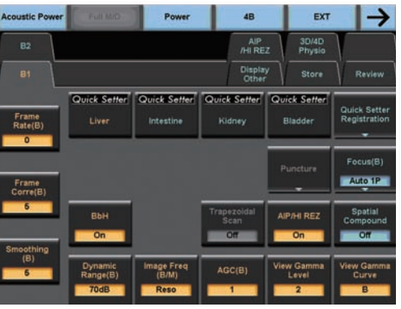
Printed in Japan 2014-11 E415 ① (D)

ALOKA
illuminate the change









Look. Learn. Leverage. Scrutinize unseen intelligence to new depths.

ProSound F75 Premier offers the sonographer full control.

Ultrasound examinations performed with truly unparalleled comfort and ease of use. A gentler experience for every patient and sonographer. The ProSound F series embodies our unwavering commitment of foreseeing future needs and providing technological innovations in support of our mission of “illuminate the change” to ensure images with outstanding diagnostic ability. Designed to our demanding “FIT to your specialty” concept, the ProSound F75 Premier defines the vanguard of advanced ultrasound diagnostics for today and the future.

FIT to your specialty

F Facilitate workflow

I Investment return

T True diagnostics

Making your work flow more comfortable

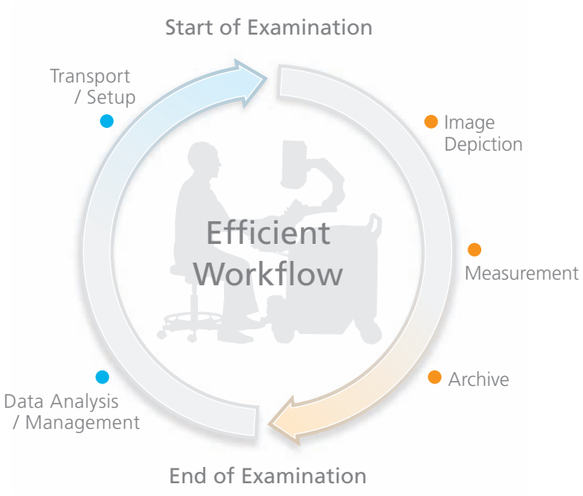
ProSound F75 Premier enables you to obtain examination results with fewer user key strokes.

To improve examination throughput, the ProSound F 75 Premier features
various functions from pre-examination settings to data management after examination.
Operations are simple and intuitive, enabling you to capture
the images you need for a quick and in-depth diagnosis.
Quick Setter, Automated Sound Velocity Adjustment,
and other image optimization functions support rapid examination
in a broad range of applications.

FIT to your specialty

Facilitate workflow

Simple Operation



Before Examination

- Compact and easy to move.
- Efficient acquisition of patient and examination reservation information from the work list.
- Automatic ID input for emergencies.
- Intuitive preset menu indicates the suitable preset for each attached probe.

During Examination

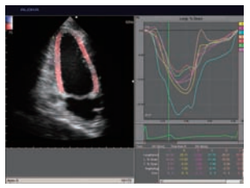
Various image optimization functions swiftly depict the necessary images:
- Quick Setter
- Image Optimizer (B mode / Doppler mode)
- Automated Sound Velocity Adjustment

Various automated measuring functions are available:
- *e*TRACKING, Automated IMT Measurement, Automated Volume Measurement, etc.

Easy recording, storing and retrieving:
- Automated search of past images.
- Simultaneous display of past and real-time images.
- Simultaneous transmission of stored images to multiple media and networks.

After Examination

- Post analysis using raw data.
- Teaching File creating function with care for protection of patient information.

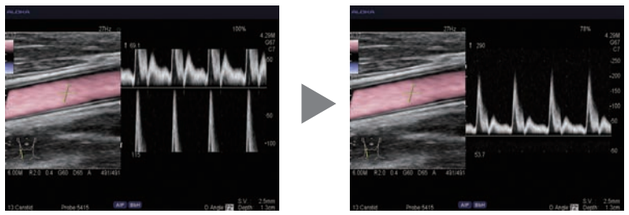


QuickSetter

Imaging conditions you need are set at a single touch of a switch without interrupting the examination flow. Preferred conditions can be registered on the spot according to different characteristics, such as:
- Physique and target areas of the patient.
- Examination purpose e.g. morphological observation and qualitative diagnosis.
- Blood flow velocity and range in vessel examinations.

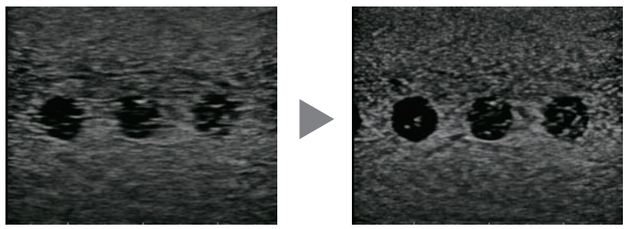
Image Optimizer

Images being scanned are quickly adjusted with a single action.
- B-mode: Brightness is continuously monitored and optimized to the user's preference.
- D-mode: Instant optimization of velocity range, which normally requires frequent adjustments. An automated base line shift function is also equipped.

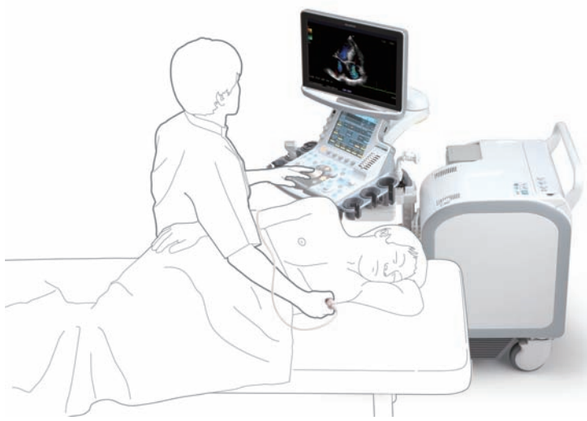


Tissue Adaptive Technology

Technologies including Automated Sound Velocity Adjustment offer crisp images with enhanced resolution. In a single action, the target is focused with the optimum sound velocity setting.

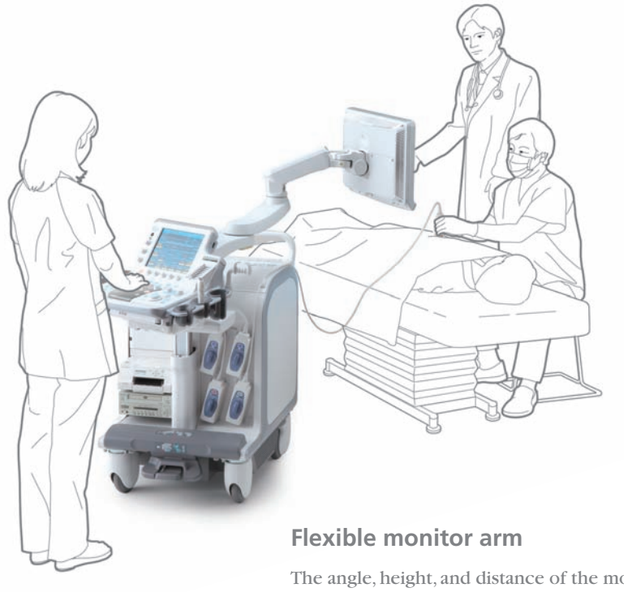


Friendly for various clinical settings



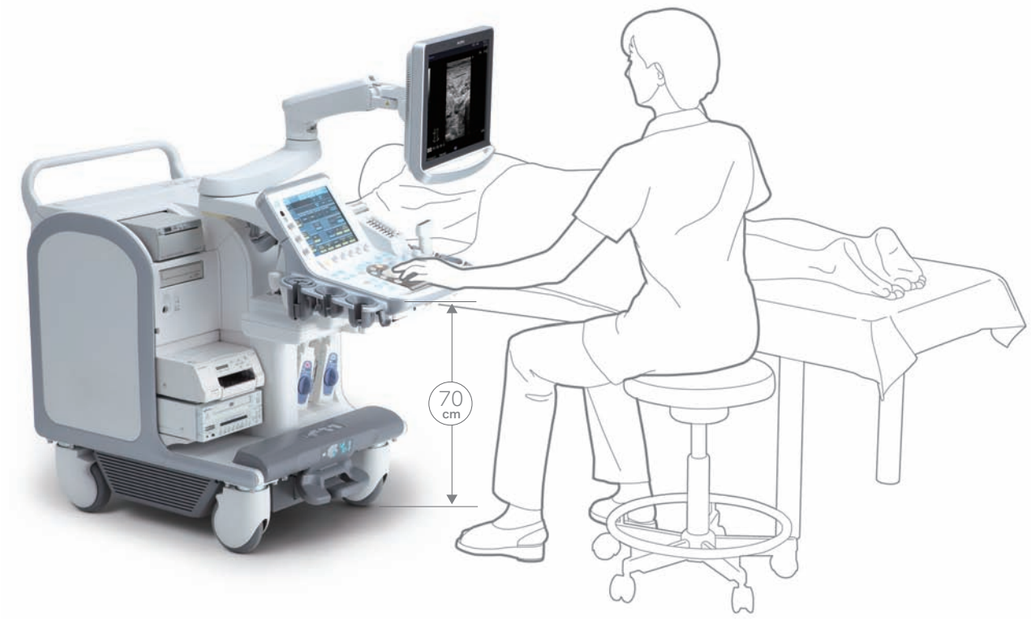
3-directional simultaneous adjustment of the control panel

The operation panel of the ProSound F75 Premier can be adjusted so that the switch layout matches the angle of the examiner's arm for comfortable examination. This panel moves sideways and back and forth, and can also be swiveled, fully adjusting to match the examiner's posture.



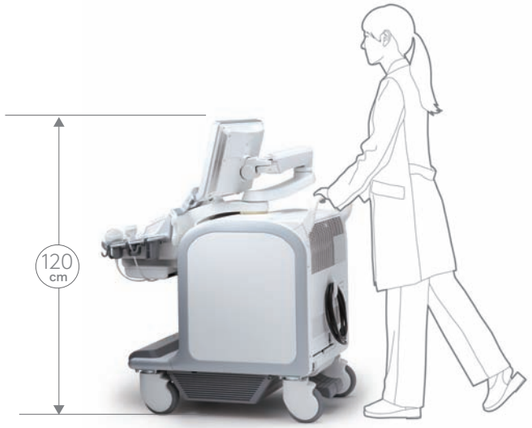
Flexible monitor arm

The angle, height, and distance of the monitor can be optimized for the examiner even when they are far apart during surgery or ultrasound-guided treatment. The wide-view 19-inch high-resolution monitor is easy to view even from an acute angle. Remote control is also available for various operations including switching display modes and adjusting images.



Operation panel is only 70 cm above the floor

The height of the operation panel is a key point for comfortable examinations. That of the ProSound F75 Premier can be lowered down to 70 cm from the floor.
For a wide-range scan such as when examining the lower limb vessel, the operation panel can be pulled toward the examiner easily to continue the examination comfortably.



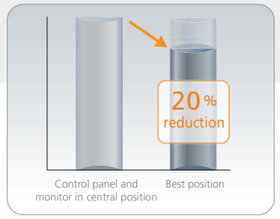
Beautifully compact

The main body is only 59 cm wide and 120 cm tall including the monitor, promising a good frontal view when moving the system without having to fold down the monitor. A wide back-handle, large wheels, and the monitor-lock mechanism to stabilize the monitor makes it easy and safe to move the system.

Numerical Evidence Confirms the Natural Ergonomics of the ProSound F75 Premier

Performing examinations in a natural posture is known to reduce the occurrence of musculoskeletal disorders. The ProSound F75 Premier with outstanding flexibility of its monitor and operation panel offers stress-free usability, FIT for various examination settings.

At Hitachi Aloka Medical, we aim to realize the positive effects in practical use based on numerical evidence* on reduction of physical stress.



Sonographer's muscle load

1: "Effect of a vertical console position on operator muscular stress during ultrasonic diagnosis" Jounal of Medical Ultrasonics, 2012
2: "Effects of horizontal console position on operator muscular stress during abdominal diagnosis" Jounal of Medical Ultrasonics, 2013

FIT to your specialty

F
Facilitate workflow

Continuing to support the ever-expanding clinical applications

ProSound F 75 Premier is versatile not only because of the wide variety of probes for particular organs. This compact, specialized system is ideal in respective applications, and comes with measuring and reporting functions to assist diagnosis.

Specialization

Specialized functions for the unique needs of each examination field are incorporated in the compact body.The highly-functional architecture allows the operator to store raw data for research as well.

Versatility

A variety of probes cover a wide range of examination fields, while a wealth of tools and functions such as measuring and reporting functions support daily examination.
The system has essential functions for hospitals such as DICOM compatibility including image storage and work list retrieval, making the system suitable for shared use.

Sustainability

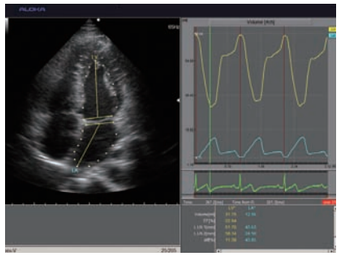
We are committed to reducing TCO (Total Cost of Ownership) for our customers and for the environment, offering a complete after-sale support system. Furthermore, the system is partially operated by software to ensure scalability and facilitate economic and simplified upgrades including addition and enhancement of functions. Environmental production features are fully embedded in the design to meet the requirements of the EU WEEE Directive.

FIT to your specialty

Investment return

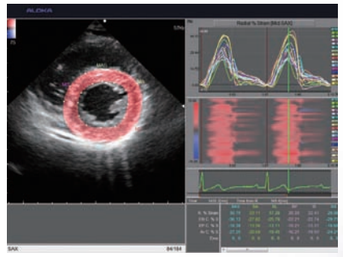
Cardiovascular

Cardiac



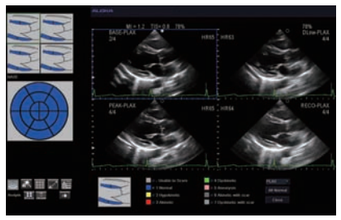
Quantification of intracardiac volume (2DTT)

Automatically calculates EF (Simpson's method). Simultaneously evaluates several locations (ventricular and atrial cavity, etc.) on the same plane at the same time phase.



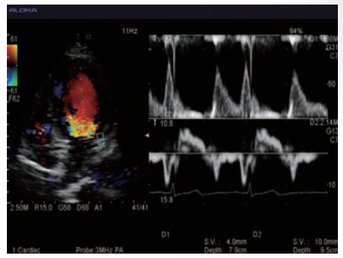
Quantitative assessment of local wall motion (2DTT)

Strain, twist angle, and various other parameters are provided.Supports simultaneous display of line and color graphs and bull's-eye display.



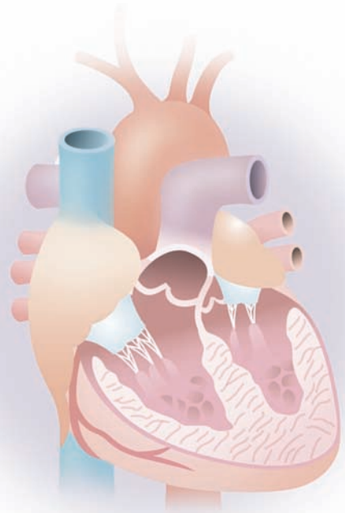
Stress Echo

The sequence assist function produces a stress echo with simple operation.
Multiple moving images taken before and after stress are simultaneously reproduced for effective evaluation of the ischemic condition and viability of cardiac muscles.



Dual Doppler (Adult Heart)

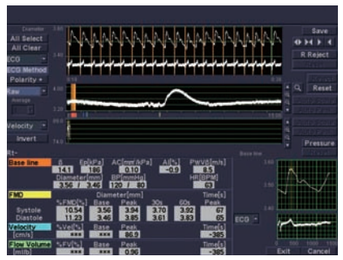
Dual Doppler enables observation of 2 Doppler waveforms of the same heartbeat.
Measurements using 2 different waveforms including E/e' can easily be performed.



Vessels

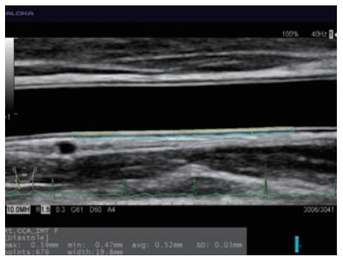
Evaluation of early atherosclerosis (*e*TRACKING)

Tracks RF signal (raw signal) of arterial wall echoes to analyze changes in vessel diameter in real time. Measures multiple parameters to determine the stage of atherosclerosis.



FMD (Flow Mediated Dilatation) for studying endothelial function

Evaluates endothelial function non-invasively.

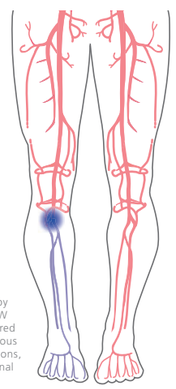


Automated IMT (Intima-media Thickness) Measurement

Maximum and mean IMTs are automatically extracted simply by setting the ROI on a vessel's long-axis view.

Transit time of Vessel Flow (TVF)

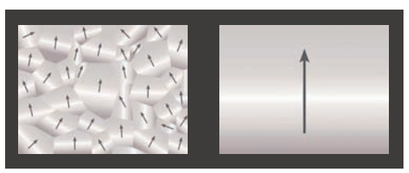
With Transit time of Vessel Flow (TVF), approximate location of arteriosclerosis obliterans (ASO) in the lower extremities can be estimated by measuring blood flow waveforms in a few points.
This contributes to efficient and quicker screening examinations.



The location of ASO lesions can be estimated by measuring the delay of the peak time of the PW Doppler waveform on the affected side compared to the normal side. This function is advantageous in the interpretation of cases with multiple lesions, which were difficult to identify with conventional PW Doppler examination.

Powerful Imaging, for Any Patient

Single crystal probes provide images with outstanding S/N ratio. Moreover, with Signal Booster, enhanced image definition in the far field significantly reduces patient-dependent variability.

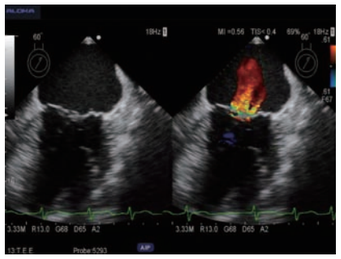


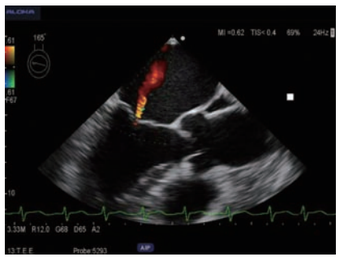
Conventional material　　Single crystal

Perioperative Care

Various TEE Probes

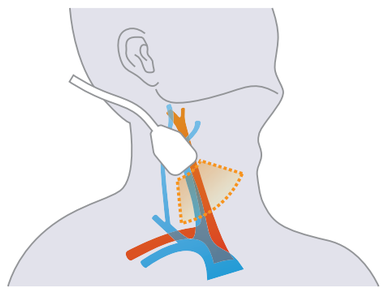
- A wide variety of TEE probes are available, from super fine probes with a 6 mm head diameter to motor-driven types.
- All TEE probes support CW Doppler mode.





Central Venous Catheterization Kit

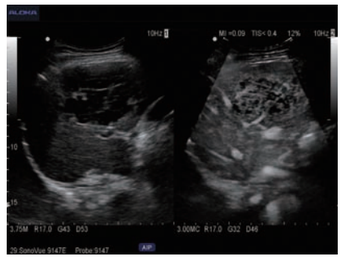
The combination of the high resolution micro convex probe with a wide field of view and the exclusive adapter with a swing mechanism supports safe puncturing.



Puncture adapter for central venous catheterization

Abdominal

Abdominal Part

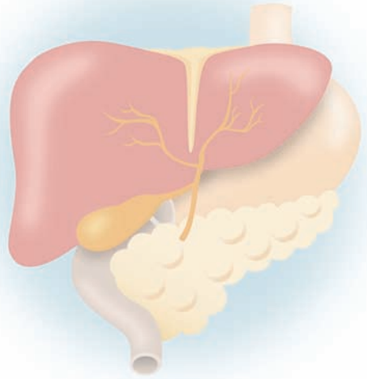


Capture Mode

In contrast echo imaging, brightness information of each pixel can continuously be displayed, following the trace of the contrast agent.

Outstanding Image Quality
(The Digestive Tract)

The linear probe offers images with high resolution and sensitivity.



Endoscopic Ultrasound (Manufactured by Olympus Medical Systems)

Radial scanning gastrovideoscope

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 node by displaying moving objects with color.This function also enables easier orientation in the pancreatobiliary region.

Convex scanning gastrovideoscope (oblique-viewing)

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.

Convex scanning gastrovideoscope (forward-viewing)

This forward-viewing scope expands the treatment options for users with a focus on interventional EUS procedures. Its straight channel port provides increased control over endotherapy devices. The narrower 90-degree scanning ultrasound range makes its rigid portion shorter.

Convex scanning bronchofibervideoscope

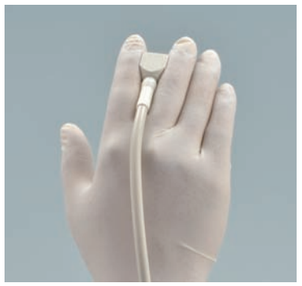
Specifically designed for real-time endobronchial ultrasound guided transbronchial needle aspiration (EBUS-TBNA).With high resolution image quality and high sensitivity Color Doppler, the system allows for safer and more accurate biopsy in the mediastinal and hilar lymph nodes for the diagnosis and staging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

Courtesy of Dr. Laurent Palazzo, France

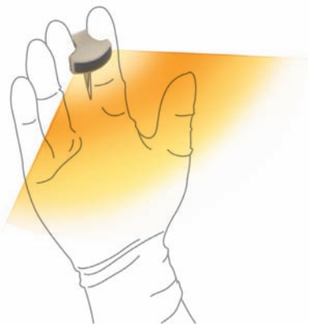
Intraoperative Probes

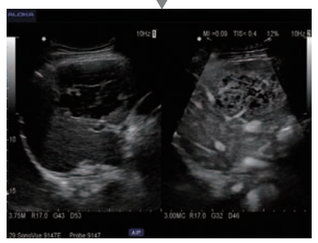
Intraoperative T-shaped Finger-grip Probe

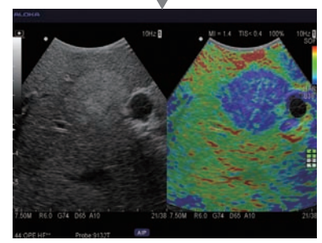
Stable scanning can be done by holding the probe between fingers.
This T-shaped probe can scan the transverse plane from the liver surface, enabling easy comparison with CT-scanned images.
In addition to high-definition B-mode and Doppler images, this probe also supports contrast echo examinations and Real-time Tissue Elastography.



Because the cable is attached on the backhand side of the sonographer's hand, the probe can be glided all over the liver.



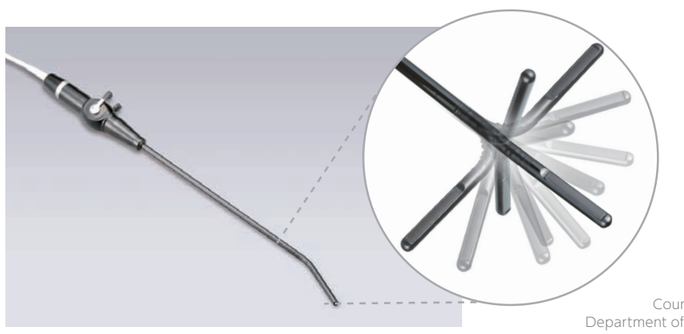


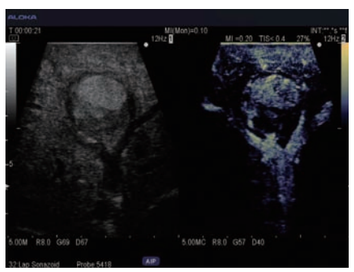


Liver Metastasis
Intraoperative Contrast Echo (left) and Real-time Tissue Elastography (right)

Laparoscopic Probe

ProSound F75 Premier supports the laparoscopic probe which can be moved in 4 directions, vertically and horizontally.
This flexibly moving probe is effective for localized diagnosis of masses, understanding their locations with surrounding vessels, and detecting other lesions in the remaining liver.
Supporting Contrast Echo examinations and Real-time Tissue Elastography, this probe also plays a large role in qualitative diagnosis of masses.

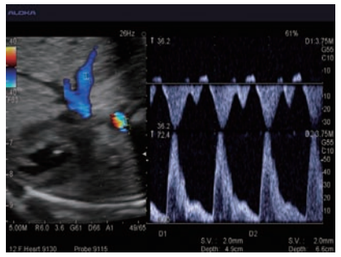




Courtesy of: Dr. Go Wakabayashi, Professor and Chairman,
Department of Surgery, School of Medicine, Iwate Medical University

Women's Healthcare

Obstetrics



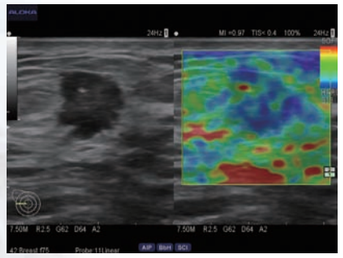
Dual Doppler (Fetal Heart)

Dual Doppler enables observation of 2 Doppler waveforms of the same heartbeat.
Measurements using 2 different waveforms can be applied to evaluations of fetal arrhythmia.

*e*FLOW^{+} (Fetal Heart)

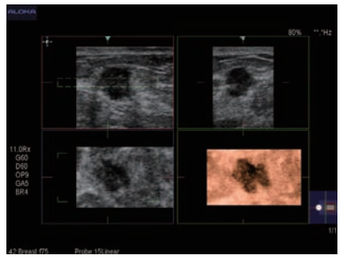
*e*FLOW^{+} offers blood flow representation with high spatial resolution and minimal blooming.

Mammary Gland



Real-time Tissue Elastography (Breast)

Real-time Tissue Elastography displays relative strain of tissue in real time, providing stiffness information.



3D Imaging (Breast)

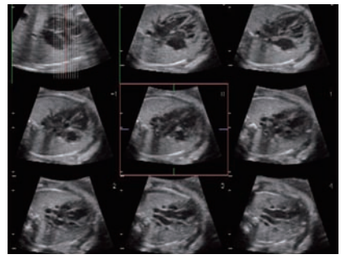
MPR display from 3D volume data supports diagnosis of the extent of breast cancer.

Morphological Diagnosis in Early Gestation Using the Linear Probe

Many fetal congenital diseases can be diagnosed in early gestation by detection of anatomical abnormalities.
ProSound F75 Premier supports high frequency linear probes that offer superior B-mode image quality complemented by high sensitivity *e*FLOW^{+} imaging

4Dshading (Fetus)

The fetus can be viewed with natural shading giving a strong impression of skin texture.
As a result, 4Dshading can contribute not only to stronger bonding of the family,
but also provides more detailed observation of morphology.



Spatio-temporal Image Correlation (STIC)

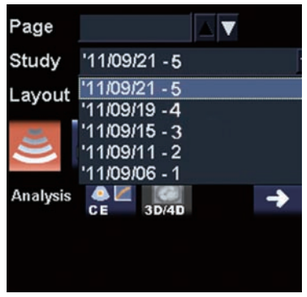
For the fast-moving fetal heart, 3D volume data sets for one heart beat is constructed to display images in MPR and Multi-slice Imaging.

Light Weight and Compact 3D/4D Probe

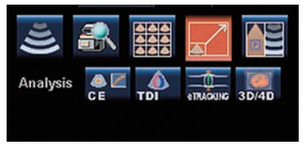
The light weight 3D/4D probe with easy grip can be used in daily practice with minimum physical stress. With image quality that supports diagnostic 2D examinations, this probe offers reliability for both fetal screenings and detailed examinations in 3D mode.

For Smooth and Accurate Examinations in Various Clinical Applications

Data management that does not interrupt examination flow



When an examination is started, the system automatically searches through the patient's past data and holds in a standby state. Simply click on the date tab to access images taken in a previous examination.



Analysis icons in the thumbnail area allow the user to start analysis at any time.

Functions and analyses to support specialist diagnoses

● Cardiovascular

- 2D Tissue Tracking (2DTT)
- TDI analysis
- Stress echo
- Free Angular M-mode (FAM)
- Dual Doppler
- *e*TRACKING (early atherosclerosis evaluation package)
- Automated IMT Measurement
- CW Doppler using a linear probe

● OB/GYN

- RT-3D(4D)
- Rendering Mode Mix
- 4Dshading
- Spatio-temporal Image Correlation (STIC)
- DSD (Dynamic Slow-motion Display)
- CW Doppler using a convex probe
- Automated NT Measurement

● Abdomen

- Contrast mode compatible 3D probe
- Freehand 3D
- Flow 3D
- Multi-slice Imaging (MSI)
- Automated Volume Measurement

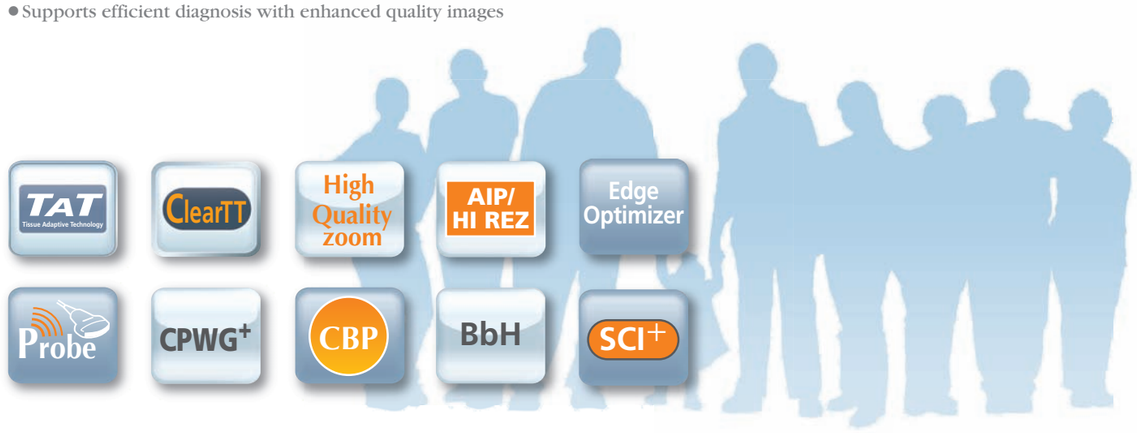
● Superficial Organs

- Real-time Tissue Elastography
- Extended Field of View (EFV)
- Trapezoidal View
- 3D probe for superficial areas
- Vascularity

For Smarter Diagnostic Imaging

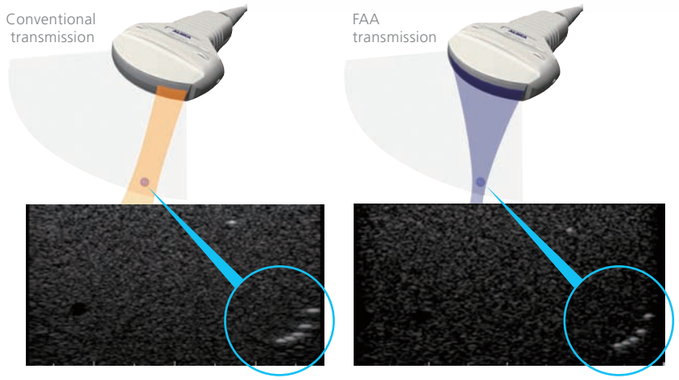
Features of ProSound F75 Premier to Reduce Patient Dependency.

- Less dependency on patients' specific conditions including physique, age, and sex
- Offers images of high diagnostic performance
- Covers a wide range of clinical needs
- Provides high resolution, sensitivity, and uniformity simultaneously
- Supports efficient diagnosis with enhanced quality images



Full Aperture Apodization (FAA)

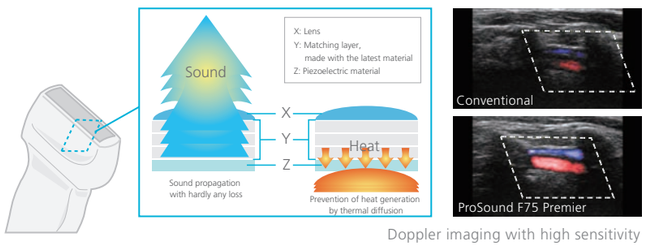
Full Aperture Apodization, enabling horizontally asymmetrical apodization, processes signals with all channels driven to remarkably enhance sensitivity for deeper areas and focusing accuracy at both ends of an image.
The system offers highly uniform and sharp images with improved sensitivity and resolution to all four corners of the image.



High uniformity (sensitivity and resolution) throughout the image on both ends

Clear Transmission Technology (Clear TT)

With the combination of powerful transmission and utilizing probes with highly efficient energy conversion, ultrasound signals can be delivered to the patient with minimum energy loss. The resultant images with greater penetration and Doppler sensitivity, contribute to a more reliable diagnosis.



Doppler imaging with high sensitivity

Clear TT x Signal Booster (Heart)

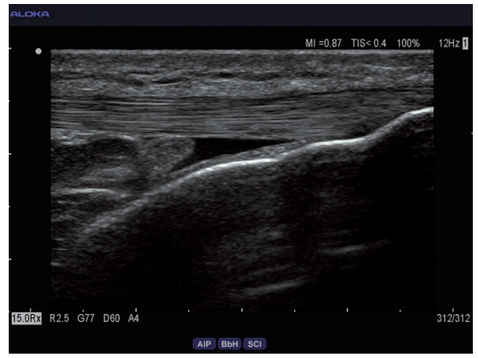
These 2 functions combined, images are provided with minimized patient-dependent variability and sufficient amount of information. These functions are beneficial for imaging large patients or patients in wards who are difficult to move.

High quality zoom (gallbladder polyp)

Dedicated zoom algorithm generates high frame rate, high quality zoom images. Even a small structure is depicted with sharp edges.

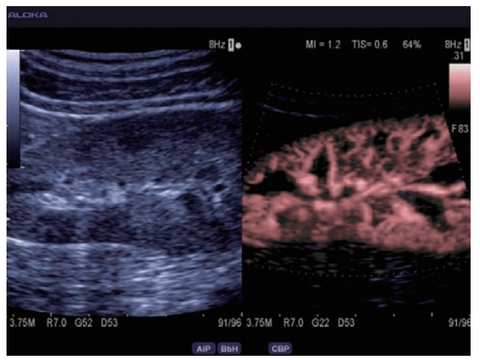
Probe offering a wide field of view x FAA (uterine cervix)

Images are displayed with uniform image quality throughout the entire field of view. Even structures displayed on the periphery can easily be observed.



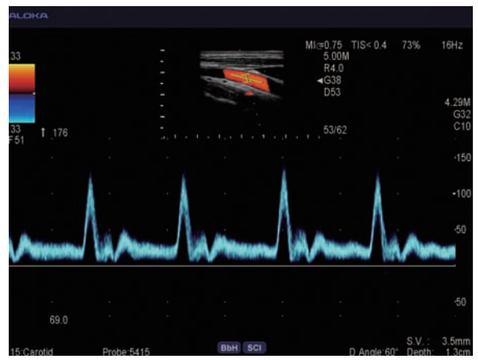
AIP/HI REZ, SCI+, BbH (tibial tuberosity)

A series of image processing functions suppress artifacts to help create easy-to-diagnose images.



eFLOW+× Flow Emphasis × DDD (kidney)

The entire blood flow orientation is visible with eFLOW+, without contrast agents, this vivid, as if in 3D. Applications include observation of various blood flows of low flow rate such as collaterals arising from stenosis and new blood vessels formed in a tumor.



Compound Gated Pulse Wave Doppler (carotid artery)

PW Doppler with multi-gated system generates sharp and high-contrast waveforms.