



prosound 2

**ALOKA**  
Science & Humanity



# For both High Image Quality and Portability

Aloka has been addressing advancement of diagnostic ultrasound since we released the world's first diagnostic ultrasound system half a century ago.

The ProSound 2 has been developed to meet the demand for high image quality in a portable unit.

It features user-friendly simple operation with a variety of probe lineup, making it ideal for today's increasingly diversifying examination environment thanks to its enhanced flexibility and ingenuity.

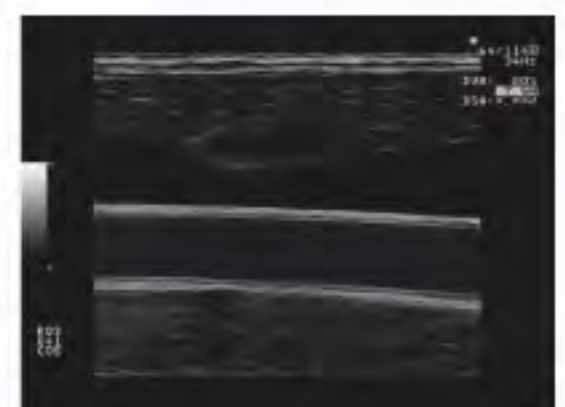




## Ultimate

High image quality technologies developed for the higher models of the ProSound series are incorporated into the system to support accurate diagnosis.

- **Extended Pure Harmonic Detection (ExPHD)**  
Tissue Harmonic Echo by phase-modulation method is the standard specification. The system offers images of high accuracy by reducing unnecessary echoes without sacrificing sensitivity.
- **Multi Frequency Imaging (MFI)**  
A single probe can provide multiple transmission frequencies that can be selected according to the physique of the patient.
- **Edge Enhancement Function**  
Edges of tissues such as intima of the carotid artery are emphasized to facilitate IMT measurement for an index of determining atherosclerosis.



## Usability

Stores, reviews and manages data efficiently in a digital environment.

- Ultrasound images, measurement results, patient information and reports screen are stored and managed in the large-capacity built-in memory.
- USB memory port is equipped as a standard item ensuring efficient digital data management
- Built-in Cine Memory allows the user to examine images easily using the search function.



## Utility

Rapid startup and dedicated probes support efficient examination.

- The system boots up quickly for emergency use.
- Optimum imaging setting for respective application can be switched at the touch of a button using the preset function.
- The large handle provided on the compact body makes the unit easy to carry.
- A selection of probes covering a wide range of applications from routine examination to intraoperative imaging of the abdomen for example.







Diagnostic Ultrasound System MODEL : PROSOUND 2

- 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.

We care, Ultrasound@Aloka.

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# **SPECIFICATIONS**

for

## **Diagnostic Ultrasound System**

**prosound 2**



MODEL: PROSOUND 2

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## Features

The ProSound 2 is a portable diagnostic ultrasound system, providing excellent image quality with comprehensive functions.

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A single probe can provide multiple transmission frequencies that can be selected according to the physique of the patient.
- **Edge Enhancement Function**  
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- **Ultrasound images, measurement results, patient information and reports are stored and managed in the large-capacity built-in memory.**
- **USB memory port is equipped as a standard item ensuring efficient digital data management**
- **Built-in Cine Memory** allows the user to examine images easily using the search function.

## Scanning Methods:

- Electronic Convex Sector
- Electronic Linear

## Image Display Modes:

- B
- M
- Dual B
- B and M

## Beam former

Digital beam former with 12-bit A/D converter

## Number of simultaneously connectable probes

- Electronic scanning probes: 2

## Output signal

- Black-and-white composite, 2 channels

## Viewing Monitor

- 10.4-inch diagonal LCD
- Tilt angle variable

## Operation panel switch

- Mechanical keys
- 2-color luminescence

## Acoustic Power:

- 0 to 100%, continuously variable

### **B-mode:**

- Display depth range: 2-24 cm (Probe dependent)
- Image Orientation
  - Lateral inversion
  - Vertical inversion
- Scanning area:
  - 100% to 25%, continuously changeable
  - Steering: possible
- Focus
  - Max. 4 points in transmission
  - Continuous in reception
- Image zoom
  - Write zoom (real-time):
    - Max. 6 times (probe dependent)
  - Zoom area shift: Vertical and horizontal

### **Image processing**

- Gain: 30 to 90 dB, continuously variable
- STC: 6 slide controls
- AGC—Suppression of brightness saturation:
  - 16 steps
- Contrast: 16 steps
- Frame correlation: 16 steps
- Relief: 4 steps (Off, Low, MED, High)
- Smoothing: 8 steps
- IPS (Image Processing Select): 8 selections
  - Items that can be set: Frame correlation, Contrast, AGC, Relief, Smoothing
- Post processing:
  - Curves: 3 kinds + Linear
  - Rejection: 64 levels (0 - 63)
- Scanning line density:
  - 3 selections (Low, MED, High)
- View gamma: 5 selections (Linear, A, B, C, D)
- Selectable frequencies: Max. 4 (Probe dependent)

### **M-mode:**

- Display method: Moving bar
- Scroll speed: 1, 1.5, 2, 3, 4, 6, or 8 second/screen
- Gain: B-GAIN  $\pm 30$  dB, continuously variable
- Contrast: 16 steps
- AGC—Suppression of brightness saturation:
  - 16 steps
- FTC—edge enhancement: ON/OFF
- Relief: 4 selections (Off, Low, MED, High)
- IPS (Image Processing Select): 8 selections
  - Items that can be set:
    - Contrast, AGC, Relief, FTC

### **Cine Memory:**

#### Memory capacity

- Cine Memory (B- mode):
  - Search and Loop playback are possible
  - 1,300 images or more (Probe dependent)
- Scrolling Memory (M-mode)
  - Max. 30 seconds (Probe dependent)

Note: The number of storable images depends on the probe, scanning angle, and other conditions.

### **Image Memory**

- Built-in compact flash memory: Up to about 1,000 images
- Image format: DICOM, BMP, JPEG
- Storable media: USB memory

### **Preset Function**

- Settable presets: 15 kinds
- Built-in presets: 17 kinds

### **Characters & Graphics display**

- Character input area: Hospital name, patient ID, patient name, age, sex, and others
- Annotation function: Approx. 1000 words/dictionary x 6 dictionaries
  - User registration of words: Possible
- Body mark display: 51 kinds
- Probe mark: 4 kinds
  - Movement of displayed position: Possible

## Measurement & Analysis

### ■ Basic Measurements

#### On B-mode image

Distance  
Area and Circumference by ellipse and trace  
Angle  
Volume (Volume, Volume Biplane, Slice Volume)  
Stenotic rate (%STENO DIST, %STENO Area-T)  
Ratio (Ratio Dist, Ratio Area-T, Ratio Ellipse)  
Histogram (Hist.Box, Hist.Trace)  
Hip joint angle

#### On M-mode image

Velocity  
Time interval  
Distance (amplitude)  
Heart rate  
Stenotic rate (%STENO Length)

### ■ Obstetrical Measurements

Gestational age  
Fetal weight  
Amniotic index  
Amniotic fluid pocket  
Compatible with twins and triplets  
Fetal heart rate  
Graph function

### ■ Gynecological Measurements

Uterus  
Cervix  
Endometrium thickness  
Ovary  
Follicles

### ■ Cardiac Measurements

#### On B-mode image

Left ventricle function  
B Pombo, B(Wall) Pombo,  
B Teichholz, B(Wall) Teichholz,  
B Gibson, B(Wall) Gibson,  
Single Plane Ellipse, Biplane Ellipse,  
Simpson, Modified Simpson  
Bullet,  
B LAX, B(Wall) LAX  
B SAX  
B APX

#### On M-mode image

Left ventricle function  
M Pombo, M(Wall) Pombo,  
M Teichholz, M(Wall) Teichholz,  
M Gibson, M(Wall) Gibson,  
Mitral Valve  
Aortic Valve  
Tricuspid Valve  
Pulmonary Valve

### ■ Peripheral Vessels (carotid artery) Measurements %Stenosis Area, %stenosis Distance

### ■ Urological Measurements

Prostate PSA volume  
Bladder volume  
Seminal vesicle  
Testicular volume  
Renal volume  
Cortical thickness  
Adrenal volume

### ■ Report function

Obstetric report  
Gynecological report  
Cardiac function report  
Urological report

## Data Communication Function (ALK-3)\*

It is possible to transmit patient data and OB/GYN, cardiology, urology and peripheral vessels measurement data obtained by Aloka diagnostic ultrasound system to a personal computer.

\* Optional Serial I/O isolation unit model SIU-PROSOUND2 is necessary. Please prepare personal computer, appropriate software, and connection cable at your side. As for necessary conditions of such items, please contact your local distributor or Aloka office.



## Electronic convex sector probes

T.H.E.: Tissue Harmonic Echo

Application (description)	Model number	Ultrasound Frequencies (MHz)	Scanning angle (degrees)	Radius of curvature (mmR)	Optional accessories
General abdomen, OB/GYN (ExPHD)	UST-9137	2.5/3.75/5.0/6.0 T.H.E.: 2.14	62	50	-
General abdomen, OB/GYN	UST-934N-3.5	3.0/3.75/5.0/6.0	62	60	Puncture adapter: MP-2408B
Pediatric abdomen, OB/GYN	UST-935N-5	3.75/5.0/6.0/7.5	51	60	-
Intercostal approach, Abdomen/Heart	UST-944B-3.5	3.0/3.75/5.0/6.0	96	20	Puncture adapter: MP-2414C
Endo-cavity, transvaginal	UST-945B-5	3.75/5.0/6.0/7.5	55	20	Puncture adapter: MP-2445-SET
Endo-cavity, transvaginal	UST-981-5	3.75/5.0/6.0/7.5	96	14	Probe cover: RB-945BP-S (sterilized)* RB-945BP-NS (nonsterilized)
Small part, neonatal head	UST-974-5	3.75/5.0/6.0/7.5	55	20	Puncture adapter: MP-2467
Small part, neonatal head	UST-9111-5	3.75/5.0/6.0/7.5	96	14	-

\* Sterilized probe cover cannot be sold in EU member countries.

## Electronic linear probes

Application (description)	Model number	Ultrasound Frequencies (MHz)	Scanning width (mm)	Optional accessories
Peripheral Vessels (ExPHD)	UST-5551	6.0/7.5/10.0/13.0 T.H.E.: 5.0/6.0/7.5	40	-
Small part, Peripheral Vessels	UST-5512U-7.5	5.0/6.0/7.5/10.0	43	-
Small part, Peripheral Vessels	UST-5711-7.5	5.0/6.0/7.5/10.0	57	Puncture adapter: MP-2456 Stand-off (water path): MP-2463
Pediatric abdomen	UST-586-5	3.75/5.0/6.0/7.5	72	-
Intraoperative	UST-556I-7.5	5.0/6.0/7.5/10.0	43	-
Intraoperative	UST-556T-7.5	5.0/6.0/7.5/10.0	43	Puncture adapter: MP-2387
Intraoperative	UST-556TU-7.5	5.0/6.0/7.5/10.0	43	Puncture adapter: MP-2392
Intraoperative	UST-5820-5	3.75/5.0/6.0/7.5	72	-
Intraoperative	UST-587I-5	3.75/5.0/6.0/7.5	72	-
Endo-cavity, transrectal	UST-660-7.5	5.0/6.0/7.5/10.0	43	Puncture adapter: MP-2366



## STANDARD COMPONENTS\*1

Main Unit  
Accessories

## OPTIONAL ITEMS

### Isolation transformer:

PTU-I900-1W (100 - 120V)  
PTU-I900-2W (200 - 240V)

### B/W printer

SONY: UP-897MD/SYN  
MITSUBISHI: P93E (200-240V), P93W (100-120V)

Serial I/O isolation unit: SIU-PROSOUND2

One-point footswitch: MP-2345B

3-point footswitch: MP-2614B

Ultrasound gel\* (300g): GEL-SCAN-PA  
Ultrasound gel\* (5 lit.): GEL-SCAN-P

\* Ultrasound gel cannot be  
sold in EU member countries.

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### **Safety Regulation**

- Complies with IEC 60601-1 Class 1, Type BF

### **Environmental Requirements**

#### In Operation

- Temperature: +10 to +40 degrees C
- Relative Humidity: 30 to 75%  
(non condensing)
- Atmospheric pressure: 700 to 1060 hPa

#### In Storage

- Temperature: -10 to +50 degrees C
- Relative Humidity: 10 to 90%  
(non condensing)
- Atmospheric pressure: 700 to 1060 hPa

### **Power Requirement**

- 100 - 120 / 200 - 240V  $\pm$  10%, 50 or 60 Hz,  
250 VA or less

### **Dimensions**

- W: Approx. 43 cm
- H: Approx. 39 cm
- D: Approx. 23 cm (when the operation panel closed),  
Approx. 50 cm (when the operation panel opened)

### **Weight**

- Approx. 10 kg (main unit only)

- The specifications are subject to change without notice.
- The standard components and optional items differ depending on the country.

Not all the products are marketed in all countries.

Please contact your local ALOKA distributors for details.

We care, Ultrasound@Aloka

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