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Product Data

CTS-8800

B/W 4D Portable Ultrasound

IMAGING SYSTEM

Console Design

- Bright color design
- Stream line shape
- Two active probe connectors
- Two probe holders
- Ergonomically key layout with backlit
- 6 user-programmable keys for personal preference (F1 ~ F6)
- 10-inch LCD monitor
  - High resolution
  - Screen saver

Transducer Types

- Electronic 4D probe
- Electronic convex probe
- Electronic microconvex probe
- Electronic linear probe
- Electronic transvaginal probe
- Electronic transrectal probe

Display Modes

- B mode
- 2B mode (Normal, full screen)
- 4B mode
- B/M mode
- M mode
- Zoom B
- PIP (Picture-in-Picture)
- 4D imaging (Optional)

Focusing

- 32 focus selectable zones
- Continuous dynamic focusing
- Dynamic apodization
- 1~4 selectable transmit / receiving focus
- Acoustic lens focus

Zooming

- Real-time zooming (X1.5, X2.0, X3.0, X4.0)
- Selectable zooming position
- PIP zoom in real-time and freeze (picture in picture)

M-mode Sweep Speed

- Low: 10.0 seconds / frame
- Medium-Low: 5.0 seconds / frame
- Medium: 2.5 seconds / frame
- High: 1.25 seconds / frame

Memory

- Digital Cine-Memory
  - 512 frames in B-mode
- Hard disk 160 G

Image Processing

- 8-step TGC slidepots
- Receive gain adjustable from 0 to 100
- Dynamic range adjustable from 35 to 66db
- Continuous dynamic aperture (CDA)
- Acoustic output power (0%~100%)
- Edge enhancement (4 steps, 0~3)
- Line density (Normal / High)
- Image frame correlation (8 steps: 0~7)
- Grayscale transformation(24 types: 0~23)
- Adjustable depth, angle and width
  - Depth
  - Angle (Convex probe)
  - Width (Linear probe)

Image Orientation

- Left / right
- ±90° image rotation

Display Items

- More than 300 predefined annotations
- Display parameters related to diagnosis:
  - Hospital name: 24 characters
  - Patient name: 40 characters
  - Patient ID: 40 characters
  - Date: 3 formats selectable
    . DD-MM-YYYY
    . MM, DD, YY
    . YYYY/MM/DD
  - Time: 12/24 hours mode
  - Exam type
  - Active probe type
  - Probe orientation
- Display parameters related to imaging
  - Imaging angle, width and depth
  - Frame rate
  - Focus zone mark
  - Gray scale
  - Probe operating frequency
  - TGC curve
  - Depth scale
  - Overall gain
  - Edge enhancement level
  - Persistence
  - Line density
  - Dynamic range
  - Zoom rate
  - Smoothness

Image and Patient Data Storage

- Hard disk
- USB memory stick, two USB ports
- Record devices:
  - B/W video printer (Option)
  - Laserjet or inkjet printer (Option)

Measurements & Calculations

B-mode (2B, 4B)

- Distance: 9 sets
- Circumference: 9 sets
  (Ellipses/ Trace)
- Area: 9 sets
  (Ellipse / Trace/ Distance)
- Volume: 9 sets
  (Ellipse / Trace / Sphere)
- Angle between: 9 sets
- Histogram

M-mode

- Distance: 9 sets
- Time: 9 sets
- Slope: 9 sets
- Heart Rate: 9 sets

Applications

- Abdominal
- Urological
- Gynecological
- Obstetrical
- Small parts
- Peripheral vascular
- Cardiac
- Orthopedics
- Podiatry

General Measurement

- B Mode (Including 2B and 4B)

Menu	Calculation Method
Ellipse-area	Area and circumference measurement in Ellipse method
Biplane-vol.	Volume measurement in biplane method
Ellipse-vol.	Volume measurement in ellipse sphere method
Simpson-vol.	Volume measurement in Simpson method
Sphere-vol.	Volume measurement in sphere method
Angle	Angle measurement
Area ratio(t)	Area ratio in trace method
Area ratio(e)	Area ratio in ellipse method
%area redu(t)	Area reduction percentage in trace method
%area redu(e)	Area reduction percentage in ellipse method
%diam. Reduce	Diameter reduction percentage
Histogram	Histogram

- M Mode

Menu item	Definition
Heart rate	Heart rate
Multi-distance	Multi-distance (length) measurement
Time	Time measurement
Slope	Slope (velocity) measurement

Abdominal Measurement / Calculations

Menu Item	Definition
Long L Lobe	Long diameter of left lobe
A-P L Lobe	Antero-posterior diameter of left lobe
Angle L Lobe	Angle of left lobe
Obli. R Lobe	Obliqued of right lobe
A-P R Lobe	Antero-posterior diameter of right lobe
Angle R Lobe	Angle of right lobe
Portal Vein	Portal vein
IVC	Inferior vena cava
SMA	Superior mesentery artery
CELA	Celiac artery
AO	Aorta
Long Spleen	Long diameter of spleen
A-P Spleen	Antero-posterior diameter of spleen
Splenic A	Splenic artery
Splenic V	Splenic vein
Long GB	Long diameter of gallbladder
A-P GB	Antero-posterior diameter of gallbladder
Trans GB	Transversal diameter of gallbladder
Wall GB	Thickness of the wall of gallbladder
CBD	Common bile duct
LHD	Left hepatic duct
RHD	Right hepatic duct
Head	Pancreas head
Body	Pancreas body
Tail	Pancreas tail
MPD	Main pancreatic duct
%D Redu AO	%diameter reduce of aorta
%A Redu AO	%area reduce of aorta
Report	Patient report (only in M mode)

Urology Measurement / Calculations

Menu item	Definition
L L Kidney	Long diameter of left kidney
A-P L Kidney	Antero-posterior diameter of left kidney
Trans L Kidney	Transversal diameter of left kidney
L Ureter	Left ureter
LRA	Left renal artery
L R Kidney	Long diameter of right kidney
A-P R Kidney	Antero-posterior diameter of right kidney
T R Kidney	Transversal diameter of right kidney
R Ureter	Right ureter
RRA	Right renal artery
Long Blad	Long diameter of bladder
A-P Blad	Antero-posterior diameter of bladder
Trans Blad	Transversal diameter of bladder
LAU Blad	Long diameter of bladder after urination
A-PAU Blad	Antero-posterior diameter of bladder after urination
TAU Blad	Transversal diameter of bladder after urination
S-I Prost	Superior-inferior diameter of prostate
A-P Prost	Antero-posterior diameter of prostate
Trans Prost	Transversal diameter of prostate
Project Into Bladder	Project into bladder
Simpson Residual Urine	Simpson residual urine
A-P IG	Antero-posterior diameter of internal gland
Trans IG	Transversal diameter of internal gland
L L Semi Vesi	Long diameter of left seminal vesicle
A-P L Semi Vesi	Antero-posterior diameter of left seminal vesicle
T L Semi Vesi	Transversal diameter of left seminal vesicle
L R Semi Vesi	Long diameter of right seminal vesicle
A-P R Semi Vesi	Antero-posterior diameter of right seminal vesicle
T R Semi Vesi	Transversal diameter of right seminal vesicle
PSAD	Prostate specific antigen density
Bladder Volume	Bladder volume
Report	Patient report (only in M mode)

GYN Measurement / Calculations

Menu item	Definition
Long Uterus	Long diameter of uterus
A-P Uterus	Antero-posterior diameter of

	uterus
Trans Uterus	Transversal diameter of uterus
Endometrium	Endometrium
Long Cervix	Long diameter of cervix
A-P Cervix	Antero-posterior diameter of cervix
Long L Ovary	Long diameter of left ovary
A-P L Ovary	Antero-posterior diameter of left ovary
T L Ovary	Transversal diameter of left ovary
Long R Ovary	Long diameter of right ovary
A-P R Ovary	Antero-posterior diameter of right ovary
T R Ovary	Transversal diameter of right ovary
Vol Follicle1	Follicle1 volume
Vol Follicle2	Follicle2 volume
Vol Follicle3	Follicle3 volume
Report	Patient report (only in M mode)

OB Measurement / Calculations

Menu item	Definition
Early pregnancy menu	
GS	Gestational sac
CRL	Crown rump length
Report	Patient report
Heart Rate	Heart rate
Basic OB menu	
BPD	Biparietal diameter
HC	Head circumference
AC	Abdominal circumference
FL	Femur length
Placenta	Placenta thickness
Q1	Amniotic fluid index
Q2	Amniotic fluid index
Q3	Amniotic fluid index
Q4	Amniotic fluid index
OFD	Occipito-frontal diameter
TAD	Trans-abdominal diameter
APD	Antero-posterior abdominal diameter
HL	Humeral length
TL	Tibial length
UL	Ulnar length
RL	Radial length
FIBL	Fibular length
OOD	Outer orbital diameter
LV	Lateral ventricle
HW	Hemisphere width
EFW-Shepard	Estimated fetal weight-Shepard's method
EFW-Hadlock1	Estimated fetal weight-Hadlock's method 1
EFW-Hadlock2	Estimated fetal weight-Hadlock's method 2
EFW-Hadlock3	Estimated fetal weight-Hadlock's method 3
EFW-Hadlock4	Estimated fetal weight-Hadlock's method 4
EFW-Campbell	Estimated fetal weight-Campbell's method
EFW-Hansmann	Estimated fetal weight-Hansmann's method
Report	Patient report
Growth Charts	Fetus growth curve
Biophy profile	Biophy profile
Heart Rate	Heart rate
Fetal echo menu	
AO	Aorta
LVOT	Left ventricular outflow tract
PA	Pulmonary artery
RVOT	Right ventricular outflow tract
LA	Left atrium
RA	Right atrium
LV	Left ventricle
RV	Right ventricle
IVS	Inter-ventricular septum
ARCH	Aortic arch
SVC	Superior vena cava
IVC	Inferior vena cava
LV AREA	Left ventricle area
RV AREA	Right ventricle area
CD	Cardiac diameter
TD	Thoracic diameter
Report	Patient report
Biophy profile	Biophy profile
Heart Rate	Heart rate

Small Parts Measurement / Calculations

Menu item	Definition
Thyroid	
Long L Lobe	Long diameter of left lobe
AP L Lobe	Antero-posterior diameter of left lobe
Trans L Lobe	Transversal diameter of left lobe
SUPA L Lobe	Superior artery of left lobe
INFA L Lobe	Inferior artery of left lobe
Long R Lobe	Long Diameter of right lobe
AP R Lobe	Antero-posterior diameter of right lobe

Trans R Lobe	Transversal diameter of right lobe
SUPA R Lobe	Superior artery of right lobe
INFA R Lobe	Inferior artery of right lobe
Isthmus	Isthmus
LCCA	Left common carotid artery
RCCA	Right common carotid artery
Report	Patient report (only in M mode)
Galactophore	
UI L Breast	Upper internal of left breast
LI L Breast	Lower internal of left breast
UE L Breast	Upper external of left breast
LE L Breast	Lower external of left breast
UI R Breast	Upper internal of right breast
LI R Breast	Lower internal of right breast
UE R Breast	Upper external of right breast
LE R Breast	Lower external of right breast
Report	Patient report (only in M mode)
Eyeballs	
L Eye OA	Ocular axis of left eyeball
L Eye Lens	Lens of left eyeball
L Eye AC	Anterior chamber of left eyeball
L Eye ON	Optic nerve of left eyeball
R Eye OA	Ocular axis of right eyeball
R Eye Lens	Lens of right eyeball
R Eye AC	Anterior chamber of right eyeball
R Eye ON	Optic nerve of right eyeball
Report	Patient report (only in M mode)
Testis	
Long L Testis	Long diameter of left testis
AP L Testis	Antero-posterior diameter of left testis
Trans L Testis	Transversal diameter of left testis
Long L Epidi	Long diameter of left epididymis
AP L Epidi	Antero-posterior diameter of left epididymis
Long R Testis	Long diameter of right testis
AP R Testis	Antero-posterior diameter of right testis
Trans R Testis	Transversal diameter of right testis
Long R Epidi	Long diameter of right epididymis
AP R Epidi	Antero-posterior diameter of right epididymis
Report	Patient report (only in M mode)
Neonate	
L LV	Left lateral ventricle
R LV	Right lateral ventricle
3rd	Third cerebral ventricle
HW	Hemisphere width
Report	Patient report (only in M mode)

Peripheral vascular Measurement / Calculations

Menu item	Definition
Carotid artery menu	
Left CCA	Left common carotid artery
Left BIF	Left common carotid artery bifurcation
Left ICA	Left internal carotid artery
Left ECA	Left external carotid artery
Right CCA	Right common carotid artery
Right BIF	Right common carotid artery Bifurcation
Right ICA	Right Internal carotid artery
Right ECA	Right external carotid artery
Report	Patient Report (only in M mode)
Carotid artery submenu	
Diameter	Diameter
Intima	Intima
%D Reduce	%diameter reduce
%A Reduce	%area reduce
Peripheral artery menu	
Left AXIA	Left axillary artery
Right AXIA	Right axillary artery
Left BRAA	Left brachial artery
Right BRAA	Right brachial artery
Left RADA	Left radial artery
Right RADA	Right radial artery
Left ULNA	Left ulnar artery
Right ULNA	Right ulnar artery
Left FEMA	Left femoral artery
Right FEMA	Right femoral artery
Left POPA	Left popliteal artery
Right POPA	Right popliteal artery
Left DORA	Left dorsal artery
Right DORA	Right dorsal artery
Report	Patient report (only in M mode)
Peripheral artery submenu	
Diameter	Diameter
Intima	Intima
Intima-media	Intima-media
%D Reduce	%Diameter reduce
%A Reduce	%Area reduce

Cardiac Measurement / Calculations

Menu item	Definition
B mode menu	
RVAW	Right ventricular anterior wall
RV	Right ventricle

RVOT	Right ventricular outflow tract
AO	Aorta
LA	Left atrium
IVSD	Inter-ventricular septum in diastolic period
LVD	Left ventricle in diastolic period
LVPWD	Diameter of left ventricle posterior wall in diastolic period
IVSS	Inter-ventricular septum in systolic period
LVS	Left ventricular diameter in systolic period
LVPWS	Diameter of left ventricle posterior wall in systolic period
IVC	Inferior vena cava
PA	Great artery short axis view
RA	Four chambers view
Report	Patient report

M, B/M mode menu

LA/AO	Left atrium/ Aorta
MV	Mitral valve
TV	Triscupid valve
PV	Pulmonic valve
LV	Left ventricle
LV	Left ventricle function
Report	Patient report (only in M mode)

- Operation Manual
- Fuse
- USB memory stick with system recovery software

Optional Accessories and Software

- Mobile trolley CR-4
- Sony UP-897MD B/W video printer
- Biopsy guide for convex or linear probe
- Biopsy guide for transvaginal or transrectal probe
- Dicom 3.0 software

Physical Features

Dimension

- 320mm(H) X 310mm(W) X 415mm(D)

Weight

- Approximate 12 kg

Power Requirements

- Voltage: AC 220V±10%; 110V±10%
- Frequency: 50Hz±2%; 60Hz±2%
- Input Power: 250VA

Software, Accessories & Probes

Standard Accessories

- Power Cable
- Equipotential cable
- BNC cable
- Printer control cable
- Dust cover

Probes

Model name	Applications	Transmit frequency (MHz)	Max. depth	Band width	View field	Array radius	Biopsy guide
<4D probe>							
4DL40G	Abdomen Gynecology Obstetric Urology	3.0/3.7/4.5/5.2/6.0	24.4cm		68°	R40	Invlid
<Convex Probe>							
C3L60G *	Abdomen Gynecology Obstetric Urology	2.5/3.0/3.5/4.2/5.0	24.4cm	≥65%	70°	R60	Available
C3L40G *	Abdomen Gynecology Obstetric Urology	2.5/3.0/3.5/4.2/5.0	25.2cm	≥60%	85°	R40	Invalid
C3I20G *	Cardiology Abdomen	2.5/3.0/3.5/4.2/5.0	25.2cm	≥60%	110°	R20	Invalid
C5I20G *	Cardiology Abdomen	3.5/4.2/5.0/5.7/6.5	14cm	≥60%	110°	R20	Invalid
C6I15G *	Cardiology Abdomen	4.5/5.2/6.0/6.7/7.5	12cm	≥50%	105°	R15	Invalid
<Linear probe>							
L7L38G *	Small Part Peri Arteries Orthopaedics Podiatry	5.0/6.2/7.5/8.2/10.0	9cm	≥60%	38mm		Available
L7L50G *	Small Part Peri Arteries Orthopaedics Podiatry	5.0/6.2/7.5/8.2/10.0	9cm	≥60%	50mm		Available
L10L25G *	Small Part Peri Arteries Orthopaedics Podiatry	8.0/9.0/10.0/11.0/12.0	8cm	≥60%	25mm		Invalid
<Transvaginal probe>							
V6L11G *	Gynecology Obstetric Urology	4.5/5.2/6.0/6.7/7.5	12cm	≥55%	155°	R11	Available
<Transrectal probe>							
U5L50G *	Urology	3.5/4.2/5.0/5.7/6.5	12cm	≥60%	50mm		Available

Notes:

a) Probes with '*' are optional parts.

b) Specifications and appearance are subject to change without prior notice.