



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

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

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)

Memory

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

Focusing

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

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)

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)

Image Orientation

- ♦ Left / right
- ♦ $\pm 90^\circ$ 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)

<u>Menu</u>	<u>Calculation Method</u>
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.	Diameter reduction percentage
Reduce	
Histogram	Histogram

- ♦ M Mode

<u>Menu item</u>	<u>Definition</u>
Heart rate	Heart rate
Multi-distance	Multi-distance (length) measurement
Time	Time measurement
Slope	Slope (velocity) measurement

Abdominal Measurement / Calculations

<u>Menu Item</u>	<u>Definition</u>
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

<u>Menu item</u>	<u>Definition</u>
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

<u>Menu item</u>	<u>Definition</u>
Long Uterus	Long diameter of uterus
A-P Uterus	Antero-posterior diameter of

Trans R Lobe	Transversal diameter of right lobe	HW Report	Hemisphere width Patient report (only in M mode)
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)		
<u>Galactophore</u>		Peripheral vascular Measurement / Calculations	
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)		
<u>Eyeballs</u>		<u>Menu item</u>	<u>Definition</u>
L Eye OA	Ocular axis of left eyeball	<u>Carotid artery menu</u>	
L Eye Lens	Lens of left eyeball	Left CCA	Left common carotid artery
L Eye AC	Anterior chamber of left eyeball	Left BIF	Left common carotid artery bifurcation
L Eye ON	Optic nerve of left eyeball	Left ICA	Left internal carotid artery
R Eye OA	Ocular axis of right eyeball	Left ECA	Left external carotid artery
R Eye Lens	Lens of right eyeball	Right CCA	Right common carotid artery
R Eye AC	Anterior chamber of right eyeball	Right BIF	Right common carotid artery Bifurcation
R Eye ON	Optic nerve of right eyeball	Right ICA	Right Internal carotid artery
Report	Patient report (only in M mode)	Right ECA	Right external carotid artery
<u>Testis</u>		Report	Patient Report (only in M mode)
Long L Testis	Long diameter of left testis	<u>Carotid artery submenu</u>	
AP L Testis	Antero-posterior diameter of left testis	Diameter	Diameter
Trans L Testis	Transversal diameter of left testis	Intima	Intima
Long L Epidi	Long diameter of left epididymis	%D Reduce	%diameter reduce
AP L Epidi	Antero-posterior diameter of left epididymis	%A Reduce	%area reduce
Long R Testis	Long diameter of right testis	<u>Peripheral artery menu</u>	
AP R Testis	Antero-posterior diameter of right testis	Left AXIA	Left axillary artery
Trans R Testis	Transversal diameter of right testis	Right AXIA	Right axillary artery
Long R Epidi	Long diameter of right epididymis	Left BRAA	Left brachial artery
AP R Epidi	Antero-posterior diameter of right epididymis	Right BRAA	Right brachial artery
Report	Patient report (only in M mode)	Left RADA	Left radial artery
<u>Neonate</u>		Right RADA	Right radial artery
L LV	Left lateral ventricle	Left ULNA	Left ulnar artery
R LV	Right lateral ventricle	Right ULNA	Right ulnar artery
3rd	Third cerebral ventricle	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)
		<u>Peripheral artery submenu</u>	
		Diameter	Diameter
		Intima	Intima
		Intima-media	Intima-media
		%D Reduce	%Diameter reduce
		%A Reduce	%Area reduce
		Cardiac Measurement / Calculations	
		<u>Menu item</u>	<u>Definition</u>
		<u>B mode menu</u>	
		RVAW	Right ventricular anterior wall
		RV	Right ventricle

RVOT	Right ventricular outflow tract	♦ Operation Manual
AO	Aorta	♦ Fuse
LA	Left atrium	♦ USB memory stick with system recovery software
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	
<u>M, B/M mode menu</u>		
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)	

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	Invalid
<Convex Probe>							
C3L60G *	Abdomen Gynecology Obstetric Urology	2.5/3.0/ <u>3.5</u> /4.2/5.0	24.4cm	≥65%	70°	R60	Available
C3L40G *	Abdomen Gynecology Obstetric Urology	2.5/3.0/ <u>3.5</u> /4.2/5.0	25.2cm	≥60%	85°	R40	Invalid
C3I20G *	Cardiology Abdomen	2.5/3.0/ <u>3.5</u> /4.2/5.0	25.2cm	≥60%	110°	R20	Invalid
C5I20G *	Cardiology Abdomen	3.5/4.2/ <u>5.0</u> /5.7/6.5	14cm	≥60%	110°	R20	Invalid
C6I15G *	Cardiology Abdomen	4.5/5.2/ <u>6.0</u> /6.7/7.5	12cm	≥50%	105°	R15	Invalid
<Linear probe>							
L7L38G *	Small Part Peri Arteries Orthopaedics Podiatry	5.0/6.2/ <u>7.5</u> /8.2/10.0	9cm	≥60%	38mm	/	Available
L7L50G *	Small Part Peri Arteries Orthopaedics Podiatry	5.0/6.2/ <u>7.5</u> /8.2/10.0	9cm	≥60%	50mm	/	Available
L10L25G *	Small Part Peri Arteries Orthopaedics Podiatry	8.0/9.0/ <u>10.0</u> /11.0/12.0	8cm	≥60%	25mm	/	Invalid
<Transvaginal probe>							
V6L11G *	Gynecology Obstetric Urology	4.5/5.2/ <u>6.0</u> /6.7/7.5	12cm	≥55%	155°	R11	Available
<Transrectal probe>							
U5L50G *	Urology	3.5/4.2/ <u>5.0</u> /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.