



CTS-8800Plus

—Digital Portable Ultrasound
Imaging System

Appearance

- Ergonomic appearance
- 15-inch LCD monitor
- Visual Angle:
 - Left and right side: 160°
 - Up and down: 160°
 - Resolution : 1024 × 768
- Backlit keyboard, 8 TGC
- Transparent keyboard membrane for minor languages: Spanish, Russian, German, French
- Two active probe connectors
- Two probe holders
- Built-in lithium battery
 - Working hour: 60 min
 - Charging time: about 4 hours

Probe

Transducer Types

- Electronic convex probe
- Electronic micro convex probe
- Electronic linear probe
- Electronic biplane probe

- 4D convex probe

Probe Mode

- C3L60G convex probe
- C3L40G convex probe
- C3I20G convex probe
- C5I20G convex probe
- V6L11G convex probe
- C6I15G micro-convex probe
- L7L38G linear probe
- L10L38G linear probe
- U5L50G linear probe
- L7L50G linear probe
- L10L25G linear probe
- 4DL40G 4D convex probe
- C3I20G 4D convex probe
- U5L50G biplane probe

Technology

Applications

- Abdomen, Urology, Gynecology,
- Obstetrics (1st Trimester, 2nd and 3rd)

Product data

- Trimesters), Fetal echo, Multifetation
- Abdomen (PEN), Urology (PEN)
- Thyroid, Breast, Testes, Peripheral vascular, Orthopedics, Podiatry, Superficial, Small part (PEN), Musculoskeletal Neurology
- Carotid, Vascular (PEN)
- Cardiology, Cardiology (PEN), Paediatrics Cardiac

- Free hand 3D

Zoom

- Realtime zooming
- 4 Steps: $\times 1.5$, $\times 2.0$, $\times 3.0$, $\times 4.0$
- Selectable zooming position
- Zoom frozen
- 4 Steps: $\times 1.5$, $\times 2.0$, $\times 3.0$, $\times 4.0$

Function

- Auto-Fit: Automatic Optimization
- Speckled Reduction
- Trapezoidal Imaging
- Tissue Harmonic imaging
- Zoom : Spot zoom and Pan zoom
- Edit the exam type and save the user-defined items
- Pulse Wave Doppler
- Auto-Fit: (B and PW mode)
- Compound Imaging (Optional)
- Panoramic Imaging(Optional)
- Color Doppler(Optional)
- 3D/4D(Optional)
- Free hand 3D (Optional)
- Triplex mode (Optional)
- Panoscope : Panoramic Imaging (Optional)
- Elastography (Optional)
- WIFI : transmit images to iPad/iPhone or the wireless Printer (Optional)
- DICOM 3.0 (Optional)
- Built-in battery (optional)

Focus

- Continuous dynamic focus
- Dynamic apodization
- Dynamic aperture
- 1~8 selectable transmit focus
- Acoustic lens focus

Memory

- Cine-memory
- B-mode (max.2000 frames)
- M-mode (max.11 minutes)
- Hard disk 500 GB

Imaging Processing

2D mode

- 8-step TGC slide pots
- Gain: 0~100dB
- Depth: 1.6~30.8 cm
- Frequency: 5 steps
- Dynamic range adjustable: 30~180dB
- Edge enhancement: 0~3
- Smooth: 0~3
- Nanoview: 0~6
- Persistence: 0~7
- Chroma: 0~8
- Grayscale: 0~23
- Power: $-\infty$ ~0dB, 0~100%
- Scan angle: 10°~157°
- B steer: -10° ~ +10°
- B rotation: 0° ~ 270°

Display mode

- B, 2B, 4B mode
- M, B/M mode
- Tissue Harmonic Imaging
- Trapezoidal Imaging
- Pulse Wave Doppler
- Color Doppler (Optional)



- Line density: 2 steps
- Inversion: left/right, up/down, rotate

M mode

- Gain: 0~100dB
- Sweep speed: 4 steps
- Maps: 0~23
- Chroma: 0~8

Color mode

- Gain control: 0~100dB
- Pulse repetition frequency: 0.25KHz~6.0KHz
- Wall filter: 3KHz, 50 steps
- Median Filter: 0~3
- Threshold: 0~10
- Color Map: 0~10
- Smooth: -3~3
- Color persistence: 0~7
- Line density: 2 steps
- Velocity: 0.1cm/s ~ 298.4cm/s
- Color frequency: 3 steps
- Power: 0~100%, -∞ dB ~ 0 dB
- Baseline: 17 steps
- Steer: -10° ~ +10°
- Priority: 0~255, 85 steps

PW mode

- Gain: 0~100dB
- D map: 0~23
- Frequency: 3 steps
- Chroma: 0~8
- PRFd: 1.0~12.5KHz
- Basic line: 31 steps
- Wall filter: 6.25 KHz, Max, 50 steps
- Angle: -80°~+80°
- Sampling volume: 0.5~40.0mm
- Volume: 0~100%
- D Speed: 1~5
- Smooth: 0~3
- Power: -∞ dB ~ 0 dB, 0~100%

- Steer: -10° ~ +10°

4D Lite mode

- 4D map: 31 steps
- Color: 0~4
- Rotate angle: 0° ~ 270°
- Threshold: 0~100
- Smooth: 0~3
- Brightness: 0~10
- Opacity: 0~255
- Render Rate: Low, Mid, High
- Scan Rate: Low, High
- Angle: 50%~100%

Measurement & Calculation

Measurement

2D mode (General)

- Distance
- Trace Length
- Ellipse (area)
- Trace (area)
- Angle (general)
- Angle (cross)
- Auto IMT (intima-media thickness)
- Histogram

PW mode

- HR (heart rate)
- Velocity
 - PSC (peak systolic velocity)
 - EDV (end diastolic velocity)
 - S/D (systolic/diastolic)
 - RI (resistent index)
 - PG (pressure)
- ACC (acceleration)
- Time
- Manual Trace
 - PSC (peak systolic velocity)
 - EDV (end diastolic velocity)

Product data

- MN (median)
- ACC (acceleration)
- S/D (systolic/diastolic)
- RI (resistent index)
- PI (pulsatility index)
- HR (heart rate)
- PG (pressure)
- Auto Trace
 - PSC (peak systolic velocity)
 - EDV (end diastolic velocity)
 - MN (median)
 - ACC (acceleration)
 - S/D (systolic/diastolic)
 - RI (resistent index)
 - PI (pulsatility index)
 - HR (heart rate)
 - PG (pressure)
- Range Trace
 - PSC (peak systolic velocity)
 - EDV (end diastolic velocity)
 - MN (median)
 - ACC (acceleration)
 - S/D (systolic/diastolic)
 - RI (resistent index)
 - PI (pulsatility index)
 - HR (heart rate)
 - PG (pressure)
- Artery)
 - CELA (Celiac trunk)
 - AO (aortaventralis)
- Gallbladder
 - Length
 - Anteroposterior
 - Transverse
 - Wall
 - CBD (Common bile duct)
 - LHD (Left hepatic duct)
 - RHD (Right hepatic duct)
- Pancreas
 - Head
 - Body
 - Tail
 - MPD(Main pancreatic duct)
- Spleen
 - Length
 - Anteroposterior
 - Spleen artery
 - Spleen vein

Urology

- Kidney
 - Length Left Kidney
 - Anteroposterior Left Kidney
 - Transverse Left Kidney
 - Left Renal Artery
 - Length Right Kidney
 - Anteroposterior Right Kidney
 - Transverse Right Kidney
 - Right Renal Artery
- Ureter
 - Left
 - Right
- Bladder
 - Length
 - Anteroposterior

Calculation

Abdomen

- Liver
 - Long Left Lobe
 - Anteroposterior Left Lobe
 - Angle Left Lobe
 - Obli R Lobe
 - Anteroposterior Right Lobe
 - Angle Right Lobe
 - Portal Vein
 - IVC (Inferior Vena Cava)
 - SMA (Superior Mesenteric

Product data

- Transverse
- Volumen
- After the urine bladder
 - Length
 - Anteroposterior
 - Transverse
 - Simpson Residual Urine
- Prostate
 - Volumen
 - PSAD (Prostate specific antigen Density)

Gynecology

- Uterus
 - Length
 - Anteroposterior
 - Transverse
 - Endometrium
- Cervix
 - Length
 - Anteroposterior
 - Transverse
- Ovary
 - Length Left
 - Anteroposterior Left
 - Transverse Left
 - Length Right
 - Anteroposterior Right
 - Transverse Right
- Follicle
 - Volume 1
 - Volume 2
 - Volume 3

Obstetrics (1st Trimester)

- GS (gestation sac)
- CRL (crown-rump length)
- BPD (biparietal diameter)
- HC (head circumference)
- AC (abdominal circumference)
- FL (femur length)

Obstetrics (2nd and 3rd Trimesters)

- CRL (crown-rump length)
- BPD (biparietal diameter)
- HC (head circumference)
- AC (abdominal circumference)
- FL (femur length)
- Q (amniotic fluid index)
- OFD (occipitofrontal diameter)
- TAD (transverse trunk diameter)
- Placenta
- APD (Antero-posterior abdominal diameter)
- HL (humerus length)
- TL (tibia length)
- UL (ulna length)
- RL (radius length)
- FIBL (fibula length)
- OOD (outside Orbital distance)
- LV (Lateral ventricle)
- HW (Hemisphere width)
- NT (nuchal translucency)
- FTA (fetal torso transverse section)
- CER (cerebellum transverse diameter)
- Growth charts
- Biophysical profile

Fetal echo

- AO (aorta)
- LVOT (Left ventricular outflow tract)
- PA (Pulmonary artery)
- RVOT (Right ventricular outflow)



- tract)
- LA (Left atrium)
- RA (Right atrium)

Thyroid

- Long Left Lobe
- Anteroposterior Left Lobe
- Transverse Left Lobe
- SUPA Left Lobe (Superior artery of Left Lobe)
- INFA Left Lobe (Inferior artery of Left Lobe)
- Long Right Lobe
- Anteroposterior Right Lobe
- Transverse Right Lobe
- SUPA Right Lobe (Superior artery of Right Lobe)
- INFA Right Lobe (Inferior artery of Right Lobe)
- Isthmus
- LCCA (Left common carotid artery)
- RCCA (Right common carotid artery)

Breast

- UI Left Breast (Upper internal of Left Breast)
- LI Left Breast (Lower internal of Left Breast)
- UE Left Breast (Upper external of Left Breast)
- LE Left Breast (Lower external of Left Breast)
- UI Right Breast (Upper internal of Right Breast)
- LI Right Breast (Lower internal of Right Breast)
- UE Right Breast (Upper external of Right Breast)
- LE Right Breast (Lower external of Right Breast)

Testes

- Long Left Testis
- Anteroposterior Left T Testis
- Transverse Left T Testis
- Long Left Epididymis
- Anteroposterior Left Epididymis
- Long Right Testis
- Anteroposterior Right Testis
- Transverse Right Testis
- Long Right Epididymis
- Anteroposterior Right Epididymis

Neonate

- Left LV (Left lateral ventricle)
- Right LV (Right lateral ventricle)
- 3rd (Third cerebral ventricle)
- HW (Hemisphere width)

Peripheral vascular

- Diameter
 - Left AXIA (Left axillary artery)
 - Left BRAA (Left brachial artery)
 - Left RADA (Left radial artery)
 - Left ULNA (Left ulnar artery)
 - Left FEMA (Left femoral artery)
 - Left POPA (Left popliteal artery)
 - Left DORA (Left dorsal artery)
 - Right AXIA (Right axillary artery)
 - Right BRAA (Right brachial artery)
 - Right RADA (Right radial artery)
 - Right ULNA (Right ulnar artery)
 - Right FEMA (Right femoral artery)
 - Right POPA (Right popliteal artery)
 - Right DORA (Right dorsal artery)
 - Vein
- Intima
 - Left AXIA (Left axillary artery)
 - Left BRAA (Left brachial artery)

- Left RADA (Left radial artery)
 - Left ULNA (Left ulnar artery)
 - Left FEMA (Left femoral artery)
 - Left POPA (Left popliteal artery)
 - Left DORA (Left dorsal artery)
 - Right AXIA (Right axillary artery)
 - Right BRAA (Right brachial artery)
 - Right RADA (Right radial artery)
 - Right ULNA (Right ulnar artery)
 - Right FEMA (Right femoral artery)
 - Right POPA (Right popliteal artery)
 - Right DORA (Right dorsal artery)
 - Vein
- Intima-media
 - Left AXIA (Left axillary artery)
 - Left BRAA (Left brachial artery)
 - Left RADA (Left radial artery)
 - Left ULNA (Left ulnar artery)
 - Left FEMA (Left femoral artery)
 - Left POPA (Left popliteal artery)
 - Left DORA (Left dorsal artery)
 - Right AXIA (Right axillary artery)
 - Right BRAA (Right brachial artery)
 - Right RADA (Right radial artery)
 - Right ULNA (Right ulnar artery)
 - Right FEMA (Right femoral artery)
 - Right POPA (Right popliteal artery)
 - Right DORA (Right dorsal artery)
 - Vein
- %D Reduce
 - Left AXIA (Left axillary artery)
 - Left BRAA (Left brachial artery)
 - Left RADA (Left radial artery)
 - Left ULNA (Left ulnar artery)
 - Left FEMA (Left femoral artery)
 - Left POPA (Left popliteal artery)
- Left DORA (Left dorsal artery)
 - Right AXIA (Right axillary artery)
 - Right BRAA (Right brachial artery)
 - Right RADA (Right radial artery)
 - Right ULNA (Right ulnar artery)
 - Right FEMA (Right femoral artery)
 - Right POPA (Right popliteal artery)
 - Right DORA (Right dorsal artery)
 - Vein
- %A Reduce (%Area reduce)
 - Left AXIA (Left axillary artery)
 - Left BRAA (Left brachial artery)
 - Left RADA (Left radial artery)
 - Left ULNA (Left ulnar artery)
 - Left FEMA (Left femoral artery)
 - Left POPA (Left popliteal artery)
 - Left DORA (Left dorsal artery)
 - Right AXIA (Right axillary artery)
 - Right BRAA (Right brachial artery)
 - Right RADA (Right radial artery)
 - Right ULNA (Right ulnar artery)
 - Right FEMA (Right femoral artery)
 - Right POPA (Right popliteal artery)
 - Right DORA (Right dorsal artery)
 - Vein

Orthopedics

- Hip Joint

Carotid

- Diameter
 - 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)
- Intima
 - 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)
- %D Reduce (%Diameter reduce)
 - 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)
- %A Reduce
 - 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)

Cardiology

- RVAWd (Right ventricular anterior wall diastolic)
- RVd (Right ventricle diastolic period)
- IVSd (Inter-ventricular septum in diastolic period)
- LVd (Left ventricle in diastolic period)
- LVPWd (Diameter of left ventricle posterior wall in diastolic period)
- RVAWs (Right ventricular anterior wall systolic period)
- RVs (Right ventricular systolic period)
- IVSs (Inter-ventricular septum in systolic period)
- LVPWs (Diameter of left ventricle posterior wall in systolic period)
- RVOT (Right ventricular outflow tract)
- AO (Aorta)
- LA (Left atrium)

Product data

- IVC (Inferior vena cava)
- PA (Great artery short axis view)

- Gross weight
 - 16.5kg (2 probes)
 - 20kg (4 probes)
- Net weight
 - 10.3kg

Physical Features

Connectivity

- Video out port
- S-Video out port
- Audio in port
- Audio out port
- MIC
- VGA out port
- 2 USB port
- Printer control port
- AC power input port
- HDMI digital port
- Network interface
- Foot switch

Dimension

- Gross dimension:
 - 630 mm (H) X 420 mm (W) X 505 mm (D) (4 probes)
 - 630 mm (H) X 325 mm (W) X 505 mm (D) (2 probes)
 - 715 mm (H) X 505 mm (W) X 410 mm (D) (Apogee 1200 trolley case)
 - 670 mm (H) X 495 mm (W) X 320 mm (D) (Apogee 1200 plastic trolley case)
- Net dimension:
 - 370 mm (H) X 214 mm (W) X 387 mm (D)
 - 645 mm (H) X 450 mm (W) X 260 mm (D) (Apogee 1200 trolley case)
 - 650 mm (H) X 475 mm (W) X 290 mm (D) (Apogee 1200 plastic trolley case)

Weight

Power Requirements

- Voltage: AC 100V to 240V±10%
- Frequency: 50Hz±1Hz; 60Hz±1Hz
- Rated Power: 250VA

Operation Conditions

- Ambient temperature: 0°C to +40°C
- Relative humidity: 38% to 85%
- Atmospheric Pressure: 700hPa to 1060hPa

Software & Accessories

Standard Accessories

- Power Cable
- Operation Manual
- Potential equalization conductor
- Printer control cable
- S-Video cable
- Fuse
- BNC/RCA cable
- Dust-proof cover
- Recovery system USB
- Wireless network antenna
- Probe holder

Optional Accessories

- Video printer
- LaserJet or inkjet printer
- Biopsy guide
- Foot switch (JT-2)
- Optional built-in battery (*must built-in the main unit before factory delivery)

Product data

- Apogee 1200 trolley case
- Apogee 1200 plastic trolley case

Applied Standards

Quality Standards

- ISO 9001:2008
- ISO 13485:2003

Conformance Standards

- UL 60601-1
- EN 60601-1 and IEC 60601-1
- EN 60601-1-1 and IEC 60601-1-1
- EN 60601-1-2 and IEC 60601-1-2
- EN 60601-1-4 and IEC 60601-1-4
- EN 60601-1-6 and IEC 60601-1-6
- EN 60601-2-37 and IEC 60601-2-37
- EN 62304 and IEC 62304

CE Declaration

The Certification Body of TÜV SÜD Product Service GmbH declares that the aforementioned manufacturer has implemented a quality assurance system for design, manufacture and final inspection of the respective products / product categories according to Annex II section 3 of the Directive 93/42/EEC on Medical Devices.



Probe

Model mode	Applications	Transmit frequency (MHz)	Max. depth	View field	Array radius	Max Frames (Hz)	Biopsy guide
Convex probe							
C3L60G	Abdomen Gynecology 1 st Trimester 2 and 3 Trimesters Multifetation Fetal echo Urology Abdomen(pen) Urology(pen)	B mode: 2.0/2.5/3.3/4.2/5.0 Color mode: 2.0/2.5/3.0 Harmonic: 2.0 PW mode: 2.5/3.0/3.5	30.8cm	74°	R60	412	Available
C3L40G	Abdomen Gynecology 1 st Trimester 2 and 3 Trimesters Multifetation Fetal echo Urology Abdomen(pen) Urology(pen)	B mode: 2.0/2.5/3.3/4.2/5.0 Color mode: 2.0/2.5/3.0 Harmonic: 2.0 PW mode: 2.5/3.0/3.5	30.8cm	85°	R40	463	Invalid
V6L11G	Gynecology 1 Trimester Urology	B mode: 4.0/5.2/6.0/7.0/9.0 Color mode: 4.2/5.0/5.7 Harmonic: 4.0 PW mode: 5.0/5.7/6.5	13.4cm	157°	R11	742	Available
C3I20G	Cardiology, Cardiology (PEN), Paediatrics Cardiac Abdomen	B mode: 2.0/2.5/3.3/4.2/5.0 Color mode: 2.0/2.5/3.0 Harmonic: 2.0 PW mode: 2.5/3.0/3.5	30.8cm	110°	R20	742	Invalid
C5I20G	Cardiology, Cardiology (PEN), Paediatrics Cardiac Abdomen	B mode: 4.0/4.7/5.5/6.2/7.0 Color mode: 2.8/3.5/4.2 PW mode: 3.0/3.5/4.2 Harmonic: 4.0	14.2cm	110°	R20	742	Invalid



4D Probe							
4DL40G	Abdomen Gynecology Urology 1 st Trimester 2 and 3 Trimesters Multifetation Fetal echo	B mode: 4.0/4.7/5.5/6.2/7.0 Color mode: 2.5/3.0/3.5 Harmonic: 4.0 PW mode: 2.5/3.0/3.5	30.8cm	68°	R40	371	Invalid
C3I20G	Gynecology 1 Trimester Urology	B mode: 4.0/5.0/6.0/7.0/9.0 Color mode: 4.2/5.0/5.7 Harmonic: 4.0 PW mode: 5.0/5.7/6.5	12.6cm	146°	R10	742	Invalid
4DL40G	Abdomen Gynecology Urology 1 st Trimester 2 and 3 Trimesters Multifetation Fetal echo	B mode: 2.0/2.5/3.3/4.2/5.0 Color mode: 2.0/2.5/3.0 PW mode: 2.5/3.0/3.5 Harmonic: 2.0	30.8cm	68°	R40	371	Invalid
Micro-convex probe							
C6I15G	Cardiology, Cardiology (PEN), Paediatrics Cardiac Abdomen	B mode: 4.5/5.2/6.0/6.7/7.5 Color mode: 3.8/4.5/5.2 Harmonic: 4.5 PW mode: 4.5/5.2/6.0	12.6cm	86°	R17.5	618	Invalid
Linear probe							
L7L38G	Thyroid Breast Testes Peri.Arteries Carotid Orthopaedics Podiatry Superficial Small Part (pen) Vessel(pen)	B mode: 5.0/6.2/7.5/10.0/12.0 Color mode: 5.6/6.2/7.5 PW mode: 5.0/5.7/6.2 Harmonic: 5.0	9.5cm	38mm		218	Available
L10L38G	Thyroid Breast Testes Peri.Arteries Carotid Orthopaedics Podiatry	B mode: 7.0/9.0/10/12.0/14.0 Color mode: 5.8/6.2/6.5 PW mode: 5.8/6.2/6.5 Harmonic:	9.5cm	38mm		218	Invalid

Product data

	Superficial	7.0					
U5L50G	Urology	B mode: 4.0/4.7/5.5/6.2/7.0 Color mode: 3.2/4.0/4.7 PW mode: 4.0/4.7/5.5 Harmonic: 4.0	12.6cm	50mm		285	Available
L7L50G	Thyroid Breast Testes Peri.Arteries Carotid Orthopaedics Podiatry Superficial Small Part (pen) Vessel(pen)	B mode: 5.0/6.2/7.5/10.0/12.0 Color mode: 5.6/6.2/7.5 PW mode: 5.0/5.7/6.2 Harmonic: 5.0	9.5cm	50mm		285	Available
L10L25G	Thyroid Breast Testes Peri.Arteries Carotid Orthopaedics Podiatry Superficial	B mode: 7.0/9.0/10/12.0/14.0 Color mode: 6.5/7.0/7.5 PW mode: 6.5/7.0/7.5 Harmonic: 7.0	9.5cm	25mm		145	Invalid
Biplane probe							
U5L50G	Urology Gynecology 1 Trimester	B mode: 5.0/6.6/7.5/10.0/12.0 Color mode: 5.6/6.2/7.5 PW mode: 5.0/5.7/6.2 Harmonic: 5.0	9.5cm	183°	R10	927	Available

