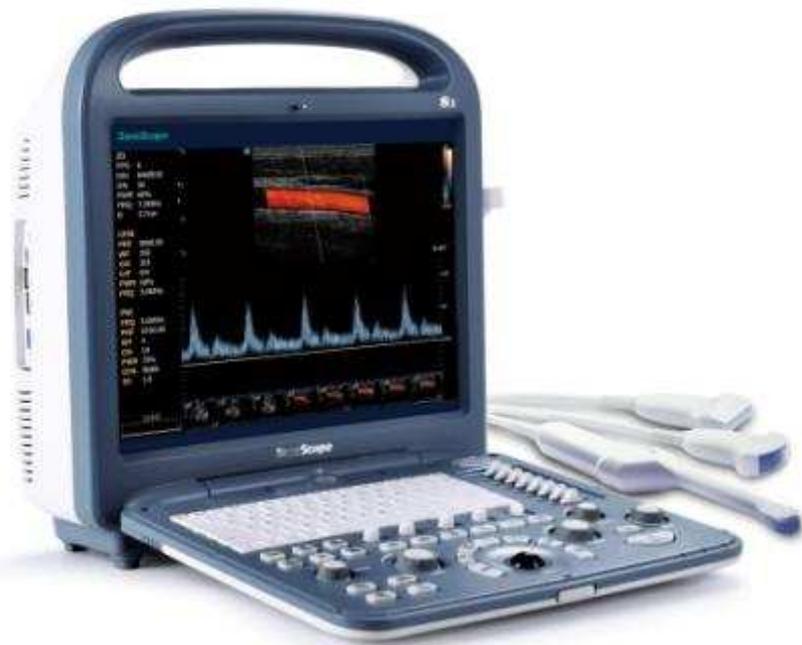

Specifications for S2 High-Performance Color System



SonoScape

THE PIONEER OF COLOR DOPPLER ULTRASOUND IN CHINA

Product Overview

General Specification

The high performances of the SonoScape S2 stem from the advanced ultrasound Doppler imaging technologies that include full digital beam-former, wide dynamic range, multi-beam processing, etc.

The ergonomic user-friendly design enables user to customize the system according to the specific application needs, and the graphic exam icon assure you familiar with the system in few minutes.

2. Advanced Technologies

- PC platform
- Full Digital Beam Processing
- Compound Imaging
- Tissue Harmonic Imaging
- Panoramic Imaging
- Trapezoid Imaging
- 4D Imaging
- Dicom 3.0
- Intelligent Upgrade
- Graphic Exam Icon
- Remote Maintenance

3. Standard Configuration

- B Mode
- Multi-B Mode
- M Mode
- Color Mode
- DPI Mode

- PW Mode
- THI Mode
- Cardiac Package
- Gynecology Package
- Urology Package
- Small Part Package
- Vascular Package
- Orthopedic Package
- Compound Imaging
- Trapezoid Imaging
- ECG Module
- Dop Auto Trace
- μ -scan
- IMT Function
- Dicom 3.0
- Internal Workstation

4. Optional Functions

- CW Mode
- 4D Imaging
- Triplex
- Panoramic Imaging
- Anatomic M Mode
- Color M Mode

5. Optional Components

- Power Adaptor
- UPS Power
- Biopsy Guide
- Color Ink-jet Printer
- B/W Video Printer

Specifications for S2 High-Performance Color System

- External DVD Burner
- Foot Switch
- Special Trolley
- Transducer Cable Holder

6. Sweep Width/Angle

- Linear Array: Maximum 46mm
- Convex Array: $\geq 70^\circ$
- Phased Array: $\geq 90^\circ$
- Micro convex Array: $\geq 135^\circ$
- 4D probe: 70°

7. Scanning Methods

- Electronic Convex Sector
- Electronic Linear
- Electronic Phased Array Sector
- 4D Automatic Scanning
- Electronic Endocavity

8. Applications

- Small Parts(Thyroid, Breast, Testicles and Superficial)
- Abdominal(Liver, Spleen, Kidney, Pancreas)
- Vascular(Carotid, Peripheral vessel)
- Cardiology
- Obstetrical(Uterus, Appendages, Fetus)
- Gynecological
- Urological
- Musculoskeletal
- Craniocerebral

- Emergency(optional)
- ICU(optional)
- Anesthesia (optional)

9. Operating Modes

- B-Mode
- M-Mode
- THI-Mode
- Color Flow Mode(CFM)
- Doppler Power Imaging(DPI)
- PW Mode
- CW Mode(optional)
- Panoramic Imaging(optional)
- 4D Imaging(optional)
- Steer M-Mode(optional)
- Color M Mode(optional)

10. Display Modes

- B、Dual B、4B
- B+Color、Dual B+Color
- B+DPI、Dual B+DPI
- M、B+M、Dual B+M
- B+PW、Dual B+PW
- B+color+PW
- B+DPI+PW
- B+CW、Dual B+CW(optional)
- B+color+CW(optional)
- B+DPI+CW(optional)
- B+ Color M (optional)
- B+ Anatomic M(optional)
- B+ Multi-M(optional)

Specifications for S2 High-Performance Color System

- Panoramic Imaging(optional)
- Trapezoid Imaging
- Compound Imaging
- 4D Imaging(optional)

11. System Menu Setting

- System Setting
 - General Setting
 - Hospital Name
 - Language Setting
 - ◆ English
 - ◆ Simple Chinese
 - ◆ Spanish(Optional)
 - ◆ Russian(Optional)
 - ◆ French(Optional)
 - ◆ Italian(Optional)
 - ◆ German(Optional)
 - ◆ Turkish(Optional)
 - Automatic Response to Freeze
 - Trackball Sensitive
 - Set Time/ Date
 - Letter form
 - Audio Volume
 - Display
 - TGC Curve
 - Patient Information
 - Clipboard Automatic Open to Freeze
 - Parameters Setting
 - B Mode
 - M Mode
 - Color Mode

- DPI Mode
- PW Mode
- CW Mode
- Storage
 - Storage Mode: depending on the frames
 - Storage Region: Full Screen, Imaging Area
 - Save to USB
- Peripheral Equipments
 - Clip Format: NTSC、PAL
 - Internet setting
 - ◆ IP Adress
 - ◆ Subnet Mask
 - ◆ Default Gateway
 - ◆ DNS Service
 - Local DICOM AE Title
 - Printer Setting
- Annotation Setting
 - Annotation Library Setting
 - Display Language: Current Language, English
 - Self-defined Entry
- Body Mark Setting
 - Body Mark Library Setting
 - Default Display Position
- Measurement Setting
 - General Setting
 - Unit: Metric, British
 - Cardiac Cycle
 - UA Result: Last, Minimum,

Specifications for S2 High-Performance Color System

- Maximum, Average
 - Define Quick Key(Obstetric, Cardiac)
 - Calculation Menu Setting
 - ◆ 2D Mode
 - ◆ Distance
 - ◆ Trace
 - ◆ Ellipse
 - ◆ Angle
 - ◆ Volume
 - ◆ Ratio
 - ◆ Vascular
 - ◆ Obstetrical
 - ◆ Gynecological
 - ◆ Cardiac
 - ◆ Small Part
 - ◆ Urologic
 - ◆ Orthopedic
 - ◆ M Mode
 - ◆ Time
 - ◆ Distance
 - ◆ Slope
 - ◆ Ratio
 - ◆ Heart Rate
 - ◆ Left Ventricle
 - ◆ Mitral Valve
 - ◆ Aortic Valve
 - ◆ PW Mode
 - ◆ Flow Velocity
 - ◆ Time
 - ◆ Heart Rate
 - ◆ Manual Trace
 - ◆ Vascular
 - ◆ Obstetric
 - ◆ Cardiac
 - Measurement Method Setting
 - ◆ BSA: Eastern, Western
 - ◆ Obstetric Measurement Method
 - ◆ EFW Method
 - Report Setting
 - Report Logo
 - Title, Font Size
 - Display Items
 - DICOM Setting
 - DICOM Image Storage
 - DICOM Storage Commitment
 - Worklist
 - MPPS
 - DICOM Printing
 - System Information
 - Software Version
 - Restore to Factory Defaults
 - System Upgrade: USB Upgrade, Remote Network Upgrade
- ### 12. Standard Features
- Frame Rate: Max 800frames/sec or more(configuration dependent)
 - Display Gray Scale: 256 Levels
 - Probe Elements: Up to 128
- ### 13. B Mode
- Focus: Up to 15, Focus span adjustable

Specifications for S2 High-Performance Color System

- Line Density: High/ Med
- Dynamic Range: 20-320 (probe dependent)
- GSC(Gray Scale Curve): 21 steps selectable
- Gain: 0-255 adjustable
- Left and Right Inversion
- Up and Down Inversion
- TGC(Time Gain Control): 8 slide controls
- Depth: 24cm
- Frequency Range: 5 steps
- Persist: 8 steps selectable
- Chroma: 9 steps selectable
- SEC.WIDTH: adjustable
- Biopsy Guide: (optional)
 - Biopsy Angle adjustable
 - Biopsy Offset adjustable
- Power: 1%-100% adjustable,5 steps each
- B Steer Mode(Linear, optional)

14. Color Flow Mode

- Frame Rate: ≥ 50 frames/sec
- Color Area Size and Position: adjustable
- Single auto focus while color ROI movement
- Steer Angle:0, ± 12 , ± 16 , ± 20 degree adjustable
- Persistence:8 steps selectable
- Frequency Range: 5 steps
- PRF: 0.5-5.7kHz(probe dependent)

- Color Baseline: ± 15 steps
- Filter: 5-750 adjustable
- Color/Power Map: 15 kinds
- B Reject: 0-255
- Flow Invert: ON/OFF(optional)
- Left/Right: ON/OFF
- Resolution: 6 kinds

15. M Mode

- Chroma: 8 kinds selectable
- Enhancement: 8 kinds selectable
- Video Invert: ON/OFF(optional)
- Sweep Speed: 2, 4, 6, 8 sec/plane
- Steer M: 3 sample lines, Display frame rate(optional)
- Display Format: H1/1、 H1/2、 H2/1、 V1/1、 V1/2

16. Spectral Doppler

- Chroma: 8 kinds selectable
- Spectrum Inversion
- PRF: 0.7~5.7kHz (PW)
- PRF: 1-48KHz (CW)
- Baseline Shift: 15 steps
- Video Invert: ON/OFF(optional)
- Filter: 25-750 adjustable
- 2D-Refresh(optional)
- Doppler Methods
 - PW(pulsed wave) Doppler
 - CW(continuous wave) Doppler
- Doppler Envelope: manual trace, auto

Specifications for S2 High-Performance Color System

trace, real time trace, freeze trace

- Max Velocity Range:
 - 0.0004-40.9 m/s (PW)
 - 0.0013-49.1 m/s (CW)
- Dynamic Range: 10 steps selectable
- Frequency Range: 5 steps
- θ Angle Correction: 0-80°
- Sample Volume Size for PW Doppler: 1
-20 mm
- Sweep Speed: 2, 4, 6, 8 sec/plane
- Steer Angle: 0, ± 12 , ± 16 , ± 20 , 7 kinds
- Display Format: H1/1, H1/2, H2/1,
V1/1, V1/2

17. 4D Mode (optional)

- Render Mode: Vol, MaxIP
- Auto Rotate (45, 90, 180, 270, 360
degrees adjustable)
- Zoom Function
- Rotate Function
- Color Map: 4 kinds
- Image Quality: high, med, low
- 4D Stabilization
- Save images
- Print

18. ECG Module

- ECG, Pulse Wave
- ECG Lead-three lead system
- ECG Gain: adjustable
- ECG Position: adjustable

- ECG Invert: on/off
- R Trigger: on/off
 - Trigger Delay: adjustable
 - Frame Count: adjustable

19. Storage Media

- Hard Disk memory capacity: 160 G
- Storage media: USB Drive
 - USB Drive
 - DVD RW

20. Storage of Images and Cine

- Cine loop: 999 frames or more
- Cine loop time: 99 seconds or more
- Archived image can be viewed on PC
- Clipboard function: in Freeze Mode
- Cine play back mode for Dop.

21. DICOM Network Communication

- Structural Report (SR) : ABD, OB,
GYN, Cardiac, Vascular, Urology,
Small Parts, PED, MSK, Nerve,
Orthopedics
- DICOM Image Storage Format: RLE,
JPEG
- DICOM Remote Storage
- DICOM ECHO
- DICOM Storage Commitment
- DICOM Work list
- DICOM MPPS
- DICOM Print

- DICOM Media Storage

22. Data Communication

- All patient data in this ultrasound unit can be outputted to Flash Disk and DICOM, in file folder of patient, examination mode, image and report.

23. Pre-set Function

- Users can optimize the Pre-set by changing different parameters for different probes and examination.

24. Patient Data Management

- Patient Registration: Name, ID, Gender, Date of Birth, Height, Weight, Blood Pressure, Body Surface Area, Heart Rate, LMP, GA, Doctor's comment
- Retrieve the patient from Worklist
- Patient Data, report, images can be searched, retrieved, DICOM sending, Send to Report, Print and so on

25. Annotation and Body Mark

- Body Mark: more than 100 kinds
- Divided into different applications
- User-definable annotation
- Annotation can be revised, moved, edited and deleted
- Body mark can be moved, while the probe mark can be moved and rotated

- Arrow can be rotated and the size could be changed

26. Probe Connectors

- Active Connectors: 2 connectors

27. Display Screen

- 15-inch High-Resolution Color LCD monitor

28. Safety Standard

- Meet with IEC60601-1, Class I, BF international standard

29. Environmental Requirements

In operation

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

In Storage/Transportation

- Temperature: -20 to +55 degrees C
- Relative humidity: 20%- 90% (non condensing)
- Atmospheric Pressure: 700 to 1060hPa

Power Supply

- 100/220 Volts AC, 3.15Amps
- Frequency: 50/60HZ

30. Optional Probe

- Linear Probe (Vascular, Small Part)

Specifications for S2 High-Performance Color System

- L741 (5-15 MHZ)
- Linear Probe (Vascular, Small Part)
 - 10L1 (5-15 MHZ)
- Linear Probe (intraoperative)
 - 10I2 (4.5-15 MHZ)
- Curved Probe (Abdomen, OB/GYN)
 - C311 (2-4 MHZ)
- Curved Probe (Abdomen, OB/GYN)
 - C344 (2-6 MHZ)
- Curved Probe (Abdomen, OB/GYN)
 - C611 (3-8 MHZ)
- Micro-curved Probe (Transvaginal)
 - 6V1 (4-9 MHZ)
- Endocavity Probe
 - EC9-5 (3.9-11 MHZ)
- Volumetric Probe (4D)
 - VC6-2 (2-6 MHZ)
- Phased Array Probe (Cardiology)
 - 2P1 (2-4 MHZ)
- Phased Array Probe (Cardiology)
 - 5P1 (3-7MHZ)

31. Measurements/Calculations

• General Measurements/Calculations

On B-Mode

- Distance (real time, freeze)
- Area and circumference (Trace, Ellipse)
(real time, freeze)
- Volume (LxWxH,AreaxL)
- Angle

On M-Mode

- Velocity
- Time
- Heart rate
- Slope
- Distance
- Time Ratio/Distance Ratio

On Spectral Doppler

- Time
- Heart Rate
- Velocity
- Acceleration
- Resistance Index
- Pulse Index
- PV (peak Velocity)
- PG (Pressure gradient)
- Auto Trace
- Manual trace
- Mean Flow Velocity
- End diastolic Velocity
- Pressure Half Time

• Obstetrical/ Gynecological

Measurements & Calculations

B Mode

- GS (Gestational Sac diameter)
- CRL (Crown Rump Length)
- BPD (Biparietal Diameter)
- HC (Head Circumference)
- AC (Abdominal Circumference)
- FL (Femur Length)

Specifications for S2 High-Performance Color System

→CER (Cerebellum)
→OFD (Occipitofrontal Diameter)
→Fibula (Fibula Length)
→Foot (Foot Length)
→AA (Abdominal Area)
→APAD (Anteroposterior Abdominal Diameter)
→HA (Head Area)
→Humerus (Humerus Length)
→Kidney (Kidney Length)
→APTD (Anteroposterior Trunk Diameter)
→OOD (Outer Orbital Diameter)
→Radius (Radius Length)
→TAD (Transverse Abdominal Diameter)
→TC (Thoracic Circumference)
→THD (Thoracic Diameter)
→Tibia (Tibia Length)
→TTD (Transverse Trunk Diameter)
→Ulna (Ulna Length)
→Umb VD (Umbilical Vein Diameter)
→NT (Nuchal Translucency)
→LV (Lateral Ventricle)
→UT L (Uterus Length)
→UT H (Uterus Height)
→UT W (Uterus Width)
→Cx (Cervix)
→En-T (Endometriosis)
→Rt OV L (Right Ovary Length)
→Rt OV H (Right Ovary Height)
→Rt OV W (Right Ovary Width)
→Lt OV L (Left Ovary Length)

→Lt OV H (Left Ovary Height)
→Lt OV W (Left Ovary Width)
→AFI (Amniotic Fluid Index)
→Follicle
→EFA (Estimated Fetal Age)
→EDD (Estimated Date of Delivery)
→EFW (Estimated Fetal Weight)
→AUA (Average Ultrasound Age)
→GA (Gestational Age)

PW Mode

→Umb A (Umbilical Artery)
→MCA (Middle Cerebral Artery)
→Rt Uterin A (Right Uterine Artery)
→Lt Uterin A (Left Uterine Artery)

• **Cardiac measurements**

B-Mode

→Left Ventricular Fuction Measurement

- ◆ Single Plane Ellipse Method
 - LVALd: Left Ventricular Long-axis Area at end Diastole
 - LVLd: Left Ventricular Long-axis Length at end Diastole
 - LVALs: Left Ventricular Long-axis Area at end Systole
 - LVLs: Left Ventricular Long-axis Length at end Systole
- ◆ Biplane Ellipse Method
 - LVALd: Left Ventricular Long-axis Area at end Diastole
 - LVALs: Left Ventricular Long-axis

Specifications for S2 High-Performance Color System

- | | |
|---|---|
| <p style="text-align: center;">Area at end Systole</p> <ul style="list-style-type: none"> ➤ LVAMd: Left ventricular short-axis area at end diastole ➤ LVIDd: Left ventricular short-axis diameter at end diastole ➤ LVAMs: Left ventricular short-axis area at end systole ➤ LVIDs: Left ventricular short-axis diameter at end systole <p>◆ Bullet</p> <ul style="list-style-type: none"> ➤ LVAMd: Left ventricular short-axis area at end diastole ➤ LVAMs: Left ventricular short-axis area at end systole ➤ LVLd: Left ventricular long-axis length at end diastole ➤ LVLs: Left ventricular long-axis length at end systole <p>◆ Simpson Method</p> <ul style="list-style-type: none"> ➤ LVAMd: Left ventricular short-axis area at end diastole ➤ LVAMs: Left ventricular short-axis area at end systole ➤ LVAPd: Left ventricular short-axis area at the level of the papillary muscle at end diastole ➤ LVAPs: Left ventricular short-axis area at the level of the papillary muscle at end systole | <ul style="list-style-type: none"> ➤ LVLd: Left ventricular long-axis length at end diastole ➤ LVLs: Left ventricular long-axis length at end systole <p>◆ Cube</p> <ul style="list-style-type: none"> ➤ IVSTd: Interventricular septal thickness at end diastole ➤ LVIDd: Left ventricular short-axis diameter at end diastole ➤ LVPWd: Left ventricular posterior wall thickness at end diastole ➤ IVLTs: Interventricular septal thickness at end systole ➤ LVIDs: Left ventricular short-axis diameter at end systole ➤ LVPWs: Left ventricular posterior wall thickness at end systole <p>◆ Teichholz</p> <ul style="list-style-type: none"> ➤ LVLDD: Left ventricular short-axis diameter at end diastole ➤ LVIDs: Left ventricular short-axis diameter at end systole <p>◆ Gibson</p> <ul style="list-style-type: none"> ➤ LVLDD: Left ventricular short-axis diameter at end diastole ➤ LVIDs: Left ventricular short-axis diameter at end systole <p>→Mitral Valve Diam
→Lv Outflow Diam</p> |
|---|---|

Specifications for S2 High-Performance Color System

→Pul.Valve Diam

M-Mode

→Left Ventricular Fuction Measurement

◆ Cube

➤ LVIDd: Left ventricular short-axis diameter at end diastole

➤ LVIDs: Left ventricular short-axis diameter at end systole

➤ LVPWd: Left ventricular posterior wall thickness at end diastole

➤ LVPWs: Left ventricular posterior wall thickness at end systole

◆ Gibson

➤ LVLDd: Left ventricular short-axis diameter at end diastole

➤ LVIDs: Left ventricular short-axis diameter at end systole

◆ Teichholz

➤ LVLDd: Left ventricular short-axis diameter at end diastole

➤ LVIDs: Left ventricular short-axis diameter at end systole

→Mitral Valve Measurement

→Aortic Valve Measurement

PW-Mode

→Mitral Valve Measurement

→Aortic Valve Measurement

→Tricuspid Valve Measurement

→Pulmonary Valve Measurement

→TEI Index Doppler Measurement

● **Vascular Measurements Calculations**

→ICA (Internal Carotid Artery)

→ECA (External Carotid Artery)

→CCA (Common Carotid Artery)

→INT IL (Internal iliac)

→EXT IL (External iliac)

→ILIAC (Common iliac)

→CFA (Common Femoral Artery)

→PROFUN (Profunda)

→LT CIR (Lateral Circumflex)

→SFA(Superficial Femoral Artery)

→POP (Popliteal Artery)

→PTA (Posterior Tibial Artery)

→PERON (Personal Artery)

→ATA (Anterior Tibial Artery)

→DR PED (Dorsalis Pedis)

→%A REDUC (Area reduction percent)

→%D REDUC (Diameter reduction percent)

→PI (Pulsatility Index)

→RI (Resistive Index)

→S/D (Systolic/Diastolic Ratio)

→PG((Pressure gradient)

→PV(peak Velocity)

→IMT

● **Urological Measurements Calculations**

→Left Kidney

→Right Kidney

Specifications for S2 High-Performance Color System

- Bladder Volume
- Residual Urine
 - ◆ Urine Area
 - ◆ Urine Height
 - ◆ Urine Volume
- Whole Prostate Volume
- Left-Seminal Vesicles
- Right- Seminal Vesicles
- Left-Testicle
- Right- Testicle
- Trans Zone Volume

- **Small Part Measurements**
 - L-Thyroid
 - R-Thyroid
 - Thyroid Isthmus
 - L-Superior Parathyroid
 - L-Inferior Parathyroid
 - R-Superior Parathyroid
 - R-Inferior Parathyroid
 - Testis
 - Seminal Vesicle

- **Orthopedics Measurements**
 - HIP (Hip Joint)

- **Report functions (Editable)**
 - Obstetrical /Gynecological report
 - ◆ Obstetrical Curve
 - ◆ Fetal Anatomy
 - ◆ Biophysical Profile (optional)
 - ◆ Fetal Compare (quadruplets)
 - ◆ Insert Picture
 - ◆ Comment
 - Cardiac function report
 - Vascular report
 - Urological report
 - Small Part report
 - IMT report

Specifications for S2 High-Performance Color System

- The specifications are subject to change without notice.
- Not all the products are available in all countries.
- Please contact your local SonoScape representative.

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