

Specifications for S6 High-Performance Color System



SonoScape

THE PIONEER OF COLOR DOPPLER ULTRASOUND IN CHINA

Product Overview

General Specification

The high performances of the SonoScape S6 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.

Advanced Technologies

- Digital Front-End
- Compound Imaging
- Micro Scan Processing
- Harmonic Imaging
- Panoramic support
- High Pulse Repetition Frequency
- Graphic Exam Icon

Standard components

- Color Mode
- Doppler Mode
- CW Mode
- THI Mode
- 3D Mode
- Dicom
- Cardiac Package
- OB Package

- Urology Package
- Vascular Package
- Tee Probe
- Phased Array Probe
- ECG Function
- 12MHZ Probe
- HPRF support

Optional Functions

- Steer M support
- TDI support
- u-Scan support
- B Flow Support
- Panoramic support
- Dicom Wklist Support

System Overview

Applications

- Abdominal
- Cardiology
- Obstetrical
- Gynecological
- Musculoskeletal
- Vascular
- Urological
- Small Parts and Superficial
- Pediatric

Scanning Methods

- Electronic Convex Sector

Specifications for S6 High-Performance Color System

- Electronic Linear
- Electronic Phased Array Sector
- Trapezoid Linear
- Volume Convex

Sweep Angle

- Curved Probe: 70 degree or more
- Phased Array Probe: 90 degree or more
- Micro-curved Probe: 193 degree or more

Transducer Types

- Convex Array
- Micro convex Array
- Linear Array
- Phase Array

Operating Modes

- B-Mode
- M-Mode
- Color Flow Mode(CFM)
- Power Doppler Imaging(PDI)
- Pulse Wave Doppler(PWD)
- Continuous Wave Doppler(CWD)
- 3D Mode
- Color M Mode
- Steer M-Mode

Display Modes

- B: Gray-scale imaging
- Color: Color Doppler, Power Flow and

Directional Power Flow Imaging

- THI(Tissue Harmonic Image)
- Dual B, Quad Display
- B and M, display format selectable
- B and Doppler
- B+Color
- Dual B(Flow)
- Triplex mode: B, Flow, and PW/CW Doppler
- B, Flow, and Color M
- Simultaneous Refresh Display
- Variable screen size: Change the screen ratio of 2D and Doppler/M in duplex or triplex mode
- Panoramic Imaging(optional)
- Compound Imaging
- Trapezozd Imaging

Standard Features

- System Dynamic Range:175dB
- Frame Rate:Max.252 frames/sec or more
- Display Gray Scale:256 levels
- Digital Channel Number:1024
- Probe Elements: Up to 256

Media &Peripherals

- Color Desk Jet Pinter(optional)
HP5850/6840/6848/6940/K5400dn
- B/W Video Pinter(optional)
UP895MD

Specifications for S6 High-Performance Color System

- Color Video Pinter(optional)

Sony UP-20

System Menu Setting

- File Manager

→Image format

- ◆ PPM
- ◆ JPG
- ◆ CIN
- ◆ WMV

- Set Time/Date

- Facility Name

- Dicom

- System Information

→Control Number

→Software Version

- System Setting

→General Setting

- ◆ Language Setting
 - English
 - Simple Chinese
 - Spanish
 - Russian
- ◆ Screen Saver
- ◆ Trackball Sensitive
- ◆ Clip Format
 - System Format
 - PC Format
- ◆ Date Format
 - mm/dd/yyyy

➢ yyyy/mm/dd

➢ dd/mm/yyyy

→Set Printer

- ◆ Printer Driver
- ◆ Video Invert
- ◆ Insert Driver

→Set Measurement Menu

- ◆ 2D Mode
 - Angle
 - Volume
 - Volume L×W×H
 - Doppler Area
 - Vascular
 - Obstetrical/ Gynecological
 - Left Ventricle
 - Urologic
 - Mitral Valve Diam
 - Lv Outflow Diam
 - Pul.Valve Diam
- ◆ PW Mode
 - Flow Velocity
 - Acceleration
 - Time
 - Heart Rate
 - Cardiac
 - Obstetrical/ Gynecological
 - Vascular
- ◆ M Mode
 - Distance
 - Time

Specifications for S6 High-Performance Color System

- Slope
- Heart Rate
- left Ventricle
- Mitral Valve
- Aortic Valve
- Measure Method
 - ◆ BPD Method
 - Hadlock
 - Jenny
 - ◆ FL Method
 - Hadlock
 - Hohler
 - Jeanty
 - ◆ CRL Method
 - Robinson
 - Hadlock
 - Nelson
 - ◆ EFW Method
 - WEI/SAB HC,AC,FL
 - Shepard AC,BPD
 - Hadlock1 AC,FL
 - Hansman AC,FL,HC
 - Tokyo BPD,APTD,TTD,FL
 - Hadlock2 HC,AC,FL
 - Hadlock3 BPD,AC,FL
 - Hadlock4 HC,AC
 - Hadlock5 BPD,HC,AC,FL
 - Shinozuka BPD,AC,FL
 - Warsof FL,AC
 - ◆ BSA setting

→Load Default

Post-Processing

- RAW data digital processing
- Read Zoom up to 10x

B Mode

- CHROMA
- PANRAMIC
- LT→RT

PW/CW -Mode

- CHROMA
- VIDEO INVERT
- Display Format
- BASELINE

Color Flow Mode

- C MAP / DIRECT. D
- Flow Invert
- B REJECT

DPI-Mode

- C MAP / DIRECT. D
- B REJECT
- Flow Invert

M-Mode

- CHROMA
- VIDEO INVERT
- Display Format

Scanning Parameters

B-Mode

- Image zoom: Max. > = 10

Specifications for S6 High-Performance Color System

- TGC(Time Gain Control) 8 slide controls
- Focus: Up to 9, focus span adjustable
- Tissue index: Adjustable according to tissue type (-140-160,10steps each)
- Dynamic range-compression selections: 5 kinds (1,2,3,4 and 5)
- Depth:24.1cm Max (probe dependent)
- GSC(gray scale curve) 7 steps selectable
- Persist (Frame correlation): 0-95 (probe dependent)
- Chroma: Max.13 selectable
- SEC.WIDTH: B Image width adjustable
- SEC.POS: B image lateral position adjustable
- u-Scan adjustable
- Scanning Line Density: 3 selections (high/med/low)
- Image Process: Presetting of Frame Correlation, Contrast, Etc.
- BIOPSY guide : ON/OFF
Biopsy Offset adjustable
Biopsy Angle adjustable
- Left and Right Inversion
- Trapezoid Image :ON/OFF (liner array probe)
- Compound Image :ON/OFF
- Panoramic Imaging
- Patient Temperature :
 - From 30.0 to 43.2(selectable)
 - Frequency Range: 5steps (Convex)

5steps (Linear/Phase)

- Power: 30 to 100 changeable

Color Flow Mode

- Color Area Size and Position: adjustable
- Persistence :0-80(probe dependent)
- Frequency Range: Up to 5 steps adjustable
- Pulse Repetition Frequency: 5 steps (probe dependent)
- Color Baseline shift:11steps
- Filter :Up to 750 Hz (exam dependent)
- B and B(Flow) Simultaneous Real-time Display
- Color Map:4 kinds
- Imaging Area and Position (adjustable)
- B Reject: 0-255
- Flow Invert: ON/OFF
- Line Density : 2 kinds (low and high)
- Left /right: ON/OFF

M-Mode

- sweep speed: 2、 4、 6、 8sec/plane
- Chroma: 5 kinds selectable
- Video Invert ON/OFF
- Frequency Range adjustable
- M Process: Switch average or peak detection processing for the M vector display.
- Display format: 5 kinds adjustable

Spectral Doppler

- Doppler methods:
 - PW (pulsed wave) Doppler
 - CW Doppler
- Pulse Repetition Frequency
 - PW: Max.20KHz (exam dependent)
 - CW: Max.24KHz
- Max velocity range:
 - 0.0004-22.33m/s (pw)
 - 0.0013-26.8m/s (cw)
- BaseLine Shift: Available up to 11steps
- Angle correction: 0-72 degrees
- Dynamic Range: 5 steps selectable
- Steer Angle: 5 kinds (probe dependent)
 - Max. ± 20 degrees,
 - 0, ± 16 , ± 20 changeable
- Spectrum Inversion: Possible
- Angle Correction: Turn on or off angle correction cursor on the display.
- Sample Volume Size for PW Doppler:
 - 1 -11mm, changeable in 1 mm step
- Scroll Sweep Speed: 2、 4、 6、 8sec/plane
- Chroma: Max.5 Kinds adjustable
- Video Invert: ON/OFF
- 2D Refresh

3D Mode

- 3 arbitrary sections simultaneously
- auto rotate (45、 90、 180、 270、 360 degrees adjustable)

- Opacity Offset:0-255 adjustable
- Opacity Slope:0-255 adjustable
- Display mode
 - ◆ Dual Display
 - ◆ Quad Display
 - ◆ Full Display 3D
- Zoom
- Print
- Z SCALE
- Z ANGLE
- Trace Cut:on/off
- Save images

Integrated Data Management System

- Hard Disk memory capacity: More than 80G,
- Storage media
 - ◆ USB Drive

DICOM Network Communication

- Conformity to DICOM Standard: Service class user of storage, (for details, please refer to the DICOM conformance statement issued by SonoScape.)
- Storage: Directly transmits image with patient information to a DICOM file server

Physiological Signal Display

- ECG, Pulse wave

Specifications for S6 High-Performance Color System

- ECG Lead-three lead system
- ECG synchronized display: Available for one phase
- Display: In B-Mode: 3ch
In Sweep Mode (M, D):3ch

User Interface

Operator Keyboard

- Alphanumeric Keyboard
- Shortcuts Keyboard
- Integrated Recording Keys for Remote Control of Peripheral Devices and DICOM Devices
- 8 TGC Pods
- Integrated function key

Character and icon

- Character Input : ID, Name, Age, Sex, etc.
- Body Mark:52 kinds, shape and size redesign

Electrical Power

- Voltage:100/220 Volts AC
- Current: 3.15 Amps
- Frequency:50/60Hz

Processor

- Intel Core 2 Duo Processor

Display Screen

- 15-inch High-Resolution Color LCD monitor
- Contrast and bright changeable from 0 to 100.

Environmental Requirements

In operation

- Temperature:+5 to +40 degrees C
- Relative Humidity: $\leq 80\%$ (non condensing)
- Atmospheric pressure: 700 to 1600hPa

In Storage/Transportation

- Temperature: -40 to +55 degrees C
- Relative humidity: $\leq 95\%$ (non condensing)
- Atmospheric Pressure: 700 to 1600hPa

Probe Connectors

- Active Connectors: 2 connectors

Optional Probe

- Phased Array Probe (Cardiology)
2P1 (2.0-4.0MHZ)
5P1 (4.2-6.0MHZ)
- Linear Probe (Vascular, Small Part)
L741 (4.5-11MHZ)
L742 (4.5-11MHZ)
10L1 (4.5-11MHZ)
- Curved Probe (Abdomen, OB/GYN)
C344 (2.0-5.0MHZ)

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C362 (2.0-5.0MHZ)

C542 (3.7-7.0MHZ)

- Micro-curved Probe (Transvaginal)

6V1 (4.0-9.0MHZ)

6V3 (4.0-9.0MHZ)

- Micro-curved Probe (Cardiology)

C311 (2.0-5.0MHZ)

C611 (4.0-9.0MHZ)

- Linear,Surgical (Surgery)

10I2 (4.5-11MHZ)

Measurements/Calculations

- **General Measurements/Calculations**

On B-Mode

→ Distance

→ Area and circumference (Trace, Ellipse)

→ Volume

→ Angle

On M-Mode

→ Velocity

→ Distance

→ Time

→ Heart rate

→ Slope

On Spectral Doppler

→ Time Interval

→ Velocity

→ Velocity Ratio

→ Velocity Time Integral

→ Heart Rate

→ Acceleration

→ Resistance Index

→ Pulsatility Index

→ Pressure half time

→PV(peak Velocity)

→ Mean Flow Velocity

→End diastolic Velocity

→PG((Pressure gradient)

→Auto Trace

→Manual trace

On Color Mode

→Color Flow Velocity

→Doppler Area

- **Obstetrical/ Gynecological**

Measurements & Calculations

→GS (Gestational Sac diameter)

→CRL (Crown Rump Length)

→BPD (Biparietal Diameter)

→HC (Head Circumference)

→AC: (Abdominal Circumference)

→FL (Femur Length)

→CER (Cerebellum)

→OFD (Occipitofrontal Diameter)

→Fibula (Fibula Length)

→Foot (Foot Length)

→AA: (Abdominal Area)

→APAD:(Anteroposterior Abdominal
Diameter)

→HA (Head Area)

Specifications for S6 High-Performance Color System

- 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)
- UT L (Uterus Length)
- UT H (Uterus Height)
- UT W (Uterus Width)
- 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)
- EFA(Estimated Fetal Age)
- EDD(Estimated Date of Delivery)
- EFW (Estimated Fetal Weight)
- AUA(Average Ultrasound Age)
- CI (Cephalic Index)
- AFI (Amniotic Fluid Index)
- Fetal HR(Fetal Heart Rate)
- HIP (Hip Joint)

PW Mode

- Umb A (Umbilical Artery)
- MCA (Middle Cerebral Artery)
- Rt Uterin A (Right Uterine Artery)
- Lt Uterin A (Left Uterine Artery)
- Fetal AO (Fetal Aorta)

• **Cardiac measurements (optional)**

B-Mode

- Left Ventric volume
 - ◆ Single Plane
 - ◆ Biplane Ellipse
 - ◆ Bullet
 - ◆ Simpson
 - ◆ Cube
 - ◆ Teichholz
 - ◆ Gibson
 - ◆ Biplane Disk
- Mitral Valve Diam
- Lv Outflow Diam
- Pul.Valve Diam

M-Mode

- Cube
- Gibson
- Teichholz

• **Vascular Measurements Calculations**

- ICA (Internal Carotid Artery)
- ECA (External Carotid Artery)
- CCA (Common Carotid Artery)
- INT IL (Internal iliac)

Specifications for S6 High-Performance Color System

- 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)

• Urological Measurements

&Calculations

- Bladder Volume
- Whole Prostate Volume
- Trans Zone Volume

• Report functions

- Obstetrical /Gynecological report
 - ◆ Obstetrical Curve
 - ◆ Profile

- ◆ Fetal Compare

- ◆ Picture

- ◆ Comment

- Cardiac function report

- Urological report

- Examination data history of each report recallable.

- Direct printout of each report with local printer.

Specifications for S6 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

Address: 4/F, Yizhe Building, Yuquan Road, Shenzhen, Guangdong, China

Post code: 518051

Tel: 86-755-26959990,86-755-26722890,86-755-26722860

Fax: 86-755-26722850

Website: <http://www.sonoscape.net>

E-mail: sonoscape@sonoscape.net

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