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# XBit 80

## Color Doppler System Datasheet

V1.0

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## General Information

### Dimensions and Weight

- Dimensions of main unit (approx.):  
764mm\*630mm\*1440mm
- Net weight of main unit (approx): 75kg (no probe included)

### Electrical Power

- Power supply voltage: Auto adaptable for AC100-240V
- Power supply frequency: 50-60 Hz
- Power consumption: 600 VA
- Stand-by mode
- Battery for option

## User Interface

### Operation Panel

- Control panel
  - Height adjustable: 15 cm
  - Rotatable with 100° left and right
  - released from the machine body
- Alphanumeric keyboard
- 8 TGC Slides
- Interactive backlit keys
- Integrated speaker
  - Volume adjustable

### Touch panel

- 13.3 inch Touch screen
  - customizable layout
  - can show the image real time
  - sensitive to use

### Display Screen

- High resolution color LED
- Dimension: standard 23.8 inch
- Resolution: 1920×1080
- Image Area: 800×600  
Full Screen: 1120×840  
1440×1080
- Brightness and contrast adjustment

## System Overview

## Applications

- Abdominal (Gynecology & Urology )
- Fetal/OB
- Small Parts
  - Breast
  - Thyroid
  - Scrotum
- Pediatrics
- MSK\_Conventional & Superficial
- Cardiac (adult & pediatric)
- Transvaginal

## Scanning Method

- Electronic convex
- Electronic linear
- Electronic phased array
- Volume convex

## Transducer Types

- Convex probe:  
C3-T, C3M-T
- Linear probe:  
L7-T, L12-T, L8M-T, L12M-T, L10i-T,  
L8M6-T,L8M5-T,L18-T,L7SVA-T,L7R-T
- Trans-vaginal probe:  
E7-T, E7MW-T
- Phased array probe:  
P2-T, P5-T,P3T-T
- Volume probe:  
VC4-T, VE6-T
- Micro convex probe:  
MC6-T, MC3-T
- Bi-plane probe:  
R7B8-T
- Bi-plane probe:
- TEE probe:  
T5-T
- pencil probe:  
CW2-T

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**Image Modes**

- B Mode
- B/M mode
- M mode
- 2B Mode
- 4B Mode
- CFM Mode
- 2D Steer
- PD Mode
- DPD Mode
- PW Mode
- B/BC Mode
- Triplex
- Quadplex
- CW Mode
- Free Steering M Mode
- TDI
- Color M Mode
- Curved Panoramic Imaging
- Trapezoidal imaging
- Compound
- SRA
- Elastography
- Stress Echo
- ECG
- Super Needle
- 4D
- Virtual HD
- FHI mode
- AIO

**Display Mode**

- Quad/Dual display
- Duplex mode
- Triplex mode
- Quadplex mode

**Display Annotation**

- Hospital name

- Date/Time
- Patient Name and Patient ID
- Gray/Color bar
- Cine guide
- Scanning direction
- Measurement results window
- Transducer type
- Frequency
- Application name
- Menu indication
- Trackball functions indication
- Imaging parameters displayed on the screen

**Standard Configuration**

- 23.8 inch LED monitor
- 13.3 inch touch screen
- 4 active transducer ports
- 500G integrated hard disk
- DVD-R/W
- USB ports: 8
- TGC
- LGC
- B, 2B, 4B, B/M, B/BC, CFM, PW, Power Doppler/Directional PD, Instant Triplex, Duplex, Quadplex, Trapezoidal, Chroma B&M&PW, Full Screen
- Automatic PW trace and measurement in real time
- Super Image module: FHI, Multiple Compound Imaging, SRA (Speckle Reduction Algorithm), AIO
- Q-image (intelligent image optimization), X-contrast, Q-beam, Q-flow
- Measurement & calculation software packages: General, OB&GYN, Cardiac
- Zoom
  - Zoom navigator
  - Improve the fps
  - High resolution Zoom
  - Real-time Zoom

- Frozen Zoom
- PIP Zoom
- Pan Zoom

### Software Options

- 4D module
- Virtual HD/Depth View
- HD Niche/ Smart Volume Slice/SonoCrystal
- 2D steer
- Stress Echo
- Auto EF
- Strain
- Intelligent Doppler
- SonoOB
- SonoContrast
- SonoPW
- SonoColor
- SonoNeedle
- UltraRemote
- SoundFlow
- Virtual Apex
- Static 3D
- MVI Mode
- Elastography
- SWE
- Super Needle
- Curved panoramic
- Color Panoramic
- Curved expanding
- TSS
- HIPPA
- Extended Cardiac Package: ECG Software, Free M, Color M, CW, TDI, IMT
- DICOM 3.0
- HL7
- SonoIMT
- WIFI Function
- Bluetooth

- Biopsy kit: for convex/linear/TV/ Micro-Convex probe respectively
- SonoCarotid
- SonoFollicle
- Remote Service

### Hardware Options

- Footswitch
- ECG Lead

### Peripherals

- SONY UP-X898MD B&W Video Printer
- SONY UP-D25MD

### Imaging Parameters

#### B Mode

- Gain: 0-255, 5/ step
- Compound: 1, 2,3,4, off
- SRA: off.1.2
- Focus Number: 1-9
- Focus Position: 0-15, depend on the probes
- Full Screen: on/off
- X-contrast: Normal/Enhance/Suppress
- Q-image: 0-4
- Persistence: 0-7
- Density: Low/Mid/High
- 2D Map: 1-20
- Noise Reject: 0-255
- Scan Width: 6-100%
- Image Rotate: 0, 90, 180, 270
- Gamma: 0-8
- Chroma: 1-29, user
- Smooth: 0-7
- Edge enhance: 0-6
- A.power: 0-100%
- Frequency: depend on the probes
- Dynamic: 20-290
- Depth: depend on the probes

- Zoom: 0.05-20, 0.05/ step
- TGC: 8
- Center Line: on/off
- Trapezoidal Mode: on/off
- Biopsy: on/off
- Biopsy Level: 30,45,60
- Super Needle: on/off  
Needle angle:  $\pm 30^\circ$
- Curved panoramic imaging: on/off (only for linear probe)
- Elastography: on/off
- 2D steer:  $\pm 20^\circ$

#### **M Mode**

- Gain: 0-255, 5/ step
- Layout: LR/UD
- Display Format: 1:2, 1:1, 2:1
- Chroma: 1-29, user
- Free Steering M Mode: off, 1, 2, 3
- Color Map: 1-9, user
- 2D map: 1-20
- Dynamic: 20-290, 18/ step
- Speed: 1-8

#### **Color Mode**

- Gain: 0-255, 5/ step
- Color Map: 1-20, user
- Color Invert: on/off
- Q-flow: on/off
- Q-beam: on/off
- Persistence: 0-7
- Color Mode: Velocity, Varianc, Vel-Var
- Wall Filter: 0-3
- Density: Low/Mid/High
- Wall Thre: 0-15
- Blood Efection: Smooth, HRes, HRes2, HRes3
- B/BC: on/off
- Frequency: depend on the probes
- Baseline: -3-3

- Scale: depend on the probes
- Steer: -20-20 (only for linear probe)
- PRF: depend on the probes

#### **CPA/DPD Mode**

- Gain: 0-255, 5/ step
- Wall Filter: 0-3
- Q-beam: on/off
- Q-flow: on/off
- Wall Thre: 0-15
- Persistence: 0-7
- Frequency: depend on the probes
- PRF: depend on the probes
- Steer: -20-20 (only for linear probe)
- Color Map: 1, user

#### **PW Mode**

- Gain: 0-255, 5/ step
- 2D Map: 1-20
- Wall Filter: 0-3
- Spectrum Enhance: 0-3
- Dynamic Range: 46-67, 3/ step
- Invert: on/off
- Display format: 1:2, 1:1, 2:1
- Triplex: on/off
- Quadplex: on/off
- Auto Cal Parameter: on/off
- DTrace Smooth: 0-3
- Threshold: 1-5
- DVmean: on/off
- DVmax: on/off
- Trace area: above, below, all
- Audio: 0-100%
- Color Map: 1-29, user
- QuickAngle: on/off
- Auto Cal: on/off
- Freq: depend on the probes
- Baseline: -5-5
- PRF: depend on the probes

- Steer: -30-30 (only for linear probe)
- Speed: 1-8

### **CW Mode**

- Gain: 0-255, 5/ step
- 2D Map: 1-20
- Spectrum Enhance: 0-3
- Dynamic: 46-67, 3/ step
- Audio: 0-100%
- Wall Filter: 0-3
- Color Map: 1-9, user
- QuickAngle: on/off
- Baseline: -5-5
- PRF: depend on the probes
- Speed: depend on the probes

### **SonoContrast**

- SonoContrast provides exceptional Contrast agent detecting capability, not only extracts second harmonic, but also non-linear fundamental signals
- Available for convex, linear, phased array and endocavitary probe
- Available for abdomen, GYN, URO, Thyroid, Breast,
- Analysis package
- mechanical index
- Timer1: on/off
- Timer2: on/off
- Retro capture and Pro capture storage
- Comparative analysis on complex curves
- Dual live: side by side displays tissue image and contrast image
- Mix: mix contrast image with tissue image
- Mix map: 7 types
- Persistence: 8 steps
- Dynamic range: 20-290
- 2D map: 20 types
- Chroma: 30 types
- Supports U/D Flip and L/R Flip
- Rotation: 90 degrees/ step

- transpose position of contrast and tissue image
- Line density: low/ Mid /high

### **Triplex Mode**

- B+C+D
- Available on all probes

### **Quadplex Mode**

- B+C+D+auto trace
- DTrace Calc Parameters: Vs, Vd, TAMAX, VTI, Time, RI, PI, S/D, HR

## **Technology and Function**

### **Fusion Harmonic Imaging**

- Available on all probes
- FHI key ON/OFF
- Second active multi-frequency

### **Trapezoidal**

- Available for linear probe
- combined with compound algorithm space

### **SonoOB**

- Automatic measurement: BPD, HC, AC, FL, NT ,OFD
- Efficiency and accuracy

### **HIPPA**

- Password to get into the system
- User define

### **Curved panoramic**

- Real time
- Support measurement
- Erasable design
- Color map: 30 types

### **Elastography**

Available on linear, convex, endocavitary

- Dual images simultaneous
- Modifiable ROI
- Support strain ratio measurement
- Real-time display of pressure column
- Quantitative comparison

### **Dynamic focusing**

- Wider the focus area provide image more detail and higher resolution

### **Post Processing for raw data**

- Support measurement

- Adjust the gain, TGC, 2D map, chroma, dynamic range, invert etc.

### **Stress Echo**

- Available on phased array probes
- 36 factory protocols
- User-defined protocols
- Analysis system: wall motion scoring
- Professional report

### **Cineloop**

- Cine loops: up to 2000 frames
- Perspective: Save cine in real time
- Retrospective: Save cine loops in frozen mode
- Support 2D, M, PW, CFM, CPA, DPD, CW, Color M, Free Steering M
- Simultaneous and independent review in duplex mode
- Cineloop auto/manual
- Variable cine playback speed
- User-define start and end frame of cine storage
- User-define start and end frame of cine review
- storage in hard disk and display in real-time modes
- Slide show: slide show function

### **Storage**

- 500GB integrated SSD
- DVD-R/W driver
- USB ports
- Still images storage format: IMAG
- Still images export format: BMP, JPG, DCM, PNG, TIFF
- Cine loops storage format: CINE
- Cine loops export format: AVI
- Fast storage setting
- System suitable to avoid the loss of data / images

### **EasyView**

- Image review Layout: 1×1, 2×2
- Image management

### **Exam Review**

- Search Exam
- Exam review: patient view, study view
- Exam management
  - Delete selected exam
  - Export selected exam
  - Backup selected exam
  - Recover from the backup exam
  - Selected all
  - Expand all
  - Collapse all
  - Edit selected Exam
  - Review selected Exam
  - Continue selected Exam

### **Connectivity**

- Ethernet work connection
- USB for USB Device
- DICOM support(option)
  - Verify
  - Print
  - Store
  - Worklist
  - Structure report
  - MPPS
  - Query/retrieve

## **Measurement and Calculations**

### **General Measurement Package**

- Software packages for various specific clinical use
- Comprehensive analysis methods
- Clinical analysis reports

### **General measurement package**

- B mode General measurement
  - Distance
  - Length\_\_Area (Ellipse)
  - Length\_\_Area (Trace)
  - Volume (1 Distance)
  - Volume (2 Distance)

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Volume (3 Distance)	MDistance
Volume (1 Ellipse)	MTime
Volume (2 Ellipse)	Velocity
Volume (1 Distance 1 Ellipse)	HR
Ratio	HR Manual
Angle	● PW mode GYN measurement
Strain Ratio	Umb A
HR Manual	MCA
SonoColor	Uterine Artery
SWE	Fetal AO
● M mode normal measurement	HR Manual
MDistance	● B mode OB measurement
MTime	Distance
Velocity	GS
HR	CRL
HR Manual	BPD
● PW mode Normal measurement	Auto BPD
Velocity	AC(Ellipse)
Distance	Auto AC
Peak	HC
Auto Trace	Auto HC
Manual Trace	FL
StD%	Auto FL
StA%	Humerus
Area	OFD
ICA/CCA	Auto OFD
HR	NT
Volume Flow	Free NT
HR Manual	Fetal Biometry
<b>Clinical Analysis Packages</b>	Fetal Long Bones
● B mode GYN measurement	Fetal Cranium
Distance	OB Others
UT	Z Score
Cervix Vol.	AFI
ENDO	Ductus Venosus
OV Volume	CX_L
FO_D	Aorta
FO Auto	Descending Aorta
Uterine Artery	MCA
HR Manual	Umb A
Strain Ratio	Uterine Artery
● M mode GYN measurement	Pulmonary Artery
	Fetal Select
	HR Manual



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- Strain Ratio
  - M mode OB measurement
    - MDistance
    - MTime
    - Velocity
    - HR
    - HR Manual
    - FHR
  - PW mode OB measurement
    - Umb A
    - Aorta
    - Descending Aorta
    - Left Uterine Artery
    - Right Uterine Artery
    - Pulmonary Artery
    - MCA
    - FHR
    - HR Manual
    - Duct Venosus
  - B mode Vascular measurement
    - IMT (Auto)
    - IMT Mean
    - SonoColor
    - CCA
    - ICA
    - ECA
    - Vertebral A
    - EXT IL
    - INT IIL
    - ILIAC
    - CFA
    - ProFun
    - LTCIR
    - SFA
    - Pop A
    - ATA
    - PTA
    - PERON
    - DRPED
    - HR Manual
    - Strain Ratio
  - M mode Vessel measurement
    - MDistance
    - MTime
  - Velocity
    - HR
    - HR Manual
  - PW mode Vessel measurement
    - CCA
    - ICA
    - ECA
    - Vertebral A
    - INT IIL
    - EXT IL
    - ILIAC
    - CFA
    - ProFun
    - LTCIR
    - SFA
    - Pop A
    - ATA
    - PTA
    - PERON
    - DRPED
    - HR
    - Volume Flow
    - HR Manual
  - B mode URO measurement
    - Distance
    - Void Vol.
    - Prostate Vol.
    - Kidney Volume
    - T-Zone Vol.
    - Bladder Vol.
    - StA%
    - StD%
    - Vessel Area
    - Vessel Dis
    - HR Manual
    - Strain Ratio
  - M mode URO measurement
    - MDistance
    - MTime
    - Velocity
    - HR
    - HR Manual
  - PW mode URO measurement
    - Velocity

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Acceleration	StA%
Distance	Area
Peak	ICA/CCA
Auto Trace	HR
Manual Trace	Volume Flow
StD%	HR Manual
StA%	● B mode Pediatrics measurement
Area	HIP
ICA/CCA	Vol(3Dis)
HR	HR Manual
Volume Flow	Strain Ratio
HR Manual	● M mode Pediatrics measurement
● B mode Small Parts measurement	MDistance
Distance	MTime
Length__Area (Ellipse)	Velocity
Length__Area (Trace)	HR
Volume (1 Distance)	HR Manual
Volume (2 Distance)	● PW mode Pediatrics measurement
Volume (3 Distance)	Velocity
Volume (1 Ellipse)	Distance
Volume (2 Ellipse)	Peak
Volume (1 Distance 1 Ellipse)	Auto Trace
Ratio	Manual Trace
Angle	StD%
Strain Ratio	StA%
Breast	Area
Auto Breast	ICA/CCA
Thyroid	HR
Auto Thyroid	Volume Flow
HR Manual	HR Manual
SWE	● B mode Carotid measurement
● M mode Small Parts measurement	Subclavian A
MDistance	CCA
MTime	Bulb
Velocity	ICA
HR	ECA
HR Manual	Vertebral A
● PW mode Small Parts measurement	General Measurement
Velocity	Strain Ratio
Distance	HR Manual
Peak	● M mode Carotid measurement
Auto Trace	MDistance
Manual Trace	MTime
StD%	Velocity

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- HR
  - HR Manual
  - PW mode Carotid measurement
    - Subclavian A
    - CCA
    - Bulb
    - ICA
    - ECA
    - Vertebral A
    - General Measurement
    - ICA/CCA
    - HR
    - Volume Flow
    - HR Manual
  - B mode Cardiac measurement
    - Auto EF
    - Teichholz
    - Simpson SP
    - Simpson Biplane
    - Modify Simpson
    - Cube
    - Bullet Volume
    - Gibson
    - Mitral Valve
    - Aortic Valve
    - Pulmonary Valve
    - Tricuspid Valve
    - LVOT
    - RVOT
    - PISA
    - LV Mass
    - Qp/Qs
    - RV/LV
    - IVC
    - RA/LA
    - AO/LA
    - HR Manual
  - M mode Cardiac measurement
    - MDistance
    - MTime
    - Slope
    - HR
    - Left Ventricle
    - Mitral Valve
  - Aortic Valve
  - Tricuspid Valve
  - Pulmonary Valve
  - RV/LV
  - LV Mass
  - TAPSE
  - Vp
  - HR Manual
  - PW mode Cardiac measurement
    - Velocity
    - Acceleration
    - Time
    - Slope
    - HR
    - ED/PS
    - Mitral Valve
    - Aortic
    - Tricuspid Valve
    - Pulmonary Valve
    - Pulmonary Vein
    - PISA
    - Qp/Qs
    - Tei Index
    - TDI
    - HR Manual
  - B mode Abdomen measurement
    - CBD
    - GB Wall
    - Liver Length
    - Artery
    - Spleen
    - Renal Vol.
    - GB Volume
    - Iliac
    - HR Manual
    - Strain Ratio
  - M mode Abdomen measurement
    - MDistance
    - MTime
    - Velocity
    - HR
    - HR Manual
  - PW mode Abdomen measurement
    - Velocity

- Acceleration
- Distance
- Peak
- Auto Trace
- Manual Trace
- StD%
- StA%
- Area
- ICA/CCA
- HR
- RAR
- Volume Flow
- HR Manual
- B mode TCD measurement
  - ICA
  - CS
  - MCA
  - ACA
  - PCA
  - ACOA
  - PCOA
  - OA
  - Vertebral A
  - BA
  - PICA
  - HR Manual
- PW mode TCD measurement
  - ICA
  - CS
  - MCA
  - ACA
  - PCA
  - ACOA
  - PCOA
  - OA
  - Vertebral A
  - BA
  - PICA
  - HR Manual

## SYSTEM SETUP

By using system setup, users could

- Customize hospital information
- Customize language

- Customize fast storage time
- Customize color map
- Customize functions to Footswitch,P1 key, Print key
- Customize functions to alphanumeric 0~9
- Customize PC and Video Print
- Option
- Customize Measure
- Customize Comment library
- Customize Report

### User Define Functions

- By user-define function, users could customize user-define preset, including
  - Applications name, Presets name
  - Applications exam type
  - Imaging parameters

### Multi-language Display Interface

- English
- Chinese
- Other languages

*Note: other languages for detailed, please contact CHISON.*

### Inputs and outputs

- AC Power In: 1
- AC power Out: 1
- Power Button: 1
- USB Port: 8↑
- Ethernet: 1
- Remote Control: 1
- S-Video Out: 1
- Audio: L,R
- DVI: 1
- VGA Out: 1
- Video Out: 1
- Footswitch Port: 2
- Ground pole: 1

### Operating conditions

- Ambient temperature: 10°C to 40°C
- Relative humidity: 30% to 75% (no condensation)
- Atmospheric pressure: 700 hPa to 1060 hPa

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## Storage and Transport conditions

- Ambient temperature: -5°C to 40°C
- Relative humidity: ≤80% (no condensation)
- Atmospheric pressure: 700 hPa to 1060 hPa

Not all features or specifications described in this document may be available.

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