DP-10
Digital Ultrasonic Diagnostic Imaging System

Slim and Smart
DP-10
Digital Ultrasonic Diagnostic Imaging System

“Good image quality, easy to use and light enough to take it anywhere”. It’s customers’ feedback on the requirements of a portable B/W system that drives us to develop DP-10, which makes integration of fashionable design, diagnostic confidence and economic choice a reality.

Ergonomic design with extreme mobility
- 12.1” LED monitor with 30 degree tilting function
- User friendly control panel with backlit, silicon keyboard
- Light and compact design for extreme portability

Diagnostic confidence and wide clinical applications
- Full digital technology
- IP (Image Processing) for fast image optimization
- B-TGC assuring accurate image control
- A broad range of transducers for obstetrics, gynecology, abdomen, urology, small parts, orthopedics and pediatrics applications

Improve efficiency by optimizing the workflow
- Fast boot-up within 20s
- User-defined keys to define personalized operations
- One key images or cines saved to local disk or USB

Fetus abdomen and ribs
Gallbladder stone
Thyroid
Carotid
System Description
The DP-10 is an ergonomically designed portable and ease-of-use machine for multi-specialty use like adults, pregnant women, pediatric patients and neonates.

Intended Use
- CE Region: It is intended for use in gynecology, obstetrics, abdominal, pediatric, small organ, cephalic, musculo-skeletal, cardiac, vascular, urology, orthopedics.

General Specification

Dimensions and Weight
- Depth: 161mm (6.34 inch)
- Width: 290mm (11.42 inch)
- Height: 354mm (13.94 inch)
- Net Weight: <6 kg (without accessories)

Electrical Power
Input power
- Voltage: 100-240V ~
- Frequency: 50/60Hz
- Input current: 1.0-0.5A

Operating Environment
Ambient temperature: 0°C ~ 40°C
Relative humidity: 30% ~ 85% (no condensation)
Atmospheric pressure: 700 hPa ~ 1060 hPa

Storage & Transportation Environment
Ambient temperature: -20°C ~ 55°C
Relative humidity: 30% ~ 95% (no condensation)
Atmospheric pressure: 700 hPa ~ 1060 hPa

Probe

Probe Types
- Convex array
- Linear array

Scanning Methods
- Electronic convex

Probe Model
- 35C20EA Micro-Convex
- 35C50EB Convex
- 65C15EA Micro-Convex
- 65EC10EB Endocavity Convex
- 75L38EB Linear
- 75L53EA Linear

Available Needle-guided Bracket for Probe:
- 35C20EA NGB-003
- 35C50EB NGB-001
- 65C15EA NGB-005
- 65EC10EB NGB-004
- 75L38EB NGB-002
- 75L53EA NGB-007

System Configuration

Standard Configuration
- Display
  - 12.1-inch LED, High-Resolution 1024 x 768
  - Contrast & Brightness adjustable
  - System Dormancy: Time presettable
  - Angle adjustable: 30°
- Control Panel
  - Alphanumeric Keys
  - Function Keys
  - Knobs
  - User-defined Keys: function presettable
  - 8 segment TGC
  - Trackball: Speed presettable
  - Key Backlight Brightness & Volume presettable
  - Integrated Speakers
- Indicators: Power/Battery/Standby/HDD status
- Handle
- I/O Interfaces
  - Transducer port: 2 (1 optional)
Peripherals Supported
- Video Printer
  - SONY UP-895MD
  - SONY UP-896CN
  - SONY UP-897MD
  - MITSUBISHI P93W
- Graph / text printer (USB port)
  - HP DeskJet 5652/ 5650/ 3820/ 1280
  - Business Inkjet 1200
  - HP LaserJet2420d
  - HP DeskJet 6548

Exam Mode
- ABD (Abdomen)
- GYN (Gynecology)
- OB (Obstetric)
- SMP (Small Parts)

Imaging Mode
- B-Mode
- M-Mode
- Display Mode:
  - B+M: left/right
  - Single window
  - Dual-split: B/B
  - Quad-split: 4B

Imaging Features
- Multi-frequency probes for 2D imaging modes
- Image Zooming

B Mode
- Display Depth
  - Minimum: 2.16cm
  - Maximum: 24.8cm
- Frame rate (Max.):
  - B mode: 153 fps
- Adjustable focus number: 4
- Adjustable focus positions (Max.): 16
- Image Zooming:
  - Available for real-time and frozen B image
  - Magnification factor adjustable: 100%-400%, 8 steps
- System dynamic range: 30~90dB, 15steps

- Power input port: 1 (Connect to the AC power supply)
- USB port: 2
- VGA OUT port: 1
- Video OUT: 1
- S-Video OUT: 1 (Separate video output)
- Ethernet port: 1 (Connect to network)
- Remote control port: 1
- Application categories
  - Abdomen
  - Obstetrics
  - Gynecology
  - Orthopedics

Accessories
- Operator's manual
  - Basic Volume.
  - Advanced Volume.
  - Operation Note.
- Gel
- Power cord
- Probe holder
- Gel holder
- Grounded Cable

System Language
- English
- Chinese

Options
- DICOM 3.0: Image storage and printing
- Footswitch:
  - 971-SWNOM (2-pedal)
- Mobile trolley: UMT-110
  - Weight: 21kg
  - Width: 445mm
  - Depth: 535mm
  - Height: selective (not available after installed): 810mm, 870mm, 2 levels
- Carrying Case
- Gel
- Keyboard dust-proof cover
- Probes
- Needle-guided brackets
- Frequency: 2.5~10.0MHz (transducer dependant), 3 steps
- Gain: 30~98dB, 17 steps
- TGC: 8
- Scan Mode
  - Hi density/Hi frm rate
- IP: 1~8
- R/L, U/D revert
- Rotation: 0°, 90°, 180°, 270°
- A.power: 0~7
- Post Process:
  - Gray Map: 1~8
  - Rejection: adjustable
  - γ: 0~3
  - Curve: adjustable
- Frame Average: 0~7
- M Mode
  - M Speed: 1~4
  - IP: 1~8
  - Edge Enhance: 0~4
  - M Soften: 0~3
  - M Mark: on, off
- Body Mark
- Measure caliper
- Gray scale bar
- Help information
- Status icons
- Biopsy guideline
- Measure result window (up to 8 results can be displayed)
- Image parameters

**Comments and Body Mark**

**Comment**

**Text comment**
- Comment text (option)
  - Abdomen: 46
  - Gyn& OB: 19
  - Cardiology: 19
  - Small Part: 18
  - Other: 8
  - Lesion: 40

**Arrow**
- Arrow position
- Arrow orientation

**Display Annotations**
- Manufacturer logo
- Hospital name: up to 32 characters can be displayed
- Exam date: 3 types selectable, YY/MM/DD, MM/DD/YY, DD/MM/YY
- Freeze icon
- Gender
- Age
- ID: up to 12 characters can be displayed
- Name: up to 12 characters can be displayed
- Probe model
- Current exam mode
- Menu
- Image
- Probe orientation mark
- Time line
- Coordinate axis, including depth, time
- TGC curve
- Focus
- Comment

**Body Mark**

**Application package (Option)**
- Abdomen: 16
- OB: 18
- Cardiology: 12
- GYN: 7
- Small Part: 16

**Storage/ Connection**
- 2 USB ports
- Image archive on hard disk and USB mobile storage medium, temporary saving in cine memory
- Single-frame image formats: BMP, JPG, DCM, FRM
- Multi-frame images formats: DCM, CIN
- iVision: Demo player
- Cine review: Auto, Manual (auto review segment can be set)
- Cine memory capacity (Max.)
  - B mode: 128 frames
  - M mode: 12.4 s
• Max. frames in HDD
  ☑ 134 frames (JPG format)
  ☑ 52 frames (FRM format)

**Measure/Calc/Study**

**Caliper**

**2D-mode**

- Distance
- Cir/Area
- Volume
  - HC Hadlock FG+GA
- Ratio
- Parallel
- T Length
  - Hansmann FG+GA
- % Stenosis
- Angle
  - AC Hadlock FG+GA
- Histogram
- Profile

**M-mode**

- Distance
- Time
- Slope
- Heart Rate

**Available Obstetrics Formulae**

- GA (gestational age) and FG (fetal growth)

<table>
<thead>
<tr>
<th>Item</th>
<th>Formula</th>
<th>Usage</th>
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<tbody>
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<td>Tokyo</td>
<td>FG+GA</td>
<td>EFW</td>
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<td>BD</td>
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<td><strong>B-OB MEANS &amp; OB TWIN MEANS</strong></td>
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<td>GS (gestational sac diameter)</td>
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<td>CRL (crown rump length)</td>
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<td>BPD (biparietal diameter)</td>
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<td>HC (head circumference)</td>
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<td>AC (abdominal circumference)</td>
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<td>FL (femur length)</td>
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<td>EFW (estimated fetal weight)</td>
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<td>AFI (amniotic fluid index)</td>
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<td>FBP (fetus biophysical profile)</td>
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<td>Advanced measurements</td>
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<td>OFD (occipital frontal diameter)</td>
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<td>BD (binocular distance)</td>
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<td>CER (cerebellum diameter)</td>
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<td>THD (thoracic diameter)</td>
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<td>TAD (transverse abdominal diameter)</td>
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<td>APAD (anteroposterior abdominal diameter)</td>
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<tr>
<td>FTA (fetal trunk cross-sectional area)</td>
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<td>HUM (humerus length)</td>
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<td>Ulna (ulna length)</td>
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<td>Tibia (tibia length)</td>
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<td>UT-L (Uterus length)</td>
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<td>UT-H (Uterus height)</td>
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<td>UT-V (Uterus volume) calculation</td>
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<td>Endo (Endometrium)</td>
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<td>OV-V</td>
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<td>L.OV-H (Left ovary height)</td>
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<td>L.OV-W (Left ovary width)</td>
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<td>L.OV-V (Left ovary volume) calculation</td>
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<td>R.OV-L (Right ovary length)</td>
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<td>R.OV-H (Right ovary height)</td>
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<td>FO-D</td>
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<td>L.FO-L (Left follicle length)</td>
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<td>Cx</td>
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<td>CX-L (Uterine cervix length)</td>
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<td>CX-W (Uterine cervix width)</td>
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<td>UT-L/CX-L (Uterine body / cervix)</td>
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<td>Fetal growth curve</td>
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<th>CE Declaration</th>
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<tr>
<td>DP-20/DP-20T/DP-21/DP-25/DP-28 system is fully in conformance with the Council Directive 93/42/EEC Concerning Medical Devices, as amended by 2007/47/EC. The number adjacent to the CE marking (0123) is the number of the EU-notified body that certified meeting the requirements of Annex II of the</td>
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Directive.

Not all features or specifications described in this document may be available in all probes and/or modes.

No part of this manual may be copied or printed, in whole or in part, without written permission. The contents of this manual are subject to change without prior notice and without our legal obligation.

Note: the contents in this datasheet are applied to Version 1.0 of system software for DP-10 Digital Ultrasonic Diagnostic Imaging System.

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