



NEW

DP-10

Digital Ultrasonic Diagnostic Imaging System

Slim and Smart

mindray
healthcare within reach

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
- 8-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

DISTRIBUTOR:



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mindray

Mindray is listed on the NYSE under the symbol "MR"
Mindray Building, Keji 12th Road South, High-tech Industrial Park,
Nanshan, Shenzhen 518057, P.R. China

Tel: +86 755 8188 8998 Fax: +86 755 26582680
E-mail: intl-market@mindray.com Website: www.mindray.com

Datasheet

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DP-10

Digital Ultrasonic Diagnostic Imaging System

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

- Electronic linear

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)

- 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

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

- Frequency: 2.5~10.0MHz (transducer dependant),
3 steps
- Gain: 30~98dB, 17steps
- 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

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
- 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

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
- Ratio
- Parallel
- T Length
- % Stenosis
- Angle
- Histogram
- Profile

HC

AC

FL

Hadlock	FG+GA
Jeanty	GA
Kurtz	FG
Sabbagh	FG
Hansmann	FG+GA
Merz	FG+GA
Rempen	FG+GA
Osaka	FG+GA
China	GA
ChittyOI	FG+GA
Hadlock	FG+GA
Jeanty	GA
Merz	FG
Hansmann	FG+GA
ChittyPL	FG+GA
Hadlock	FG+GA
Jeanty	FG
Merz	FG
ChittyPL	FG

M-mode

- Distance
- Time
- Slope
- Heart Rate

Tokyo	FG+GA
Hadlock	FG+GA
Jeanty	GA
Hohler	GA
Merz	FG+GA
Hansmann	FG+GA
O'Brien	FG

Available Obstetrics Formulae

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

Warda	FG+GA
Osaka	FG+GA
China	GA

Item	Formula	Usage		
GS	Tokyo	FG+GA	EFW	Chitty
	Hellman	FG		Tokyo
	Rempen	FG+GA		Hadlock1
	Hansmann	FG+GA		Hadlock2
	China	GA		Hadlock3
CRL	Tokyo	FG+GA	OFD	Hadlock4
	Jeanty	GA		Shepard
	Hadlock	FG+GA		Campbell
	Nelson	GA		Merz1
	Robinson	FG+GA		Merz2
	Rempen	FG+GA		Hansmann
	Hansmann	FG+GA		Osaka
BPD	Osaka	FG+GA	BD	/
	China	GA		/
	Tokyo	FG+GA		/
				/
			CER	Merz
				Hansmann
			Hill	FG
				FG+GA
			Jeanty	GA
				FG+GA

	Goldstein	FG	➤ L.OV-V (Left ovary volume) calculation ➤ R.OV-L (Right ovary length) ➤ R.OV-H (Right ovary height) ➤ R.OV-W (Right ovary width) ➤ R.OV-V (Right ovary volume) calculation
THD	Hansmann	FG+GA	
TAD	Merz	FG	
APAD	Merz	FG	
FTA	Osaka	FG+GA	• FO-D ➤ L.FO-L (Left follicle length) ➤ L.FO-W (Left follicle width) ➤ R.FO-L (Right follicle length) ➤ R.FO-W (Right follicle width)
HUM	Jeanty	GA	
	Merz	FG	• Cx ➤ CX-L (Uterine cervix length) ➤ CX-W (Uterine cervix width) ➤ CX-P (Uterine cervix ply)
Ulna	Merz	FG	
Tibia	Merz	FG	• UT-L/CX-L (Uterine body / cervix)

Application Package

B-OB MEANS & OB TWIN MEANS

- GS (gestational sac diameter)
- CRL (crown rump length)
- BPD (biparietal diameter)
- HC (head circumference)
- AC (abdominal circumference)
- FL (femur length)
- EFW (estimated fetal weight)
- AFI (amniotic fluid index)
- FBP (fetus biophysical profile)
- Advanced measurements
 - OFD (occipital frontal diameter)
 - BD (binocular distance)
 - CER (cerebellum diameter)
 - THD (thoracic diameter)
 - TAD (transverse abdominal diameter)
 - APAD (anteroposterior abdominal diameter)
 - FTA (fetal trunk cross-sectional area)
 - HUM (humerus length)
 - Ulna (ulna length)
 - Tibia (tibia length)

B-GYN MEAS

- Uterine
 - UT-L (Uterus length)
 - UT-H (Uterus height)
 - UT-W (Uterus width)
 - UT-V (Uterus volume) calculation
 - UT (Uterus diameter) calculation
- Endo (Endometrium)
- OV-V
 - L.OV-H (Left ovary height)
 - L.OV-W (Left ovary width)

B-ORTH MEAS

- 2D-mode Measure
 - HIP

Diagnostic Report

-
- Print
- Fetal growth curve

Safety & Conformance

Quality Standards

- ISO 9001:2008
- ISO 13485:2003\AC:2007

Design Standards

- EN 60601-1 and IEC 60601-1
- EN 60601-1-2 and IEC 60601-1-2
- EN 60601-2-37 and IEC60601-2-37
- EN ISO 14971 and ISO 14971
- EN ISO10993-1 and ISO10993-1
- EN 62366 and IEC 62366
- EN 62304 and IEC 62304

CE Declaration

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

Directive.

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

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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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