

**TRUMP in the field of Medical industry**

**----- Medical imaging system**

**ULTRASOUND IMAGING SYSTEM**

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## Portable Ultrasound scanner

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### TRUMP-A-01

#### Advantages

- ✚ Application of advanced technology of micro computer, Digital Scanning Converter (DSC), variable aperture, multi-section dynamic focusing, high dynamic, low noise, wide band pre-amplifier, log compression, TGC control, dynamic filtering, edge enhancement and frame correlation to get high resolution and sharp images.
- ✚ Four display mode: B, B+B, B+M, M. Gray scales: 256 grades.
- ✚ The image can be displayed in real time, frozen, amplified, black- white reversed, up and down conversed and upgraded in depth in real time.
- ✚ Standard PAL-D and VGA video output, available to access to the large screen monitor, videocassette recorder and video image printer, etc. Optional probes and build-in color coding module.
- ✚ General gain control, near field and far field (T.G.C) control, brightness and contrast adjustment.
- ✚ Foldaway keyboard and trackball are equipped to get fast, convenient and flexible operation.
- ✚ The device is portable structured with plastic cover. Switch power is used without working frequency transformer. Various programmable devices and SMT in the device make the device high integrated, small volume and light weighted.
- ✚ 186 frames of Cine-loop and 32 frames of permanent images storage.
- ✚ USB 2.0 interface ensures real-time image transfer to PC.
- ✚ Passed clinical verification of safety and diagnosis validity Specifications.



### Technical Specifications

Dimension	353mm×315mm×253mm
Weight	approx.8kgs (including probe)
Temperature	+5°C~+40°C
Humidity	<80%
Atmospheric pressure	800hpa~1060pha
Power supply	AC 160V-260V 50Hz or AC 90V-120V 60Hz
Application scope	abdominal, OB/GYN, bladder, uterus, urology and small parts etc
Scanning mode	electronic convex array
Probe	3.5 MHz electronic convex (standard) 3.5MHz electronic linear (optional) 6.5MHz transvaginal convex (optional) 7.5MHz electronic linear (optional)
Display mode	B, B+B, B+M, M (Under B and B+B mode, upgraded in depth in real time)
Detectable depth	≥160mm
Display depth (max)	200mm
Resolution	longitudinal≤2mm (depth≤80mm), longitudinal≤3mm (80mm<depth≤130mm) lateral≤3mm (depth≤80mm), lateral≤4mm (80mm<depth≤130mm)
Dead zone	≤5mm
Geometrical position error	longitudinal ≤10%, lateral ≤15%
Zoom	×1.0, ×1.2, ×1.5, ×2.0
Focus	4-sectored focusing with variable aperture
Gray scales	256 grades
Local amplified	2 times
Monitor	7/10 inches CRT
Image reversal	White-black, up-down, left-right reversal
Body marks	≥7 kinds
Comments	Date, patient ID, age, sex, frame correlation
B mode	Distance, girth, area, volume, pregnant week, EDD
M mode	Heart rate, time, EF

## TRUMP-A-02

### Features

- ✚ Full digital beam-forming and dynamic aperture technology ensure excellent image quality.
- ✚ 96 element, 32 channels, dual socket.
- ✚ Scanning angle 8-16 level adjustable.
- ✚ Gamma correction, 8-segment GTC.
- ✚ Automatic report generation (normal/OB).
- ✚ Abundant software packages for full clinic applications such as abdominal, obstetric, gynecology, cardiology, urology, small parts, etc.
- ✚ Ergonomic design, user-friendly.
- ✚ Direct printout on A4 paper for long-time record storage.



### Technical Specifications

Scanning	Electronic convex, linear and micro-convex
Display	B, B/B, B/M, 4B
Image conversion	Up/down, right/left, black/white
Notation	Real-time clock, date, ID, gender, age, focus, hospital, doctor
Scanning depth	220mm (max)
Gray Scale	256
Display	10"SVGA
Video output	PAL-D
Body marks	15
Cine-loop	829 frames (max)
Permanent image storage	32 frames
Image magnification	×1.0, ×1.2, ×1.5, ×2.0
Picture in picture	1:2
Preset color code	0-7
Measurement of distance, circumference, area,	Volume, HR, EF, EDD USB2.0 interface

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## TRUMP-A-03

### Advantages

TRUMP-A-03 portable ultrasonic diagnostic system, which combines manifold innovating technologies of 256 gray scale and high density, broad band, big angle multi-frequency probe, is suitable for work in low, middle, high frequency, as well as examination and diagnosis of abdomen, gynecology, OB/GYN, heart and small parts.



### Features

- ✚ Plentiful probe group including six probes, 2.5MHz – 8.5MHz work frequency can meet kinds of clinic diagnostic requirement sufficiently.
- ✚ The type of probes can be identified automatically.
- ✚ With high performance piezoelectricity material and multi-layer acoustic permeated matching and excellent sound absorption liner material, probes have the advantage of broad band and higher sensitivity to improve the detection depth, distinguish and shorten scotoma.
- ✚ In image processing: eliminating ultrasound cluster, advancing the available signal is from the double return processing technology adopted. Clear image, high stability and distinguish benefit from advanced technology including dynamic band and low noise in band pre-amplifier, dynamic multi-focus, dynamic variable aperture, dynamic filter, TGC, frame correlation, DSC change and repeat processing.

### Main Function

Scanning mode:

B, B/B, B/M, M, varied magnifications and the image is scrollable.

### Focus

Electronic focus

Acoustic lens focus, single focus and mutiple focus are provided.

### Cine-Loop

256 frames

### Image processing

Part zoom in real time, gray curve control, STC curve, edge enhancement, dynamic range, frame correlation, 256 gray scale, 256 frames cine loop and 16 images storage, image reverse function.

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## **Body Mark**

60 kinds

## **OB Table**

Tokyo, Hadlock, Hansmann

## **Measurement & Calculation**

Distance, circumference, area, volume, heart rate, depth, time, velocity, LV (Left Ventricle), AO (Aorta), MV (Mitral Valve), RV/LV, GS, BPD, CRL, FL, GL, TAD, LV, OFD, AC, HC, pregnant week and fetal weight. OB table (Tokyo, Hadlock, Hansmann), LMP functions.

## **Video Out**

PAL-D, SVGA

## **Character Display**

ID, date, time, focus, gauge, hospital name, measuring value, gray scale, probe type and frequency, probe position, display mode, scanning direction, multiple-ratio, puncture guide line, 60 body marks, image process information and notes.

## **Other Function**

Software updates function, OB Report

## **Standard Configuration**

Main unit with SVGA, a 2.5 – 5MHz convex probe, 256 Frames cine loop, 16-32 images storage card.

## **Options**

2.5-5MHz convex heart probe

5-7.5MHz convex vaginal probe

2.5-5MHz linear abdominal probe

3.5-6.5MHz linear rectal probe

6.5-8.5MHz linear facial probe

Trolley, B/W video printer.

## TRUMP-A-04

### Primary functions

- ✚ Display mode: B, B/B, B/M, M, 4B
- ✚ Speed in M mode: 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s.
- ✚ Magnification: ×0.8, ×1.0, ×1.2, ×1.5, ×1.6, ×2.0, ×2.4, ×3.0
- ✚ Depth enhancement/pan function
- ✚ Local zoom
- ✚ Adjustment and display of near field, far field, total gain and dynamic range.
- ✚ Single-point, multi-point focusing.
- ✚ Frequency conversion
- ✚ Angle change.
- ✚ Frame correlation function
- ✚ Gamma correction and edge enhancement for image after-processing.
- ✚ Image freeze/unfreeze.
- ✚ Vertical, horizontal flip and B/W conversion.
- ✚ Case information, image annotation and auto time display.
- ✚ Body marks
- ✚ Measurement of distance, circumference, area, volume, slope, heart rate and cycle.
- ✚ OB package including 10 tables, automatic calculation of EDD and fetus weight
- ✚ Energy-saving.
- ✚ 120 frames built-in image storage.
- ✚ 256 frames cine loop
- ✚ PAL-NTSC switchable
- ✚ Chinese-English interconversion.
- ✚ OB report.

Image transfer computer by USB interface



### Standard Configuration

- ✚ Main unit 1PC
- ✚ 3.5MHz convex probe 1PC
- ✚ Two probe connectors

### Optional

- ✚ 6.5MHz intra-vaginal convex probe
- ✚ 7.5MHz high frequency linear probe
- ✚ 5.0MHz micro-convex probe for pediatric
- ✚ Trolley
- ✚ Thermal printer
- ✚ USB data line & software

### Technical Specification

Scanning mode	Linear array scanning, convex array scanning
Nominal frequency of the probe	3.5MHz/6.5 MHz /7.5 MHz
Display	10.4"SVGA
Grey scale	256
Main power supply	AC110/230V, 50/60Hz
Power consumption	≤100VA
Overall dimension for main unit	Approx. 387×319×270 mm (L×H×M)
Weight of main unit	Approx. 11 kg (exclusive of accessories)

## TRUMP-A-05

### Primary functions

- ✚ Display mode: B, B/B, B/M, M, or 4B
- ✚ Speed in M mode: 1s, 2s, 3s, 4s, 5s, 6s, 7s and 8s.
- ✚ Magnification: ×0.8, ×1.0, ×1.2, ×1.5, ×1.6, ×2.0, ×2.4, ×3.0
- ✚ Depth enhancement/pan function
- ✚ Local zoom
- ✚ 8 stages TGC adjustment.
- ✚ Single-point, multi-point or dynamic focusing.
- ✚ Frequency conversion
- ✚ Angle change.
- ✚ Frame correlation function
- ✚ Gamma correction and edge enhancement for image after-processing.
- ✚ Image freeze/unfreeze.
- ✚ Vertical, horizontal flip and B/W conversion.
- ✚ Case information, image annotation and auto time display.
- ✚ Body marks
- ✚ Measurement of distance, circumference, area, volume, slope, heart rate and cycle.
- ✚ OB package including 10 tables, automatic calculation of EDD and fetus weight
- ✚ Energy-saving.
- ✚ 120 frames image storage.
- ✚ 256 frames cine loop
- ✚ PAL-NTSC switchable.
- ✚ Chinese-English interconversion.
- ✚ OB report.
- ✚ Image transfer computer by USB interface



### Standard Configuration

- ✚ Main unit 1PC
- ✚ 3.5MHz convex probe 1PC
- ✚ Two probe connectors
- ✚ Pseudo color

### Optional

- ✚ 5.0MHz micro-convex probe for pediatric
- ✚ 6.5MHz intra-vaginal convex probe
- ✚ 7.5MHz high frequency linear probe
- ✚ Trolley
- ✚ Thermal printer
- ✚ USB data line & software

### Technical Specifications

Scanning mode	Linear array scanning, convex array scanning
Nominal frequency of the probe	3.5MHz/5.0 MHz /6.5 MHz /7.5 MHz
Grey scale	256
Display	10.4"SVGA
Main power supply	AC110/230V, 50/60Hz
Power consumption	≤100VA
Overall dimension for main unit	Approx. 387×319×270 mm (L×H×M)
Weight of main unit	Approx. 11 kg (exclusive of accessories)

## TRUMP-A-06

### Primary functions

- ✚ Display mode: B, B/B, B/M, M, 4B
- ✚ Speed in M mode: 1s, 2s, 4s, and 8s / frame
- ✚ Magnification: 6 kinds of different magnification according to different probes
- ✚ Depth enhancement function
- ✚ 7 stages TGC and total gain adjustment
- ✚ Single-point, multi-point focusing.
- ✚ Frequency conversion
- ✚ Frame correlation function
- ✚ Gamma correction and edge enhancement for image after-processing.
- ✚ Image freeze/unfreeze.
- ✚ Vertical, horizontal flip and B/W conversion.
- ✚ Case information, image annotation and auto time display.
- ✚ 30 kinds body mark
- ✚ Measurement of distance, circumference, area, volume, slope, heart rate, cycle and angle.
- ✚ Obstetric, cardiological and urological measurement and calculation
- ✚ Puncture guide
- ✚ 32 frames built-in image storage & 64 frames cine loop
- ✚ OB report
- ✚ Cardiological report
- ✚ Image transfer computer by USB interface



### Optional

- ✚ 3.5MHz micro-convex probe
- ✚ 5.0MHz transvaginal probe
- ✚ 7.5MHz high frequency linear probe
- ✚ 7.5MHz linear rectal probe for human use
- ✚ USB data line & software
- ✚ Trolley
- ✚ Thermal printer

### Technical Specifications

Scanning mode	Linear array scanning, convex array scanning
Nominal frequency of the probe	3.5MHz/5.0 MHz /7.5 MHz
Grey scale	256
Display	10"SVGA
Main power supply	AC110/230V, 50/60Hz
Power consumption	≤100VA
Overall dimension for main unit	Approx. 395×310×280 mm (L×H×M)

### Standard Configuration

- ✚ Main unit 1PC
- ✚ 3.5MHz convex probe 1PC
- ✚ Two probe connectors

## TRUMP-A-07

### Main Functions:

- ✚ Speed under M mode: 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s/frame
- ✚ Display mode: B, B/B, 4B, B/M, M.
- ✚ Magnification: ×0.8, ×1.0, ×1.2, ×1.5, ×1.6, ×2.0, ×2.4, ×3.0.
- ✚ Depth shift ; Up/Down, Left and Right, Black-white Reverse
- ✚ Local zooming
- ✚ Changeable angle
- ✚ Frame correlation
- ✚ Freeze/Unfreeze
- ✚ Changeable Probe
- ✚ Single point focus, multi-point focus, and dynamic focusing.
- ✚ Image post processing, Gamma correction and Image enhancement
- ✚ Auto- input/display of the date, patient's ID, age, sex and Image note
- ✚ 32 kinds of body marks with probe mark
- ✚ Puncture guide & Calculus positioning
- ✚ Measurement of distance, circumference, area, slope, heart rate, cycle, pregnant weeks, EDD, fetus age, fetus weight, etc
- ✚ Power saving and self-check
- ✚ Chinese/English menu Alternative
- ✚ 3.5MHz broadband frequency convex array probe



### Optional

- ✚ 1024 frames Cine loop
- ✚ Trolley
- ✚ Thermal printer
- ✚ 6.5MHz intra-cavity probe / 3.5MHz linear array probe
- ✚ 7.5MHz high frequency linear array probe
- ✚ 8 sets of pseudo color
- ✚ Cine Loop: 1024 frames

### Technical Specifications

Scanning mode	Linear array/convex array/slight convex array
Standard probe frequency	3.5MHz, 6.5MHz, 7.5MHz
Gray scale	256
Scanning line	512
Depth scope	0—240mm
Resolution	lateral ≤2, axial≤1
Geometric position precision	≤5%
Frame frequency	≥30frames/sec
Digital scanning converter	512×512×8 bit
Video output	Standard PAL_D
Power consumption	≤100VA

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## TRUMP-A-08

- ✚ High Definition Monitor:  
High-precision digital imaging technology.
- ✚ Digital beam forming Technology:  
Digital image acquisition and processing ensure images with high quality and system with higher reliability and stability.
- ✚ Multi-frequency, High density Probes:  
Different adjustable frequency ranges are available for each probe on different clinical requirements, which reduced the complicated work for varies changes.
- ✚ Abundant Display Mode:  
Different kinds of display mode provide the most suitable checking mode.
- ✚ Complete range of Measurement and Calculation Software:  
Increase the obstetric calculation on the base of the basic measurement, which can widen the application.
- ✚ Wide Clinical Applications:  
This instrument is applicable for obstetric, gynecology, urology, surgery, pediatrics, etc
- ✚ Vivid body design:  
A vivid body design brings pleasant visual effect and ergonomics into harmony





## Trolley Ultrasound Scanner

### TRUMP-B-01

#### Advantages:

- ✧ Application of Filed Programmable Gate Array (FPGA) & Surface Mounting Technology (SMT), brief circuits with reliable performance.
- ✧ Four kinds of adjustable dynamic focuses produce a symmetrical image, easy to distinguish pathological changes.
- ✧ Flexible and convenient operation contributed by keyboard and trackball.
- ✧ Application of wide band transducer technology satisfies different requirements.
- ✧ Advanced measurement & calculate software ensure more exact diagnosis results.



#### Technical Specifications

Scanning mode	Electronic convex array
Display modes	B, B/B, B/M, M
Scanner depth	200mm
Gray scale	256
Image magnification	×1.0, ×1.2, ×1.5, ×2.0
Cine-loop	Maximum 186 frames
Image storage	20 frames
Image conversion	up/down, left/right, black/white
Local zoom	2 (can be used at frozen/real-time)
Frame correlation	Selectable 3 levels
Depth shift	B, B+B real time shift
Resolution	Lateral≤2mm, axial≤1mm
Body marks	≥10
Pseudo color processor	7 colors
Video output	PAL-D, VGA
Monitor	12 inches high resolution CRT (optional 15 inches)
Measurement	Distance, circumference, area, volume, heart rate, pregnant week, fetal weight, EDD
Comments	Eal-time clock, date, scanning depth, model of probes, parameter of frame correlation, combination of focus, patient's ID, ender, age
Power consumption	50VA (standard); 100VA (with all options)
Power supply	220V±10% 50 Hz/AC110V±10% 60Hz
Weight	55kgs (including probe)
Dimension	658*415*1065mm
Probes	2.5/3.5/5.0 multi frequency convex array probe (standard) 5.0/7.5MHz multi frequency linear array prob (option) 5.0/6.5MHz multi frequency convex transvaginal probe (option)

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## TRUMP-B-02

### Advantages

TRUMP-B-02 is a kind of new type B/W ultrasonic diagnostic system with unique refined style, design and multi- function that provides the ultrasonic image of high definition and high resolution. Non-interleaved technology can eliminate flicker that caused by TV display mode. Users can enjoy the image like B/W image of color ultrasound scanner. VIDEO port makes it convenient for users to connect the video printer and TV monitor. Friendly colorful English interface provides a relaxed working environment.

### Features

- ✧ Broadband Technology and Frequency Conversion:  
Support variable probe frequency. Adjust the depth of detection at well via conversion or probe frequency to satisfy the diagnosis demand of the patients for different figure.
- ✧ Scanning with Large-angle:  
Scanning with large-angel to enlarge visual area effectively.
- ✧ Scientific Matching:  
Scientific matching to avoid waste of ultrasound energy effectively, improve detecting performance of probe greatly and assure the definition of image.
- ✧ Cine Loop of Large Capacity:  
128 frames film review for large capacity is benefit for doctor to choose the satisfied image.
- ✧ VGA None-interlaced High-definition Display:  
VGA line by line scanning display eliminate the flicker feeling of common line-skipping display and the image is clear, stable, soft and realistic.
- ✧ Two Grade Image Process:  
Processing: Dynamic wave-filter, Gain compensation and adjustment.
- ✧ Post processing:  
The speed of scan, frame correlation,  $\gamma$  correlative line and choice of window curve.



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### **Main Function**

- ✧ Scanning mode: B, B/B, B/M, M, 4M
- ✧ Focusing: Continuous dynamic focusing, 16-stage focus for super selection and 4-stages focus in a time
- ✧ Zoom: 8 grades zoom. 2.5cm per grade fore convex, 1.25cm per grade for vaginal and heart (9cm-25cm).
- ✧ Gray scale: 256
- ✧ Detectable depth: 240mm
- ✧ Angle on the probe: 60° on 3.5MHz convex probe  
90° on 3.5MHz heart probe  
120° on 6.5MHz transvaginal probe
- ✧ Measuring: Distance, area, volume, focus, circumference, heart rate, speed, fetal weight, pregnant week
- ✧ 6-EDD tables: BPD,CRL,GS,FL,HC,AC
- ✧ Character display: ID number, date, body mark, probe position, time, focus, gray scale, puncture guide line, frame rate, zoom, menu of image processing.

### **Standard Configuration**

- ✧ Main unit, VGA monitor
- ✧ 3.5MHzR60 convex probe (2.5-5MHz)
- ✧ A bottle of gel, User's manual, Service manual

### **Options**

- ✧ B/W video printer
- ✧ 7.5MHz linear probe - facial (6.5-8.5MHz)
- ✧ 6.5MHzR12 convex probe - transvaginal (5-7.5MHz)
- ✧ 3.5MHzR20 convex probe - heart (2.5-5MHz)

## TRUMP-B-03

### Primary functions

- ✧ Display mode: B, B/B, B/M, M, 4B
- ✧ Speed in M mode: 1s, 2s, 3s, 4s, 5s, 6s, 7s and 8s.
- ✧ Magnification: ×0.8, ×1.0, ×1.2, ×1.5, ×1.6, 2.0, ×2.4 and ×3.0
- ✧ Depth enhancement/pan function.
- ✧ Local zoom.
- ✧ Adjustment and display of 8 stages STC, total gain and dynamic range.
- ✧ Single-point, multi-point or dynamic focusing.
- ✧ Frequency conversion.
- ✧ Angle change.
- ✧ Frame correlation function.
- ✧ Gamma correction and edge enhancement for image after-processing.
- ✧ Image freeze/unfreeze.
- ✧ Vertical, horizontal flip and B/W conversion.
- ✧ Case information, image annotation and auto time display.
- ✧ 64 body marks
- ✧ Measurement of distance, circumference, area, volume, slope, heart rate and cycle.
- ✧ OB package including 10 tables, automatic calculation of EDD and fetus weight
- ✧ Energy-saving.
- ✧ 120-frame image storage.
- ✧ 256-frame cine loop
- ✧ PAL-NTSC switchable.
- ✧ Chinese-English interconversion.
- ✧ OB report.
- ✧ Image transfer computer by USB interface.



### Standard Configuration

- ✧ Main unit 1 PC
- ✧ 3.5MHz convex probe 1PC
- ✧ Two probe connectors

### Optional

- ✧ 6.5MHz intra-vaginal convex probe
- ✧ 7.5MHz high frequency linear probe
- ✧ 5.0MHz micro-convex probe for pediatric
- ✧ Thermal printer
- ✧ USB data line & software

### Technical Specifications

Scanning mode	Linear array scanning, convex array scanning
Nominal frequency of the probe	3.5MHz/6.5 MHz/7.5 MHz
Grey scale	256
Display	14" SVGA
Main power supply	AC110/230V, 50/60Hz
Power consumption	≤180VA
Overall dimension for main unit	Approx. 725×445×890 mm(L×H×M)
Weight of main unit	Approx. 39 kg

## TRUMP-B-04

### Features:

TRUMP-B-04 with reasonable design and advanced technology, which adopts FPGA, CPLD, CMOS, SWT, etc for excellent performance. TRUMP-B-04 B/W Ultrasonic Diagnostic System with sharp image can connect various multi-frequency probes to satisfy clinical needs. It applies lots of advanced international digital image process technology and software technology including two probes connectors, probe switching automatically, pre-zoom of dynamic, broad band and low noise, double echo process technology, CDA, CDF, dynamic filter, TGC, part zoom in real time, frame correlation, DSC, etc. The equipment is suitable to examine abdomen, gynecology, OB/GYN, cardiac and small parts, which is ideal equipment for hospitals at different levels in towns and countryside.



### Technical Specifications

Scanning Mode	B, B/B, B/M, M, varied magnifications and the image is scrollable
Focus	Electronic focusing + Acoustic lens focusing, single & multiple focuses are provided.
Image Processing	Part zoom in real time, window curve control, STC curve, edge enhancement, dynamic range, frame correlation, 256 gray scale, cine loop and image storage, image reverse function.
Measuring	Distance, perimeter, area, volume, heart rate, depth, time, speed, LV (Left Ventricle), AO (Aorta), MV (Mitral Valve), RV/LV, GS, BPD, CRL, FL, HL, TAD, LV, OFD, AC, HC, Pregnant week and fetal weight. It has OB report and LMP functions.
Character Display	Name of hospital, ID number, date, time, gauge, measuring value, probe types and frequency, scanning direction, display mode, multiple-ratio, focus, probe position, position, 60 body marks, gray scale, puncture guide line, image process information and notes.
Additional Function	Screen protects and probe protects, light keyboard, permanent storage and software upgrade function.
Video Out	PAL, SVGA
Standard Configuration	Main unit with SVGA, 2.5-5MHz convex probe, 256 frames cine loop.
Option Configuration	2.5-5MHz convex heart probe (TRUMPB041), 5-7.5MHz convex vaginal probe (TRUMPB042), 2.5-5MHz linear abdominal probe (TRUMPB043), 3.5-6.5MHz linear rectal probe (TRUMPB044), 6.5-8.5MHz linear facial probe (TRUMPB045), B/W video printer 16 or 32 frames image storage card.

## TRUMP-B-05

### Digital Ultrasonic Diagnostic System

- ✧ OB software package: Four database for calculating pregnant weeks: (one for user-defined) GS, BPD, CRL, FL, HL, TAD, LV, OFD, AC, HC, etc. AFI, Fetal weight, Ratio, LMP, BBT, fetal growth curve,. Fetal Biophysical Score, OB report.
- ✧ GYN software package: Measurement and calculation for uterus, ovary, follicle, GYN report
- ✧ Urology Software Package: Measurement and calculation for kidney, bladder, residual urine volume. Urology report.
- ✧ Andrology Software Package: Measurement and calculation for Prostate, testicle, calculation for PPSA, PSAD, Andrology report.
- ✧ Cardiology Software Package: Heart rate, velocity, LV, RV, aortic valve, mitral valve, Cardiology report.
- ✧ Body Mark: Abdomen, Andrology, Cardiology, Gynecology, Musculoskeletal, Obstetrics, Pediatric, Small part, Urology.
- ✧ Channels: 32
- ✧ Cine Loop: Large capacity of cine loop automatically or manually. Cine loop speed adjustable.
- ✧ Image Storage: Storage for single image in format of BMP, JPEG, PNG, DICOM etc;
- ✧ Interfaces: PAL-D (optional), SVGA, USB, RS-232, internet port, parallel print port, DICOM3.0 (optional), parallel communication port, CD-ROM.



**Standard Configuration:** Main machine + monitor + 3.5MHzR60 convex probe.

### Technical Specification

Application	Abdomen, OB&GYN, Small parts, Urology, Cardiology, Pediatrics etc.
Scanning Method	Electronic Convex/Electronic Linear/Electronic micro-convex
Displaying Mode	B, B/B, 4B, B/M, M
Focusing	Continuous Dynamic Focusing, acoustic lens focusing
Image Processing	Image persistence, linear correlation, edge enhancement/ smooth, RDF, grey scale adjustable, image left/right inversion, image up/down inversion, image positive/negative inversion, eight slides STC, M mode speed, line density selection, line frame frequency, scanning angle/width.
Acoustic Power	Multilevel and adjustable
Imaging Techniques	Digital beam former, dynamic Aperture, DRF, RDF, RDA SHI
Grey Scale	256
B Mode	Distance, circumference, area, angle, volume, stenosis, histogram
M Mode	heart rate, time, distance, velocit



# Smartbook Ultrasound Scanner

## TRUMP-C-01



### Primary functions

- Display mode: B, B/B, B/M, M, 4B
- Speed in M mode: 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s.
- Magnification: ×0.8, ×1.0, ×1.2, ×1.5, ×1.6, ×2.0, ×2.4, ×3.0
- Depth enhancement/pan function
- Local zoom
- Adjustment and display of near field, far field, total gain and dynamic range.
- Single-point, multi-point focusing.
- Frequency conversion
- Angle change.
- Frame correlation function
- Gamma correction and edge enhancement for image after-processing.
- Image freeze/unfreeze.
- Vertical, horizontal flip and B/W conversion.
- Case information, image annotation and auto time display.
- 64 kinds of body marks
- Measurement of distance, circumference, area, volume, slope, heart rate and cycle.
- OB package including 10 tables, automatic calculation of EDD and fetus weight
- Energy-saving.
- 120 frames built-in image storage.
- 256 frames cine loop
- PAL-NTSC switchable.
- Chinese-English interconversion.
- OB report.

### Standard Configuration

- Main unit 1PC
- 3.5MHz convex probe 1PC
- One probe connector
- Pseudo color

### Optional

- 5.0MHz micro-convex probe for pediatric
- 6.5MHz intra-vaginal convex probe
- 7.5MHz high frequency linear probe
- Trolley
- Thermal printer

### Technical Specification

Scanning mode	Linear array scanning, convex array scanning
Nominal frequency of the probe	3.5MHz/5.0 MHz /6.5 MHz /7.5 MHz
Grey scale	256
Display	10.4"SVGA
Main power supply	100-240V~, 50-60Hz
Power consumption	≤40VA
Overall dimension for main unit	Approx. 290×245×50 mm (L×H×M)
Weight of main unit	Approx. 2.25 kg (exclusive of accessories)

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## TRUMP-C-02

### Main features

This versatile linear/convex ultrasound system is ideal for mixed practice. It is designed for bedside use and emergency scanning (triage ultrasound) either on site or in a rescue situation. Smartbook TRUMP-S-01, weight only 2kg, is distinguishable by its bright and clear image quality. The probes offer a wide range of diagnostic applications, this scanner is a cost effective solution for family doctors, veterinary scanning. The complete software package, the multi-step zoom, and the high product versatility are available in it.

### Standard configuration:

Main unit + one 3.5MHz convex probe

### Options

- L40/7.5MHz linear probe
- R13/ 6.5MHz transvaginal probe
- I40/ 7.5MHz endorectal linear probe



### Technical Specification

Scanning Method	Convex, linear multi-frequency with wide band.
Display Mode	B,B+B,B+M,M
Gray Scale	256 levels
Monitor Size	10.4" TFT color LCD
Image Procession	DFS,DRF,RDA,VGA/DSC and image pre & post
Cine-memory	206 frames
Storage	32 image permanent storage
Image magnification	×1.0,×1.2,×1.5,×2.0 times
Multi-step Zoom	(12) in both real-time and frozen modes
Depth adjustable	In real-time of B and B+B mode
Image Conversion	U/D,L/R and B/W.
Coded-colo	8 different coded-colors on a external color monitor
Body marks	15 different kinds of body marks

- Focusing selectable
- Measurement is in Distance ,Circumference/Area, Heart Rate, EF rate for heart, and GS, CRL, BPD, HC, FL, AC for OB/GY measurement, and Gestational Age, Fetal weight, EDD calculation.
- Characteristic showing in real-time clock, ID, Sex, Age, Focusing info and Hospital Name



## Palm Handle Ultrasound Scanner

### TRUMP-D-01

#### Primary Function

- ❖ Display Mode: B, B/B, B/M, M, 4B;
- ❖ Speed: 1s, 2s, 3s, 4s, 5s, 6s, 7s, 8s;
- ❖ Magnification:  $\times 0.8$ ,  $\times 1.0$ ,  $\times 1.2$ ,  $\times 1.5$ ,  $\times 1.6$ ,  $\times 2.0$ ,  $\times 2.4$ ,  $\times 3.0$  ;
- ❖ Depth enhancement/pan function;
- ❖ Local Zoom;
- ❖ Adjustment and display of near field, far field, total gain and dynamic range;
- ❖ Single-point, multi-point focusing;
- ❖ Frequency conversion;
- ❖ Angle change;
- ❖ Frame correlation function;
- ❖ Gamma correction and edge enhancement for image post-processing;
- ❖ Image freeze/unfreeze;
- ❖ Vertical, horizontal flip and B/W conversion;
- ❖ Pseudo color display;
- ❖ Case information, image annotation and auto time display;
- ❖ 64 body marks with probe mark;
- ❖ Measurement of distance, circumference, area, volume, slope, heart rate and cycle;
- ❖ Obstetric package including 10 tables, automatic calculation of EDD and fetus weight;
- ❖ Puncture guide;
- ❖ Energy saving;
- ❖ 120 frames built-in image storage;
- ❖ 256 frames cine loop;
- ❖ Obstetric report;
- ❖ PAL-NTSC convertible
- ❖ Image transfer computer by USB interface;



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### Optional

- ❖ 5.0MHz micro-convex probe for pediatric
- ❖ 6.5MHz intra-vaginal convex probe
- ❖ 7.5MHz high frequency linear probe
- ❖ Trolley
- ❖ Thermal printer
- ❖ USB data line & software
- ❖ Mouse

### Standard Configuration

- ❖ Main unit 1PC
- ❖ 3.5MHz convex probe 1PC
- ❖ One probe connector
- ❖ Pseudo color

### Technical Parameter

Gray Scale	256
Display	6.4LCD
Main Power Supply	100-240V ~Frequency, 50-60Hz
Power Consumption	≤40VA
Main Unit Size	Approx. 326×162×47mm (L×H×D)
Main Unit Weight	Approx 1.5kg (excluding accessories) .

## TRUMP-D-02

### Main Features

Palm Handle TRUMP-D-02 is enjoying a great success in global market by its innovative in design. It is distinguishable by the lightweight, easy hand carrying, accurate imaging and simple interface. The selectable two difference kinds of probe, dual frequencies, offer more widely range of applications. It is really the most ideal for doctors, vet, even the farmer who can easily carry out quick and easy diagnosis for Uterine, Ovarian examination, Pregnancy detection and sexing.



### Probes

- ❖ (Suggested for human use): 3.5MHz probe with FREEZE key built-in
- ❖ (Suggested for vet use): 3.5MHz waterproof probe

### Standard configuration

- ❖ (Suggested for human use): main unit + 3.5MHz probe with FREEZE key built-in
- ❖ (Suggested for vet use): main unit + 3.5MHz waterproof probe

### Options

- ❖ 3.5MHz probe with FREEZE key built-in
- ❖ Extra rechargeable internal battery with the cable
- ❖ Car Charger

### Technical Specification

Monitor	5.0 inch TFT LCD
Weight	750g
Probes	3.5MHz/5.0MHz Mechanical Sector Selectable
Battery	Rechargeable & internal, back-up for 4hrs
Display Mode	B,B+B,B+M,M
Image magnification in four levels	×1.0,×1.2,×1.5,×2.0 times
Gray Scale	256 levels
Text Annotation	Patient ID, Sex, Age
Software	For human or veterinary, selectable
Measurement	Distance, length, Area/ Circumference, Time/Heart Rate/EF rate for heart
Stander Accessories	AC Adapter, internal Battery, Gel, Mouse
Optional	5.0MHz Sector Probe, Car Charger, Extra Battery with charging cable
Case Color of Scanner	For human--Gray color      For veterinary--Black color

## TRUMP-D-03

TRUMP-D-03 is the latest model, weighting only 1.3KG, is distinguishable by its bright and clear image quality. The interchangeable probes offer a wide range of diagnostic applications. This scanner is a cost effective solution for family doctors, veterinary scanning. The complete software and the high product versatility are available in it.

### Probes

- ❖ (For human use): R40/3.5MHz multi-freq convex
- ❖ (For vet use): L60/6.5MHz rectal linear

### Standard configuration

- ❖ (For human use): main unit + one 3.5MHz convex probe
- ❖ (For vet use): main unit + 6.5MHz rectal linear probe

### Options

- ❖ R40/3.5MHz convex probe
- ❖ R20/5.0MHz micro-convex probe
- ❖ L40/7.5MHz linear probe

### Technical Specification

Scanning Method	Convex, Micro-convex, Linear, rectal
Display Mode	B, B+B, B+M, M
Gray Scale	256 levels
Monitor	6.4 inch TFT color LCD
Image Procession	DFS, DRF, RDA, VGA/DSC and Image Post Procession
Storage	32 image permanent storage
Image magnification	×1.0, ×1.2, ×1.5, ×2.0 times
Body marks	15 difference kinds with difference calipers.

- ❖ Measurement in Distance, Circumference/Area, Time/Heart Rate/EF rate for heart, and GS, CRL, BPD, HC, FL, AC for OB/GY measurement, and Gestational Age, Fetal weight, EDD calculation.
- ❖ Characteristic showing in real-time clock, ID, Sex, Age, Focusing Info and Gain (Near, Far, Overall) info.
- ❖ PAL-D output
- ❖ Mouse interface
- ❖ 4 focusing combination selectable
- ❖ 4 different coded-color available
- ❖ 128 frames for cine-memory



## TRUMP-D-04

### Features

- ❖ Sharp and clear image output
- ❖ Especially applicable for emergency center, ambulance, or fieldwork
- ❖ Applicable for both human being and veterinary purposes
- ❖ Low energy consumption
- ❖ Support stand for adjusting LCD view point
- ❖ Leather bag for fieldwork carriage
- ❖ Data-of-art design, handy and use friendly



### Technical Specifications

Standard probe	3.5/5.0MHz mechanical sector probe with freeze key for human being 3.5/5.0MHz mechanical sector probe waterproof for veterinary
Shell case color	Gray for human being, black for veterinary
Scanning depth	192 mm
Resolution	lateral $\leq 3\text{mm}$ (depth $\leq 80\text{mm}$ ) $\leq 4\text{mm}$ (80mm < depth $\leq 130\text{mm}$ ) axial $\leq 2\text{mm}$ (depth $\leq 80\text{mm}$ )
Monitor	TFT 5.0 inch LCD
Battery	Built-in rechargeable, continuous working time 2 hours, standby 4 hours
Display modes	B, B+B, B+M, M
Gray scales	256
Image magnification	$\times 1.0$ , $\times 1.2$ , $\times 1.5$ , $\times 2.0$
Measurement	Distance, circumference, area, heart rate & pregnant week
Comment	Patient's ID, age, gender
Power consumption	13VA
Power supply	10-12V battery / AC- adapter (110/220V, 50/60Hz)
Package	N.W.600g    G.W. 6kgs    Carton Size 480*190*380mm