CHISON
Value Beyond Imaging

Digital Color Doppler Ultrasound System

Model

SonoBook 7VET /SonoBook 8VET / SonoBook 9VET

OPERATION MANUAL

57-01640-00

Oct. 25th, 2024

V5.0

CHISON Medical Technologies Co., Ltd.

Regulatory Requirement

CE

This product conforms to the essential requirements of the Medical Device Directive 93/42/EEC. Accessories without the CE mark are not guaranteed to meet the Essential Requirements of the Medical Device Directive.

This manual is a reference for the SonoBook 7VET, SonoBook 8VET and SonoBook 9VET. Please verify that you are using the latest revision of this document. If you need the latest revision, contact your distributor.

⚠NOTE:

Important

1. No part of this manual may be reduced, modified, copied or reprinted, in whole or in part, without written permission from CHISON.
2. The contents of this manual are subject to change without prior notice and without our legal obligation.
3. Before operating the system, please read and understand this manual. After reading, keep this manual in an easily accessible place. If you have any question or doubt, please contact CHISON's authorized service engineer.
4. CHISON's Warranty only cover material and parts costs for repair, but do not cover any labor cost or onsite service cost at end user's side.

⚠NOTE:

Important information

1. It is the customer's responsibility to maintain and manage the system after delivery.
2. The warranty does not cover the following items, even during the warranty period:
   a) Damage or loss due to misuse or abuse with system and transducers, for example, drop the transducer, the liquid or the metal part fall into the system.
   b) Damage or loss caused by Acts of God such as fires, earthquakes, floods, lightning, etc.
   c) Damage or loss caused by failure to meet the specified conditions for this system, such as inadequate power supply, improper installation or environmental conditions.
   d) Damage or loss caused by non-approved transportation by CHISON.
   e) Damage or loss due to use the system outside the region where the system was originally sold.
   f) Damage or loss involving the system purchased from a source other than CHISON or its authorized agents.
3. Do not make changes or modifications to the software or hardware of this system and transducers.
4. During operate the system, if user has any doubt, difficulty or any unclear, please contact CHISON's authorized service engineer immediately. Please describe the situation clearly to solve the question in time. Before solve the question, please don't operate the system.
5. This system shall not be used by persons other than fully qualified and certified medical personnel.
6. It is prohibited to use the device for fetal sex examination, except for necessary medical needs. The device can only be sold to qualified medical institutions or doctors. The users shall fully understand and master the devices before operating. The users shall have got the qualification, and shall comply with the local laws and regulations, the local religion and customs, etc.
7. The System modified or repaired by people other than CHISON's qualified service engineers, CHISON shall not be liable for the system.

8. The purpose of this system is to provide physicians with data for clinical diagnosis. It is the physician's responsibility for diagnostic procedures. CHISON shall not be liable for the results of diagnostic procedures
9. This manual contains warnings regarding foreseeable potential dangers, but user shall always be alert to dangers other than those indicated as well. CHISON shall not be liable for damage or loss that results from negligence or from ignoring the precautions and operating instructions described in this operation manual.
10. Due to negligence not following operation manual, CHISON shall not be liable for the results.
11. Each time before and after ultrasound examination, please check the transducer surface, transducer cable and sheath whether they are abnormal, such as cracking, peeling and deformation. Also check whether the lens is strongly fixed. Abnormal transducers may cause electric shock and injure the patient. Once any abnormal, user must stop using and contact CHISON's authorized service engineer.
12. If the transducer is dropped or scratched by hard part, please stop using the transducer immediately. And contact CHISON's authorized service engineer to make sure the safety and effectiveness is in good condition before use.
13. If there is any liquid or metal to enter to the system, please power off the system and stop using it immediately. Please first contact CHISON's authorized service engineer to make sure it's safe before restart using it.
14. Please don't use solvents (such as paint thinner, benzine, or alcohol) or abrasive cleansers for cleaning the system (including monitor and transducers, etc.). It may corrode the system and transducers.
15. While the system or transducer is over life time, please refer to operation manual section 9.5
16. Important data must be backed up on external memory media. CHISON shall not be liable for loss of data stored in the memory of this system caused by operator error or accidents.
17. Please put this operation manual with the system to ensure operator and manager can reach it at any time.

⚠ ***CAUTION***: ***The device can only be sold to qualified medical institutions or doctors. The users shall fully understand and master the devices before operating. The users shall have got the qualification, and shall comply with the local laws and regulations, the local religion and customs, etc.***

⚠ ***CAUTION***: ***The users should read the operation manual carefully before operating the devices. Turning on the device means the users have read the operation manual and accept the listed cautions, warnings, and notes in the manuals. If the users disagree and cannot accept the cautions, the users can ask for returning the device.***

TABLE OF CONTENTS

Chapter 1 Introduction

This manual contains necessary information for safe system operation.
Read and understand all instructions in this manual before operating the system. Always keep this manual with the equipment, and periodically review the procedures for operation and safety precautions.

1.1 System Overview

Indications for Use

The device is a general-purpose ultrasonic imaging instrument intended for use by a qualified physician for evaluation of pregnancy detection, abdomen, cardiology, tendon for Canine, Feline, Bovine, Equine and Ovine etc.

Contraindication

The system is NOT intended for Ophthalmic use or any use that causes the acoustic beam to pass through the eye.

1.2 Contact Information

For additional information or assistance, please contact your local distributor or the appropriate support resource shown below:

CHISON website	www.chison.com
Service Support	CHISON Medical Technologies Co., Ltd. Tel: 0086-400-8878-020; 0086-0510-85311707 Fax: 0086-0510-85310726 E-mail: service@chison.com.cn
Placing an Order	CHISON Medical Technologies Co., Ltd. Tel: 0086-0510-8531-0593/0937 Fax: 0086-0510-85310726 Email: export@chison.com.cn
Manufacturer	CHISON Medical Technologies Co., Ltd. No.3 Changjiang South Road, Xinwu District, Wuxi, 214028 Jiangsu, P.R. China

Chapter 2 System Safety

2.1 SafetyOverview

This section discusses the measures to ensure the safety of both the operator and patient. To ensure the safety of both operator and patient, please read the relevant details in this chapter carefully before operating this system. Disregarding the warnings or violation of relevant rules may result in personal injury for operator or patient， or even loss of life.

Users should observe the following precautions:

- This system complies with Type BF general equipment, and the IEC standard. Please follow Chapter 2 “System Safety” in the operation manual to use this system properly.
- Please do not modify this system in any way. If modifications are necessary, please contact the manufacturer first to get more information and permission.
- This system has been fully adjusted at the factory. Do not adjust any fixed adjustable parts.
- In the event of a malfunction, turn off the system immediately and inform the manufacturer or its designated agents.
- The power cord of the system should be connected to a grounded power socket. Do not remove the ground cable for any reason.
- Only connect this system, either electronically or mechanically, with devices that comply with the IEC/EN60601-1 standard. Recheck the leakage current and other safety performance indices of the entire system to avoid potential system damage caused by leakage from a current superposition.
- The system does not incorporate any specialized protective measures in the event it is configured with high-frequency operation devices. The operator should use caution in these types of applications.
- The system should be installed only by personnel authorized by the manufacturer. Do not attempt to install the system by yourself.
- Only a CHISON's authorized service engineer can perform maintenance.
- Only a qualified operator, or someone under qualified supervision, can use the system.
- Do not use this system in the presence of flammable substances, otherwise an explosion may occur.
- Do not continuously scan the same part of a patient or expose the patient to prolonged scanning. Otherwise, it may harm the patient.
- When using the system for ultrasound testing, only use qualified ultrasound gel that complies with system standards.
- Do not unplug transducer when the system is in active operation. Always go to transducer Selection screen when need to remove the transducer.
- To prevent from arm or neck injury, the operator should not stay at the same position for too long

during patient scanning without taking break.

- Do not put liquid on top of the main unit.

⚠ ***NOTE*: To dispose of this product properly, please contact the local CHISON's Authorized Service Representative.**

2.2 Electrical Safety

Type of protection against electric shock

Class I Equipment

CLASS I EQUIPMENT in which protection against electric shock does not rely on basic insulation only, but which includes an additional safety precaution in that accessible conductive parts are connected to the protective earthing conductor in the electrical installation in such a way that accessible parts cannot become live in the event of a failure of the basic insulation.

Degree of protection against electric shock

- Type BF Applied part(for Transducers marked with BF symbol)

TYPE BF APPLIED PART providing a specified degree of protection against electric shock, with particular regard to allowable LEAKAGE CURRENT

Level of protection against harmful ingress of water

- Parts of **transducer** likely to come into contact with **operator** or **patient** meet the requirements of **drip-proof equipment (**IPX1**)**

  Parts of **transducer** intended to be immersed in **normal use** meet the requirements of **watertight equipment** (IPX7)
- The IP Classification of System is Ordinary Equipment (IPX0)

The Equipment is not suitable for use in the presence of a flammable anesthetic mixed with air (with oxygen or with oxide)

Mode of operation

- Continuous Operation

For maximum safety, always follow these guidelines:

- Proper grounding of the system is critical to avoid electric shock. For protection, ground the chassis with a three-wire cable, and plug the system into three-hole outlet.
- Do not remove or circumvent the grounding wire.
- Do not remove the protective covers on the system. These covers protect users against hazardous voltages. Cabinet panels must remain in place while the system is in use. A qualified electronic technician must make all internal replacements.
- Do not operate this system in the presence of flammable gases or anesthetics.
- All peripheral devices (unless certified as medical grade) that are connected to the system must be powered through the electrical outlet with an optional isolation transformer.
- Suggest power off the system in 30 minutes if the system continuously works in 8 hours.

Notice upon Installation of Product

Separation distance and effect from fixed radio communications equipment: field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast, and TV broadcast transmitter cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ultrasound system is used exceeds the applicable RF compliance level as stated in the immunity declaration, the ultrasound system should be observed to verify normal operation. If abnormal operation is observed, additional measures may be necessary, such as re-orienting or relocating the ultrasound system or using an RF shielded examination room may be necessary.

- Use either power supply cords provided by or designated by CHISON. Products equipped with a power source plug should be plugged into the fixed power socket which has the protective grounding conductor. Never use any adaptor or converter to connect with a power source plug (e.g. three-prong-to-two-prong converter).
- Locate the equipment as far away as possible from other electronic equipment.
- Be sure to only use the cables provided by or designated by CHISON. Connect these cables following the installation procedures (e.g. wire power cord separately from signal cables).
- Lay out the main equipment and other peripherals following the installation procedures described in this manual.

Notice against User Modification

The user should never modify this product.

User modifications may cause degradation in Electrical Safety. Modification of the product includes changes in:

- Cables (length, material, wiring, etc.)
- System configuration/components

User modifications may cause degradation in EMC performance. Modification of the product includes changes in:

- Cables (length, material, wiring, etc.)
- System installation/layout
- System configuration/components
- Securing system parts (cover open/close, cover screwing)

2.3 Label

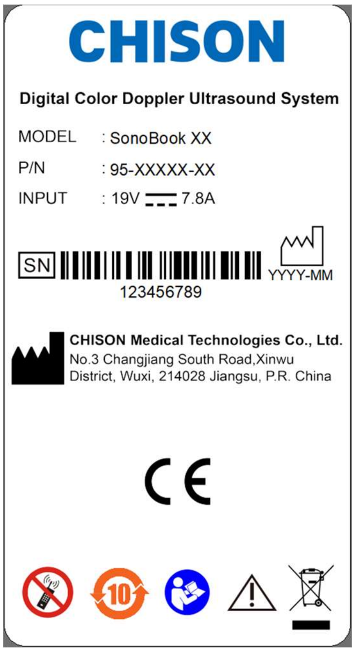


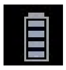
Fig.2-1 Rear panel label

2.3.1 Symbols on label

Caution, consult accompanying documents. This symbol advises the reader to consult the accompanying documents for important safety related information such as warnings and pre-cautions that Cannot be presented on the device itself.	Do not use the following devices near this equipment: cellular phone, radio receiver, and mobile radio transmitter, radio controlled toy, etc. Use of these devices near this equipment could cause this equipment to perform outside the published specifications. Keep these devices power off when near this equipment.
Direct current, it indicates that the equipment is suitable for direct current.	This symbol is followed by the manufacturing date of the device in the form YYYY-MM.
WASTE OF ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE): This symbol is used for	CE The CE mark of Conformity indicates this equipment conforms with the Council Directive

Environment Protection, it indicates that the waste of electrical and electronic equipment must not be disposed as unsorted waste and must be collected separately. Please contact your local Authority or distributor of the manufacturer for information concerning the decommissioning of your equipment.	93/42/EEC
SN This symbol is followed by the serial number of the device.	Refer to instruction manual.
EC REP AUTHORIZED REPRESENTATIVE IN THE EUROPEAN COMMUNITY: This symbol is accompanied by the name and the address of the authorized representative in the European Community.	This symbol is accompanied by the name and the address of the manufacturer.
This mark indicates that this product contains a limited amount of hazardous substances in the Chinese Standard GB/T 26572-2011 "Limited Requirements for Restricted Substances in Electrical and Electronic Products". The numbers in the logo are the environmental protection use period of the product, indicating that under the normal use conditions, the harmful substances will not leak or be abrupt. The use of the product will not cause serious pollution to the environment or cause personal or property serious damage, the term unit is year.	

2.3.2 Symbols used in the system

 Insulated patient application part (Type BF).	 Power on / off. CAUTION: This power switch can not completely isolate the main power supply.
IPX0 No protection against ingress of water (system)	**IPX7** Protection against the effects of immersion (transducers).
 Adapter Indicator: when the main unit connects to the adapter with power supply, the indicator lights, otherwise extinguishes.	 Charge Indicator: When the battery is charging, the indicator flashes once every three seconds, when the battery is lower capacity，the indicator flashes once every second.
 Sleep Indicator: When the system is sleep, the indicator lights, otherwise extinguishes.	 Show the State of discharge and remaining electricquantity and available time.
 Warning	 WIFI (if option WIFI module is inside the system).

2.4 Patient Environmental Devices

Left side

- 1 DC IN
- 1 LAN port
- 2 USB 3.0 ports: output 5V/900mA
- 1 USB 2.0 port: output 5V/500mA

Right side (refer to Fig.3-1c in Chapter3)

- 1 ECG port
- 1 Active transducer port
- 1 Pencil transducer port

Rear panel

- 1 Docking port

Acceptable Devices

The Patient Environmental devices shown above are specified to be suitable for use within the PATIENT ENVIRONMENT.

⚠ ***CAUTION***:

- ***DO NOT connect any transducers or accessories without approval by CHISON within the PATIENT ENVIRONMENT.***
- ***DO NOT touch patient and devices without IEC/EN 60601-1 approval to avoid the leakage current risk within the PATIENT ENVIRONMENT.***

Unapproved Devices

⚠ ***CAUTION***:

- ***DO NOT use unapproved devices.***
- ***If devices are connected without the approval of CHISON, the warranty will be INVALID.***
- ***The system can't be used with HF surgical equipment; otherwise the burns to patient may occur.***
- ***Any device connected to this system must conform to one or more of the requirements listed below:***
  -IEC standard or equivalent standards appropriate to devices.
  -The devices shall be connected to PROTECTIVE EARTH (GROUND).

⚠ ***CAUTION***: ***Unsafe operation or malfunction may occur. Use only the accessories,***

options and supplies approved or recommended in these instructions for use.

Peripheral used in the patient environment

The system has been verified for overall safety, compatibilityand compliance with the following on-board image recording devices:

B/W video printer: Mitsubishi P93W，Sony UP-711MD，Sony UP-X898MD

Color video printer: HP LaserJet P1102,HP LaserJet M251

The system may also be ued safely while connected to devices other than those recommended above if the devices and their specifications, installation, and interconnection with the system conform to the requirements of IEC/EN 60601-1.

The connection of equipment or transmission networks other than as specified in the user instructions can result in an electric shock hazard or equipment malfunction. Substitute or alternate equipment and connections require verification of compatibility and conformity to IEC/EN 60601-1 by the installer. Equipment modifications，possible resulting malfunctions and electromagnetic interference are the responsibilities of the owner.

General precautions for installing an alternate off-board, remote device or a network would include:

- The added device(s) must have appropriate safety standard conformance and CE Marking.
- There must be adequate mechanical mounting of the device and stability of the combination.
- Risk and leakage current of the combination must comply with IEC/EN 60601-1.
- Electromagnetic emissions and immunity of the combination must conform to IEC/EN 60601-1-2.

Peripheral used in the non-patient environment

The system has been verified for compatibility, and compliance for connection to a local area network (LAN) via a wire LAN. The provided LAN components are IEC/EN 60950 compliant.

General precautions for installing an alternate off-board, remote device or a network would include:

- The added device(s) must have appropriate safety standard conformance and CE Marking.

The added device(s) must be used for their intended purpose having a compatible interface.

***CAUTION**: Make sure using ONLY the dedicated USB disk or removable media to save or back up data. Before connecting to the ultrasound system, make sure using the latest antivirus software on the USB disk or removable media to clean any virus. It is user's responsibility to ensure the USB disk or removable media is virus-free. Improper use of USB disk or removable media may cause the virus infections of system and eventually malfunction may occur. Such malfunction may impact the stability, effectiveness and safety of the system and transducers, and users should immediately stop using the system and transducers until CHISON authorized engineer has checked the system and confirm the effectiveness and safety of the system and transducers.*

***CAUTION**: Use only secure Local Area Network connection. Don't connect the ultrasound system to Internet. Make sure your hospital's firewall software is configured correctly, thus blocking incoming connection requests from Internet. Improper use of network*

connection may cause the virus infections of system and eventually malfunction may occur.

2.5 Biological Safety

This product, as with all diagnostic ultrasound equipment, should be used only for valid reasons and should be used both for the shortest period of time and at the lowest power settings necessary (ALARA - As Low As Reasonably Achievable) to produce diagnostically acceptable images. The AIUM offers the following guidelines:

Clinical Safety Quoted from AIUM

Approved March 26, 1997

> Diagnostic ultrasound has been in use since the late 1950s. Given its known benefits and recognized efficacy for medical diagnosis, including use during human pregnancy, the American Institute of Ultrasound in Medicine herein addresses the clinical safety of such use:
>
> There are no confirmed biological effects on patients or instrument operators caused by exposures from present diagnostic ultrasound instruments. Although the possibility exists that such biological effects may be identified in the future, current data indicate that the benefits to patients of the prudent use of diagnostic ultrasound outweigh the risks, if any that may be present.

<u>Heating:</u> Elevating tissue temperature during obstetrical examinations creates medical concerns. At the embryo development stage, the rise in temperature and the length of time exposed to heat combine to determine potential detrimental effects. Exercise caution particularly during Doppler/Color exams. The Thermal Index (TI) provides a statistical estimate of the potential temperature elevation (in centigrade) of tissue temperature. Three forms of TI are available: Soft Tissue Thermal Index (TIS), Bone Thermal Index (TIB) and Cranial Bone Thermal Index (TIC).

Soft Tissue Thermal Index (TIS). Used when imaging soft tissue only, it provides an estimate of potential temperature increase in soft tissue.

Bone Thermal Index (TIB). Used when bone is near the focus of the image as in the third trimester OB examination, it provides an estimate of potential temperature increase in the bone or adjacent soft tissue.

Cranial Bone Thermal Index (TIC). Used when bone is near the skin surface as in transcranial examination, it provides an estimate of potential temperature increase in the bone or adjacent soft tissue.

<u>Cavitations</u>: Cavitations may occur when sound passes through an area that contains a cavity, such as a gas bubble or air pocket (in the lung or intestine, for example). During the process of cavitations, the sound wave may cause the bubble to contract or resonate. This oscillation may cause the bubbles to explode and damage the tissue. The Mechanical Index (MI) has been created to help users accurately evaluate the likelihood of cavitations and the related adverse effects.

MI recognizes the importance of non-thermal processes, cavitations in particular, and the Index is an attempt to indicate the probability that they might occur within the tissue.

2.6 Scanning Patients and Education

The Track-3 or IEC60601-2-37 output display standard allows users to share the responsibility for the safe use of this ultrasound system. Follow these usage guidelines for safe operation:

- In order to maintain proper cleanliness of the transducers, always clean them between patients.
- Always use a disinfected sheath on all EV/ER transducers during every exam.
- Continuously move the transducer, rather than staying in a single spot, to avoid elevated temperatures in one part of the patient's body.
- Move transducer away from the patient when not actively scanning.
- Understand the meaning of the TI, TIS, TIB, TIC and MI output display, as well as the relationship between these parameters and the thermal/cavitation bioeffect to the tissue.
- Expose the patient to only the very lowest practical transmit power levels for the shortest possible time to achieve a satisfactory diagnosis (ALARA - As Low As Reasonably Achievable).

2.6.1 Safe Scanning Guidelines

- Ultrasound should only be used for medical diagnosis and only by trained medical personnel.

- Diagnostic ultrasound procedures should be done only by personnel fully trained in the use of the equipment, in the interpretation of the results and images, and in the safe use of ultrasound (including education as to potential hazards to the patient and the operator).

- Operators should understand the likely influence of the machine controls, the operating mode (e.g. B-mode, color Doppler imaging or spectral Doppler) and transducer frequency on thermal and cavitations hazards.

- Select a low setting for each new patient. Output should only be increased during the examination if penetration is still required to achieve a satisfactory result, and after the Gain control has been adjusted to its maximum value.

- Maintain the shortest examination time necessary to produce a useful diagnostic result.

- Do not hold the transducer in a fixed position for any longer than is necessary. It should be removed from the patient whenever there is no need for real-time imaging or spectral Doppler acquisition. The frozen frame and Cine loop capabilities allow images to be reviewed and discussed without exposing the patient to continuous scanning.

- Do not use endo-cavitary transducers if there is noticeable self heating of the transducer when operating in the air. Although applicable to any transducer, take particular care during trans-vaginal exams during the first eight weeks of gestation.

- Take particular care to reduce output and minimize exposure time of an embryo or fetus when the temperature of the mother is already elevated.

- Take particular care to reduce the risk of thermal hazard during diagnostic ultrasound when exposing: an embryo less than eight weeks after gestation; or the head, brain or spine of any fetus or neonate.

- Operators should continually monitor the on-screen thermal index (TI) and mechanical index (MI) values and use control settings that keep these settings as low as possible while still achieving diagnostically useful results. In obstetric examinations, TIS (soft tissue thermal index) should be monitored during scans carried out in the first eight weeks after gestation, and TIB (bone thermal index) thereafter. In applications where the transducer is very close to bone (e.g. trans-cranial applications), TIC (cranial bone thermal index) should be monitored.

  MI> 0.3 There is a possibility of minor damage to neonatal lung or intestine. If such exposure is necessary, reduce the exposure time as much as possible.

  MI> 0.7 There is a risk of cavitations if an ultrasound contrast agent containing gas micro-spheres is being used. There is a theoretical risk of cavitations without the presence of ultrasound contrast agents. The risk increases with MI values above this threshold.

  TI> 0.7 The overall exposure time of an embryo or fetus should be restricted in accordance with Table 2-2 below as a reference:

TI	Maximum exposure time (minutes)
0.7	60
1.0	30
1.5	15
2.0	4
2.5	1

Table 2-2 Maximum recommended exposure times for an embryo or fetus

- Non-diagnostic use of ultrasound equipment is not generally recommended. Examples of non-diagnostic uses of ultrasound equipment include repeated scans for operator training, equipment demonstration using normal subjects, and the production of souvenir pictures or videos of a fetus. For equipment of which the safety indices are displayed over their full range of values, the TI should always be less than 0.5 and the MI should always be less than 0.3. Avoid frequent repeated exposure of any subject. Scans in the first trimester of pregnancy should not be carried out for the sole purpose of producing souvenir videos or photographs, nor should their production involve increasing the exposure levels or extending the scan times beyond those needed for clinical purposes.

- Diagnostic ultrasound has the potential for both false positive and false negative results. Misdiagnosis is far more dangerous than any effect that might result from the ultrasound exposure. Therefore, diagnostic ultrasound system should be performed only by those with sufficient training and education.

2.6.2 Understanding the MI/TI Display

Track-3 follows the Output Display Standard for systems that include fetal Doppler applications. The acoustic output will not be evaluated on an application-specific basis, but the global maximum de-rated Ispta must be ≤ 720 mW/cm^{2}and either the global maximum MI must be ≤ 1.9 or the global maximum de-rated Isppa must be ≤ 190 W/cm^2. An exception is for ophthalmic use, in which case the TI = max (TIS_as, TIC) is not to exceed 1.0; Ispta.3 ≤50mW/cm^2, and MI ≤ 0.23. Track-3 gives the user the freedom to increase the output acoustic power for a specific exam, and still limit output acoustic power within the global maximum de-rated Ispta ≤ 720 mW/cm^{2}under an Output Display Standard.

For any diagnostic ultrasonic systems, Track-3 provides an Output Indices Display Standard. The diagnostic ultrasound systems and its operation manual contain the information regarding an ALARA (As Low As Reasonably Achievable) education program for the clinical end-user and the acoustic output indices, MI and TI. <u>The MI describes the likelihood of cavitations, and the TI offers the predicted maximum temperature rise in tissue as a result of the diagnostic examination</u>. In general, a temperature increase of 2.5°C must be present consistently at one spot for 2 hours to cause fetal abnormalities. Avoiding a local temperature rise above 1°C should ensure that no thermally induced biologic effect occurs. When referring to the TI for potential thermal effect, a TI equal to 1 does not mean the temperature will rise 1 degree C. It only means an increased potential for thermal effects can be expected as the TI increases. A high index does not mean that bioeffects are occurring, but only that the potential exists and there is no consideration in the TI for the scan duration, so minimizing the overall scan time will reduce the potential for effects. These operator control and display features shift the safety responsibility from the manufacturer to the user. So it is very important to have the Ultrasound systems display the acoustic output indices correctly and the education of the user to interpret the value appropriately.

<u>RF: (De-rating factor)</u>

In Situ intensity and pressure cannot currently be measured. Therefore, the acoustic power measurement is normally done in the water tank, and when soft tissue replaces water along the ultrasound path, a decrease in intensity is expected. The fractional reduction in intensity caused by attenuation is denoted by the de-rating factor (RF),

$R_F = 10^{(-0.1\ a\ f\ z)}$

Where a is the attenuation coefficient in dB cm-1 MHz-1, f is the transducer center frequency, and z is the distance along the beam axis between the source and the point of interest.

De-rating factor R_F for the various distances and frequencies with attenuation coefficient 0.3dB cm-1 MHz-1 in homogeneous soft tissue is listed in the following table. An example is if the user uses 7.5MHz frequency, the power will be attenuated by .0750 at 5cm, or 0.3x7.5x5=-11.25dB. The De- rated Intensity is also referred to as '.3' at the end (e.g. Ispta.3).

Distance	Frequency (MHz)			
(cm)	1	3	5	7.5
1	0.9332	0.8128	0.7080	0.5957
2	0.8710	0.6607	0.5012	0.3548
3	0.8128	0.5370	0.3548	0.211
4	0.7586	0.4365	0.2512	0.1259
5	0.7080	0.3548	0.1778	0.0750
6	0.6607	0.2884	0.1259	0.0447
7	0.6166	0.2344	0.0891	0.0266
8	0.5754	0.1903	0.0631	0.0158

$I' = I * R_F$ Where I' is the intensity in soft tissue, I is the time-averaged intensity measured in water.

Tissue Model:

Tissue temperature elevation depends on power, tissue type, beam width, and scanning mode. Six models are developed to mimic possible clinical situations.

Thermal Models		Composition	Mode	Specification	Application
1	TIS	Soft tissue	Unscanned	Large aperture (>1cm^2)	Liver PW
2	TIS	Soft tissue	Unscanned	Small aperture (<1cm^2)	Pencil Transducer
3	TIS	Soft tissue	Scanned	Evaluated at surface	Breast color
4	TIB	Soft tissue and bone	Scanned	Soft tissue at surface	Muscle color
5	TIB	Soft tissue and bone	Unscanned	Bone at focus	Fetus head PW
6	TIC	Soft tissue and bone	Unscanned/scanned	Bone at surface	Transcranial

Soft tissue:

Describes low fat content tissue that does not contain calcifications or large gas-filled spaces.

Scanned: (auto-scan)

Refers to the steering of successive burst through the field of view, e.g. B and color mode.

Unscanned:

Emission of ultrasonic pulses occurs along a single line of sight and is unchanged until the transducer is moved to a new position. For instance, the PW, and M mode.

TI:

TI is defined as the ratio of the In Situ acoustic power (W.3) to the acoustic power required to raise tissue temperature by 1°C (W_{deg}), TI = W.3/W_{deg}.

Three TIs corresponding to soft tissue (TIS) for abdominal; bone (TIB) for fetal and neonatal cephalic; and cranial bone (TIC) for pediatric and adult cephalic, have been developed for applications in different exams.

An estimate of the acoustic power in milli-watts necessary to produce a 1°C temperature elevation in soft tissue is:

W_{deg}= 210/fc, for model 1 to 4, where fc is the center frequency in MHz.

W_{deg}= 40 K D for model 5 and 6, where K (beam shape factor) is 1.0, D is the aperture diameter in cm at the depth of interest.

MI:

Cavitation is more likely to occur at high pressures and low frequencies in pulse ultrasound wave in the tissue, which contains the bubble or air pocket (for instance, the lung, intestine, or scan with gas contrast agents). The threshold under optimum conditions of pulsed ultrasound is predicted by the ration of the peak pressure to the square root of the frequency.

MI = Pr' / sqrt(fc)

Pr' is the de-rated (0.3) peak rare-fractional pressure in Mpa at the point where PII is the maximum, and fc is the center frequency in MHz. PII is the Pulse Intensity Integral that the total energy per unit area carried by the wave during the time duration of the pulse. The peak rare- fractional pressure is measured in hydrophone maximum negative voltage normalized by the hydrophone calibration parameter.

Display Guideline:

For different operation modes, different indices must be displayed. However, only one index needs to be shown at a time. Display is not required if maximum MI is less than 1.0 for any setting of the operating mode, or if maximum TI is less than 1.0 for any setting of the operating mode. For TI, if the TIS and TIB are both greater than 1.0, the scanners need not be capable of displaying both indices simultaneously. If the index falls below 0.4, no display is needed. The display increments are no greater than 0.2 for index value less than one and no greater than 1.0 for index values greater than one (e.g. 0.4, 0.6, 0.8, 1, 2, 3).

Display and Report in Different Mode

Located on the upper middle section of the system display monitor, the acoustic output display provides the operator with real-time indication of acoustic levels being generated by the system.

For B-Scan Mode

Only display and report MI, and start from 0.4 if maximum MI > 1.0, display in increments of 0.2.

For Color Mode

Only display and report TIS or TIB and start from 0.4 if maximum TI > 1.0, display in increments of 0.2 for values of indices of 2.0 or less, and 0.5 for values of indices greater than 2.0.

For Doppler Mode

Only display and report TIS or TIB and start from 0.4 if maximum TI > 1.0, display in increments of 0.2 for values of indices of 2.0 or less, and 0.5 for values of indices greater than 2.0.

Below is a simple guideline for the user when TI exceeds one limit exposure time to $4^{(6-TI)}$minutes based on the 'National Council on Radiation Protection. Exposure Criteria for Medical Diagnostic Ultrasound: I. Criteria Based on Thermal Mechanisms. Report No.113 1992'.

Operator Control Features:

The user should be aware that certain operator controls may affect the acoustic output. It is recommended to use the default (or lowest) output power setting and compensate using Gain control to acquire an image. Other than the output power setting in the soft-menu, which has the most direct impact on the power; the PRF, image sector size, frame rate, depth, and focal position also slightly affect the output power. The default setting is normally around 70% of the allowable power depending on the exam application mode.

Controls Affecting Acoustic Output

The potential for producing mechanical bioeffects (MI) or thermal bioeffects (TI) can be influenced by certain controls.

Direct: The Acoustic Output control has the most significant effect on Acoustic Output.

Indirect: Indirect effects may occur when adjusting controls. Controls that can influence MI and TI are detailed under the bioeffect portion of each control in the Optimizing the Image chapter.

Always observe the Acoustic Output display for possible effects.

Best practices while scanning

HINTS: Raise the Acoustic Output only after attempting image optimization with controls that have no effect on Acoustic Output, such as Gain and TGC.

⚠ ***WARNING***: ***Be sure to have read and understood control explanations for each mode used before attempting to adjust the Acoustic Output control or any control that can affectAcoustic Output.***

Use the minimum necessary acoustic output to get the best diagnostic image or measurement during an examination. Begin the exam with the transducer that provides an optimum focal depth and penetration.

Acoustic Output Default Levels

In order to assure that an exam does not start at a high output level, the system initiates scanning at a reduced default output level. This reduced level is preset programmable and depends upon the exam icon and transducer selected. It takes effect when the system is powered on or New Patient is selected. To modify acoustic output, adjust the Power Output level on the Soft Menu.

Chapter 3 Preparing the System for Use

3.1 Site Requirements

3.1.1 Operation Environmental Requirements

The following environmental conditions are within system tolerances for operation:

Temperature:	10º C ~ 40º C
Relative Humidity:	30%~75%, non-condensing
Atmosphere Pressure:	700hPa ~ 1060hPa

Strong radiation sources or powerful electromagnetic waves (e.g. electro-magnetic waves from radio broadcasting) may result in image ghosting or noise. The system should be isolated from such radiation sources or electromagnetic waves.

To prevent damage to the system, do not use in the following locations:

- Exposed to direct sunlight
- Subject to sudden changes in temperature
- Dusty
- Subject to vibration
- Near heat generators
- High humidity

⚠ ***NOTE***:

- ***This equipment generates, uses and can radiate radio frequency energy. The equipment may cause radio frequency interference to other medical and non-medical devices and radio communications. To provide reasonable protection against such interference, this product complies with emissions limits for a Group 1, Class A Medical Devices Directive as stated in IEC/EN 60601-1-2. However, there is no guarantee that interference will not occur in a particular installation.***
- ***If this equipment is found to cause interference (which may be determined by turning the equipment on and off), the user (or qualified service personnel) should attempt to correct the problem by one or more of the following measure(s):***
  • reorient or relocate the affected device(s)
  • increase the separation between the equipment and the affected device
  • power the equipment from a source different from that of the affected device.
  • consult the point of purchase or service representative for further suggestions.

3.1.2 Transport and Storage Environmental Requirements

The following environmental transport and storage conditions are within system tolerances:

Temperature: -5º C ~ 40º C

Relative Humidity: ≤80% non-condensing

Atmosphere Pressure: 700hPa ~ 1060hPa

3.1.3 Electrical Requirements

Adapter Power supply voltage: 100-240V～ 50-60Hz

Main system power input: 19V⎓ 7.8A

Battery type:BT-3000: 92.88Wh

Power Consumption: 150 VA

⚠ **WARNING*****: Maintain a fluctuation range of less than ±10% of voltage labeling on rear panel of the system, otherwise the system may be damaged.***

Grounding

Before connecting the power cord, connect the attached ground protection cable from Equipotentiality terminal on system rear panel to a specialized grounding device.

⚠ ***NOTE***:

- ***Please follow the outlined power requirements. Only use power cords that meet the system guidelines—failure to follow these procedures may result in system damage.***
- ***Line power may vary in different geographic locations. Refer to the detailed ratings on the rear panel of the system for detailed information.***

Built in battery specifications

Battery model	BT-3000	
Capacity	9000mAh	
Rated voltage	14.4V	
Standard charge voltage	16.8V	
Discharge closing voltage	11V	
Discharge time	About 80 minutes	
Standard charge current	1800mA	
Maximum continuous discharge current	9000mA	
Battery structure	4S3P	
Cycle life	300 times	
Charging time	About 2.5 hours	
Operating temperature	Charge	0℃～55℃
	Discharge	-20℃～65℃
	Storage	-20℃～60℃for less than 1 months；-20℃～30℃for less than 6 months
Battery status indicator	1%-100%	Power balance display
	Charge tips	Charge indicator

Adapter specifications

Adapter model	MENB1150A1949F03
Input	100-240V~, 50-60Hz
Output	19V ⎓ 7.8A

3.2 System Specifications

3.2.1 Console Overview

Fig. 3-1 a: Console Overview

The following pictures show the system in different views.

Fig. 3-1 b: System Side View

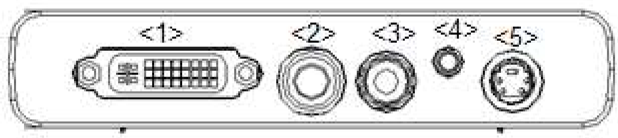


Fig. 3-1 c: Right Side View

3.2.2 Physical Specification

Dimensions of main unit (approx.): 366mm*355mm*65mm

Net weight of main unit (approx.): 5.5kg (including battery, no transducer included)

3.2.3 Key System Features

- Display B、DUAL、QUAD、B/M、M、PW、CFM、PD、DPD、CW、FHI、B/BC.
- Zoom and depth adjustment.
- Set the total gain, contrast, frequency band, 8 segments of STC, dynamic range, persistence.
- Image post-processing of raw data: measurement after freezing the image
- 256 gray-scale image display technology, Q-image, Compound, SRA, X-contrast, Q-beam, Q-flow technology, stable performance, high resolution.
- Image freezing and storage function, the stored images can be recalled for analysis.
- Storage file format: single and movie file formats.
- Scanning direction can be changed and the image can be reversed in the direction of left/right, up/down.
- Distance, area, circumference, volume, heart rate etc. Measurements are available and cardiology is available.
- Elliptical method and tracing method are provided for area/circumference measurement.
- Many kinds of body mark can be displayed together with corresponding transducer position indication.
- Comment function in image area of the screen, special comment terms for different exam mode can be added according to user's requirement.
- Display of Patient ID, Time and Date display according to real-time clock.
- Trackball available for operation and measurement. Characters can be input directly by keyboard.
- When one function is under operation, the corresponding key on the control panel will be brightly lit. When exiting from the function, the corresponding key on the control panel will be slightly lit.
- Measure the percentage of stenosis, blood flow velocity, velocity ratio, blood flow volume and pressure gradient. Automatically measure the values of maximum velocity, minimum velocity, time interval, pulsatility index and resistance index.
- DICOM function (option).

Configuration of System

Model	SonoBook 7VET	SonoBook 8VET	SonoBook 9VET
B mode	standard	standard	standard
B/M mode	standard	standard	standard
M mode	standard	standard	standard
Dual mode	standard	standard	standard
Quad mode	standard	standard	standard
2D Steer	option	option	option
CFM mode	standard	standard	standard

CPA mode	standard	standard	standard
DPD mode	standard	standard	standard
PW mode	standard	standard	standard
B/BC mode	standard	standard	standard
Triplex	standard	standard	standard
Quadplex	standard	standard	standard
CW mode	option	option	option
Free Steering M mode	option	option	option
TDI+PW	option	option	option
Color M mode	option	option	option
Curved Panoramic	option	option	option
Trapezoidal image	standard	standard	standard
Compound	standard	standard	standard
SRA	standard	standard	standard
Elastography	option	option	option
StressEcho	option	×	option
ECG	option	option	option
Super Needle	option	option	option
DICOM	option	option	option
HIPPA	option	option	option
X-contrast	standard	standard	standard
FHI	standard	standard	standard
Q-image	standard	standard	standard
Q-flow	standard	standard	standard
Q-beam	standard	standard	standard

Transducer	C3-V L7-V L12-V L8M-V L8M5-V P2-V MC3-V MC6-V L18-V P5-V L7V-V R7-V P3T-V S3-7-V S4-10-V L10i-V L12b-V	C3-V L7-V L12-V L8M-V L8M5-V P2-V MC3-V MC6-V P5-V L7SVA-V L7V-V R7-V S3-7-V S4-10-V L12b-V	C3-V L7-V L12-V L8M-V L8M5-V P2-V MC3-V MC6-V L18-V P5-V L7SVA-V L7V-V R7-V P3T-V S3-7-V S4-10-V L10i-V L12b-V
Probe connector	1	1	1
LED 15 inch	option	option	option
Hardware	128G SSD	128G SSD	128G SSD
battery	Standard	Standard	Standard
USB	3	3	3
Footswitch	option	option	option
Trolley TR-20	option	option	option
SonoTripe Connector	option	option	option
Wifi module	option	option	option
SONODocking	option	option	option
ECG lead	option	option	option

3.2.4 Accessories

Transducers:

 Convex transducer C3-V**:** 3.0MHz, 2.0-6.8MHz	 Linear transducer L7-V**:** 7.5MHz, 4.0-15.0MHz
 Linear transducer L8M-V**:** 8.0MHz, 4.0-15.0MHz L12-V**:** 10MHz, 7.0-18.0MHz	 Linear transducer L8M5-V**:** 8.0MHz, 5.0-14.0MHz
 Phased array transducer P2-V**:** 2.5MHz, 1.5-5.3MHz P3T-V: 3.0MHz，1.5-5.3MHz	 Linear transducer L12b-V：12.0 MHz, 5.0-18.0MHz
 Micro convex transducer MC3-V**:** 3.0MHz, 2.0-6.8MHZ	 Micro convex transducer MC6-V**:** 6.0MHz, 4.0-12.0MHz
 Linear transducer L18-V**:** 18.0MHz, 11.0-23.0MHz	 Phased array transducer P5-V**:** 5.3MHZ, 2.0-8.0MHz
 Linear transducer L7SVA-V: 7.5MHz, 4.0-15.0MHz	 Linear transducer L7V-V: 7.5MHz, 4.0-15.0MHz
 Linear transducer R7-V**:** 7.5MHz, 4.0-15.0MHz	 Linear transducer L10i-V**:** 9.5MHz, 6.0-16.0MHz
 Phased array transducer S3-7-V：5.0MHz, 4.0-8.0MHz	 Phased array transducer S4-10-V：7.0MHz, 4.0-10.0MHz

3.2.5 I/O ports

- DVI output for external monitor
- S-VIDEO, TV output for B&W video printer or Color video printer
- Remote port for video printer
- Foot switch port

3.3 System Positioning & Transporting

Moving the System

When moving or transporting the system, take the precautions described below to ensure maximum safety for personnel, the system and other equipments.

Before Moving the System

- ➢ Completely switch off the system. See Section 3.4.4 “Power Off” for more information.
- ➢ Unplug the power cord (if the system is plugged into wall outlet).
- ➢ Disconnect all cables from off-board peripheral devices (external printer, etc.) from the console.

⚠ **NOTE*****: To prevent damage to the power cord, DO NOT pull excessively on the cord or sharply bend the cord while wrapping it.***

- ➢ Disconnect all transducers from main unit. See Section 3.5 “Transducers” for more information.
- ➢ Store all transducers in their original cases or wrap them in soft cloth or foam to prevent damage.
- ➢ Replace gel and other essential accessories in the appropriate storage case.
- ➢ Ensure that no loose items are left on the main unit.

When Moving the System

- ➢ Carry the system with handle, or put the system on the cart to move it. Use extra care when crossing door or elevator thresholds.

⚠ ***NOTE:***

- ***Always use the handle to move the system. The system weighs approx. 5.5kg. In order to avoid possible injury or equipment damage.***
- ***Walk slowly and carefully when moving the system.***
- ***Do not let the system strike walls or doorframe.***

Transporting the System

Use extra care when transporting the system in a vehicle. After preparing the system as described above, take the following additional precautions:

- ➢ Before transporting, place the system in its original storage case.
- ➢ Ensure that the system is firmly secured while inside the vehicle.
- ➢ Load the unit abroad the vehicle carefully and over its center of gravity.

- Keep the storage case still and upright. Secure that the system firmly with straps or as directed within the vehicle to prevent movement during transport.
- Any movement, coupled with the weight of the system, could cause it to break loose. Drive carefully to prevent damage from vibration.
- Avoid unpaved roads, excessive speeds, and erratic stops or starts.

3.4 Powering the System

3.4.1 Acclimation Time

After being transported, the unit requires one hour for each 2.5 º increment if its temperature is below 10 ºC or above 40 ºC.

⚠ **NOTE*: Please keep at least 20 to 30 cm spare space away from the back of the system to ensure well ventilation. Otherwise, with the increasing of the temperature inside the unit, malfunction may occur.***

3.4.2 Connecting and Using the System

To connect the system to the electrical supply:

- Check the power voltage input labeling at rear panel of the system.
- Ensure that the wall outlet is the appropriate type and well grounded.
- Ensure that the system powers off.
- Unwrap the power cord, and allow sufficient slack in the cable so that the plug will not be pulled out of the wall outlet if the system is moved slightly.
- Attach the power plug to the system and secure it in place by using the retaining clamp.
- Push the power plug securely into the wall outlet.

⚠ ***NOTE:***

- ***Only use the power cord provided by Manufacturer.***
- ***Use caution to ensure that the power cord does not disconnect during system use.***
- ***If the system is accidentally unplugged, data may be lost.***

⚠ ***WARNING***:

- ***To avoid risk of fire, the system power must be supplied from a separate, properly rated outlet.***
- ***Under no circumstances should the AC power plug be altered, changed, or adapted to a configuration rated less than specified. Never use an extension cord or adapter plug.***
- ***To help assure grounding reliability, connect to a "hospital grade" or "hospital only" grounded power outlet.***

3.4.3 Power On

NOTE: ***Press the Power button on the left of control panel to turn on the system.***

Power up Sequence:

The system is initialized and start-up status is reflected on the monitor:

- control panel flashing and then getting dark
- system checking BIOS data
- booting the operation system
- loading software
- entering examination status

HINTS

The power up procedure takes about approx. 90 seconds. If a problem occurs, take a picture and record the error information for service reference.

NOTE:

1. ***While the system is on, DO NOT fold the keyboard.***
2. ***While unfolding the keyboard, please hold and place the keyboard slowly and lightly on the desk.***
3. ***After power off the system, please wait for more than 5 seconds to power on again.***
4. ***When the system is powered on, for safety reason, please avoid the following***
   - ***close the keyboard***
   - ***move the system***

3.4.4 Power Off

To power off the system:

- Press the Power button on the left of control panel.
- When the screen shows “Turn Off”, “Restart”, and “Cancel”, press “Turn off” to shut down the system.

NOTE:

1. ***If the system is down or has not fully shut down, press and hold the Power button located on the left of control panelfor more than 4 seconds and release it, this will force the system to shut down completely.***
2. ***Disconnect the transducers. Clean or disinfect all transducers as necessary. Store them in their original cases to avoid any damage.***
3. ***To ensure the system is disconnected from the power source,***

disconnect power plug from the wall outlet.

3.4.5 Standby

To enter standby: Press the power button and select the "Standby".When the system enters the standby status, the Stand by Indicator turns orange.

To exit standby: Press the power button.

NOTE:

1. ***Power off the system if you will not use the system for a long period of time (including storage/transportation condition), and you should not allow the system in standby status, otherwise the batteries will be out of power and permanently damaged.***
2. ***If you will not use the system for a long period of time, DO NOT leave the system in the standby status, you should shut down the system, disconnect power adapter, mains power, and turn off powers of all connected peripherals.***

3.5 Transducers

NOTE: ***Only use the transducers approved by Manufacturer.***

Selecting transducers

- Choose the transducer according to the different examination.
- Begin the scanning session by choosing the correct application and preset for the examination.

Connecting the Transducer

When you connect the transducers, please ensure that the transducer ports are not active. Place the system in "Transducer Selection" interface by pressing TRANSDUCER-key to deactivate the transducer ports.

To connect a transducer:

- Place the transducer's carrying case on a stable surface and open the case.
- Carefully remove the transducer and unwrap the transducer cord.
- DO NOT allow head of the transducer hang freely. Impact to head of the transducer could result in irreparable damage.

NOTE:

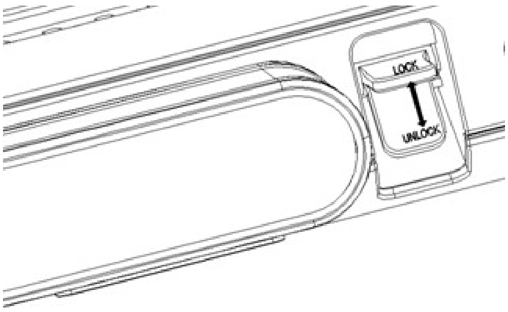
Inspect the transducer before and after each use for damage or degradation to the housing, strain relief, lens, seal and connector. DO NOT use a transducer that

appears damaged until its functional and safe performance is verified. A thorough inspection should be performed during the cleaning process.

- Align the connector with the transducer port and carefully push into place with the cable facing the back of the system.
- Turn the transducer connector locking lever to “lock” status.
- Carefully position the transducer cord so it is free to move and is not resting on the floor.
- When the transducer is connected, the system will be automatically recognized.

CAUTION:

- ***Fault conditions can result in electric shock hazard. DO NOT touch the surface of transducer connector that is exposed when the transducer is removed. DO NOT touch the patient when connecting or disconnecting a transducer.***
- ***Take precautions with transducer cables. DO NOT bend the cable acutely.***



Deactivating the Transducer

When deactivating the transducer, the transducer is automatically placed in a standby mode.

To deactivate a transducer:

- Ensure the system is in “Transducer Selection” interface. If necessary, press the TRANSDUCER-key to return. .
- Gently wipe off the excess gel from the transducer surface.
- Carefully slide the transducer toward the transducer holder, and place the transducer gently in the transducer holder.

Disconnecting the Transducer

Transducers can be disconnected when the system is “Transducer Selection” interface.

To disconnect a transducer:

- Turn the connector locking lever to an “Unlock” position.

- Pull the transducer and connector straight out of the transducer port.
- Carefully slide the transducer and connector away from the transducer port.
- Ensure that the head of the transducer is clean before placing the transducer in its storage box.

Transporting the Transducer

When transporting a transducer a long distance, store it in its original carrying case.

Storing the Transducer

It is recommended that all transducers should be stored in the original carrying case.

- Place the transducer connector into the carrying case.
- Carefully wind the cable into the carrying case.
- Carefully place the transducer head into the carrying case. DO NOT use excessive force or impact on the transducer head.

3.6 Optional installation

3.6.1 Connect the printer

1) It needs three cables: Remote cable, Video signal cable, Power cord. See picture in Fig.3-3.

2) Connect the remote cable and video signal cable to the port on the Dock .

⚠ ***Note:*** ***If you don't connect remote cable, you still can do the printing by pressing the key on printer.***

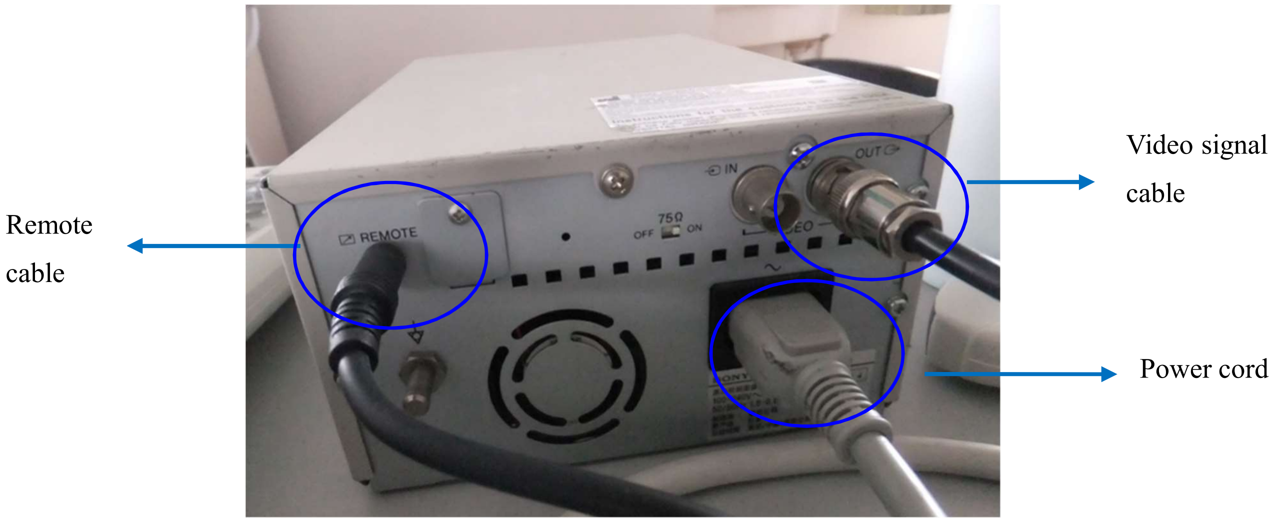


Fig.3-3

3.6.2 Set the system for Video Printer.

CAUTION:

Please confirm the video printer is turned on and connected well with the main unit, and then you can do below setting.

1) Press the  key to enter "System Settings" interface, select "General"，click“Keyboard”.
2) Choose “Video Print” under Print key menu or Foot SW menu, and set the “Video Print Option”.
   “Only Picture” means only print the ultrasound image.
   “Picture and Info” means print the ultrasound image with patient information.
   “Full Screen” means print the full screen image.
3) Press the print key on keyboard or use foot switch for printing.

Note:

- ***You need to restart the system after connect the cables between Video printer and the System.***
- ***You can't print the system information.***

3.6.3 Connect the PC printer

1. Place the printer smoothly.
2. Connect the printer to the system.
3. Set the print manager. Please see more information in 7.6.
4. Choose “PC print selection” in system setting, chooses“Picture and Info”, or “Only Picture”.
5. Choose “PC Print” under Print key menu or Foot SW menu
6. Press the print key on keyboard or use foot switch for printing.

3.6.4 Connect the Footswitch

1. Connect the footswitch to the main unit via a docking.
2. Enter into the system settings, set the function for the foot switch.

3.7 User Interface Control

- B gain, Color gain,Doppler gain and M gain
- STC
- Acoustic power
- Gamma
- Smooth

- Edge enhance
- Persistence
- Depth control
- Focal position/number
- Dynamic range
- Audio volume control
- Q-Image
- Compound
- Freeze/Unfreeze
- Image storage
- Scanning width
- Zoom
- Dual display: Dual B or color
- Quad display
- L/R inversion
- U/D inversion
- Biopsy guide line
- PRF
- Wall filter
- Blood Effection
- Steering
- Color ROI panning
- Doppler sample volume adjustment
- Doppler angle correction
- Baseline movement
- Time base scrolling speed
- Annotation
- Patient data entry
- Measurement and calculation package
- File management and image archiving
- Clip image saving
- User defined preset

3.7.1 Control Panel and Alphanumeric Keyboard

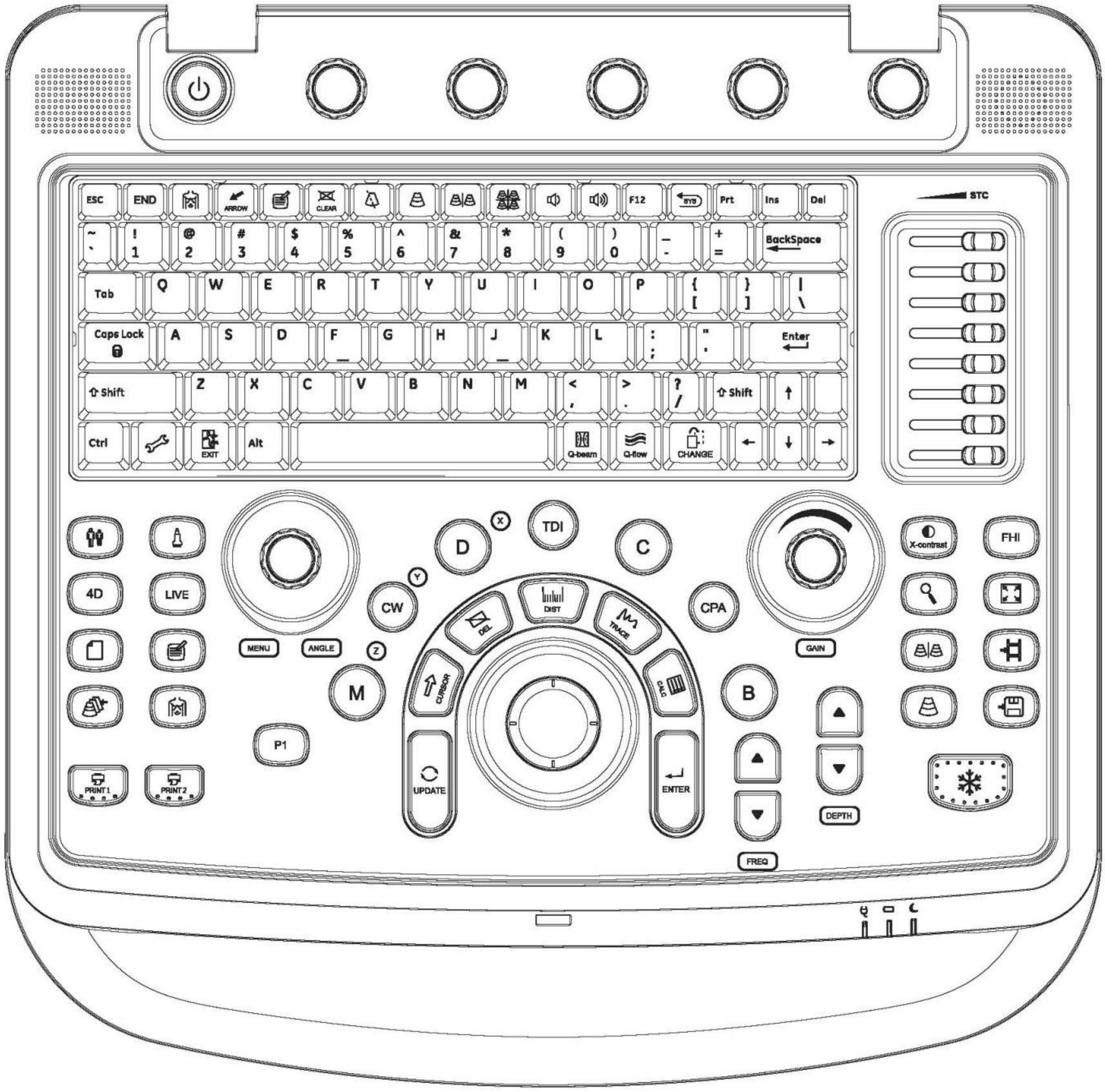
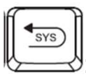
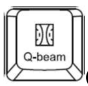


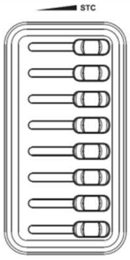
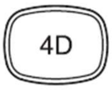
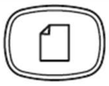
Fig. 3-5: Overview of Control Panel and Alphanumeric Keyboard

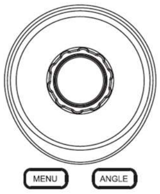
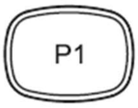
See layout of the Control Panel and Alphanumeric Keyboard in the above figure.

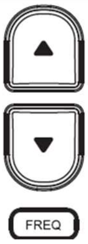
The main function of each key is introduced as below.

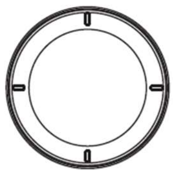
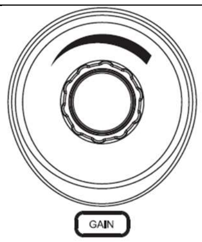
No.	Key Name	Function
<1>	 POWER	Press power-key momentary on the left of Alphanumeric Keyboard to turn on the system.

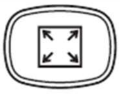
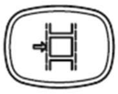
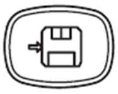
<2>	 SK1-SK5	Press the key to change the parameter on upper line while rotate the key to change the parameter on below line of the corresponding menu at the bottom of the screen.
<3>	Alphanumeric keyboard	Input the characters by alphanumeric keyboard. : Finish the exam of current patient; delete the information of current patient. (BodyMark): Enter to the BodyMark function. : Enter into the ARROW function. (Comment): Enter into the Comment function. : Delete all comments, arrows, bodymarks and measure tracks on the screen. (Biopsy): Enter to the biopsy function. (Single): Enter to the Single B display. (Dual): Enter to the Dual B display. (Quad): Enter to the Quad B display. : Turn down the volume. : Turn up the volume. :Enter to the system recovery mode. (Setup):Enter to the system setting. Q-beam: Turn on/off Q-beam.  Q-flow: Turn on/off Q-flow. CHANGE:change the menu or Calc package.

		 Exit :Exit from current operation status.
<4>	 STC	Manipulate the STC with 8 pairs of sliders.
<5>	 PATIENT	Use the key to start a new patient record, edit the current patient's data.
<6>	 4D	Press the key to display the 4D ROI box. This function is not available for this SonoBook Vet series.
<7>	 REPORT	Press the key to generate a report.
<8>	 ARCHIVE	Press the key to enter into the EasyView interface.
<9>	 TRANSDUCER	Press the key to enter the "Transducer Selection" interface showing all available applications supported for the transducers connected to the system.
<10>	 LIVE	Press the key to enter into 4D mode. This function is not available for this SonoBook Vet series.
<11>	 COMMENT	Comments can be added in the image area in real time or cine mode. Manual entry or recalling the phrases from annotation library is allowed. Press COMMENT-key to enter Comment mode. Press this key during annotation entry to confirm the annotation and quit from Comment mode.
<12>	 BODYMARK	Press the BODYMARK-key in real time or cine mode to bring up the entire sets of available Body Mark icons associated with the current application.

<13>	 PRINT	Print the images when the printer is working.
<14>	 MENU/ANGLE	For MENU: This key provides multiple functions according to the active mode on the screen. In real-time mode, it accesses the Soft-Menu that corresponds to each mode. Rotate the MENU- knob to select the item, press MENU-knob second time to select the item and rotate the knob to adjust the parameters. Press MENU-knob for third time to exit from current item. For ANGLE: In the PW mode, the default angle correction feature remains active. In the real time, rotate this knob to adjust the Doppler Angle Correction by lining up the cursor with the vessel wall for an accurate reading. The Doppler Angle Correction setting can be adjusted 5 degrees at a time. Rotate it to adjust the transducer direction on the body mark status.
<15>	 P1	Set this key's function in the system setting, Three functions can be chose: Arrow Mark, Exit, None.
<16>	 M	Press the M-key to enter B mode with M line Press the M-key for second time to active the B/M mode. Press the M-key for third time to enter M mode. Press the M-key one more time to go back to B mode.
<17>	 CW	Press the CW-key to call the CW Doppler line. Press the CW-key for second time to active CW mode. Press the CW-key for third time to go back to previous mode.
<18>	 D	Press the D-key to call the Doppler line. Press the D-key for second time to active PW mode. Press the D-key for third time to go back to previous mode.
<19>	 TDI	Press the TDI-key to enter TDI mode. Press the TDI-key for second time to go back to former mode.
<20>	 C	Activate/turn off CFM Mode Press the CFM-key to turn on the CFM mode Press the CFM-key for second time to turn off color and return to the previous mode (either B or PW mode).

<21>	 CPA	Activate/turn off PD Mode Press the CPA-key to turn on the PD mode Press the CPA-key for second time to turn off PD and return to the previous mode (either B-mode or PW mode)
<22>	 B	Press the B-key to enter to B mode. The system will stay in B mode if the current state is B, or return to B mode if the current state is not B (e.g. M, CFM, PW mode).
<23>	 FREQ	Press the Up/Down arrow to change the frequency.
<24>	 UPDATE	Press the UPDATE-key to activate the PW or M mode. Press the UPDATE-key for second time to toggle back to B or CFM mode. In Measurement mode, it can be used to switch between start point and end point (distance), long-axis and short-axis (ellipse), and return back to last position in trace measurement before the measurement is finished.
<25>	 CURSOR	Press the CURSOR-key and the mouse cursor will display on the screen.
<26>	 DEL	Press DEL-key to clear all measurement result, comments, body marks from the imaging screen.
<27>	 DIST	In B (either B or Color) mode, DIST-key is used for Distance measurement. In Doppler cine mode, press DIST-key to measure Flow Velocity. In M cine mode, press DIST-key for Distance measurement.
<28>	 TRACE	In B mode, TRACE-key is for measurement of Area/Circumference with tracing method. In Doppler cine mode, this key can be used to calculate PI and RI ,and can envelope automatically
<29>		Use this key to activate calculation packages under different applications. This feature supports the optional OB, GYN, Vessel, Urology, Cardiac, Small parts, Pediatrics, Carotid Abdomen and

	CALC	General calculation packages. Refer to Measurement & Calculation section for details.
<30>	 ENTER	Confirm the command entry. Confirm EXAM mode and menu setting. Confirm caliper and measurement setting. Toggle Trackball function between Re-sizing and Re-positioning for the CROI, and Doppler Sample Volume Gate.
<31>	 TRACKBALL	Position calipers in measurement. Position 'mouse' cursor for exam mode selection. Position the M-mode, PW cursor. Select EXAM mode. Position and re-size the Color Region of Interest (CROI). Position and re-size the Doppler Sample Volume Gate. Control digital cine review frames.
<32>	 GAIN/AIO	Rotate this knob to change the gain throughout the image. Press to use the auto image optimization function.
<33>	 DEPTH	Press the Up/Down arrow to change the depth.
<34>	 X-contrast	Press the key to adjust X-contrast.
<35>	 ZOOM	Press the ZOOM-knob to turn on the zoom function.
<36>	 DUAL	This key splits the imaging screen for a side-by-side image comparison. Press Single-mode to quit. Available for the B, CFM, PD, DPD and TDI mode.

<37>	 SINGLE	Enter into the single image display mode.
<38>	 FHI	Turn on/off FHI (Tissue Harmonic Imaging). FHI can be activated in B mode.
<39>	 One key to full screen	Press the key to enlarge the image to full screen.
<40>	 SAVE CINE	Store cines.
<41>	 SAVE STILL	Store still images.
<42>	 FREEZE	Freeze/Un-Freeze the ultrasound image and enter/quit the Cine mode automatically.
<43>		: Adapter Indicator, when the main unit connects to the adapter with power supply, the indicator lights, otherwise it is off. : Charge Indicator, when the battery is charging, the indicator flashes green once every three seconds, when the battery is lower capacity，the indicator lights orange. : Stand by Indicator, when the system is standing by, the indicator lights, otherwise it is off.

3.7.2 Soft-Menu Controls

The Soft-Menu is activated depending on the current active mode. The Soft-Menu will provide a second level control to set the parameters in the system. The default setting depends on different applications.

Soft-Menu provides the user with an easy and flexible approach to access additional system controls. The system will display the appropriate menus for the selected Mode and functions.

Chapter 4 Imaging

4.1 General Description

- How to begin an exam
- How to select a transducer and an application.
- How to optimize the image
- The operations after getting the image: adding annotation and body mark, storing and recalling the image

4.2 Beginning an Exam

Begin an exam by entering new animal information. You should enter as much information as possible, such as patient ID, host name, animal name.

⚠ ***CAUTION:***

To avoid patient identification errors, always verify the identification with the patient. Make sure the correct patient identification appears on all screens and hard copy prints.

4.2.1 Selecting a Transducer and an Application

Press TRANSDUCER-key to back to “Transducer Selection” interface.

1. Select the proper transducer.
2. Select the proper Application.
3. Double click the preset to enter into the default preset, or click the user defined preset at the bottom of this interface.

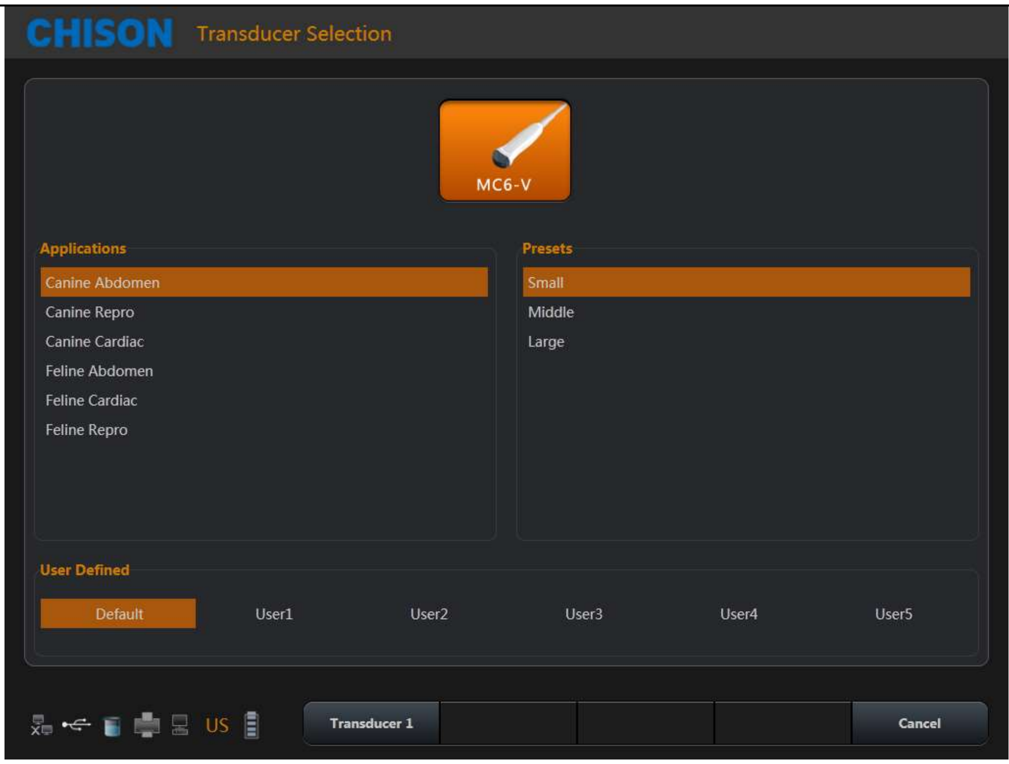


Fig.4-1

4.2.2 Patient Data Entry

Press the PATIENT-key to display the Patient interface.

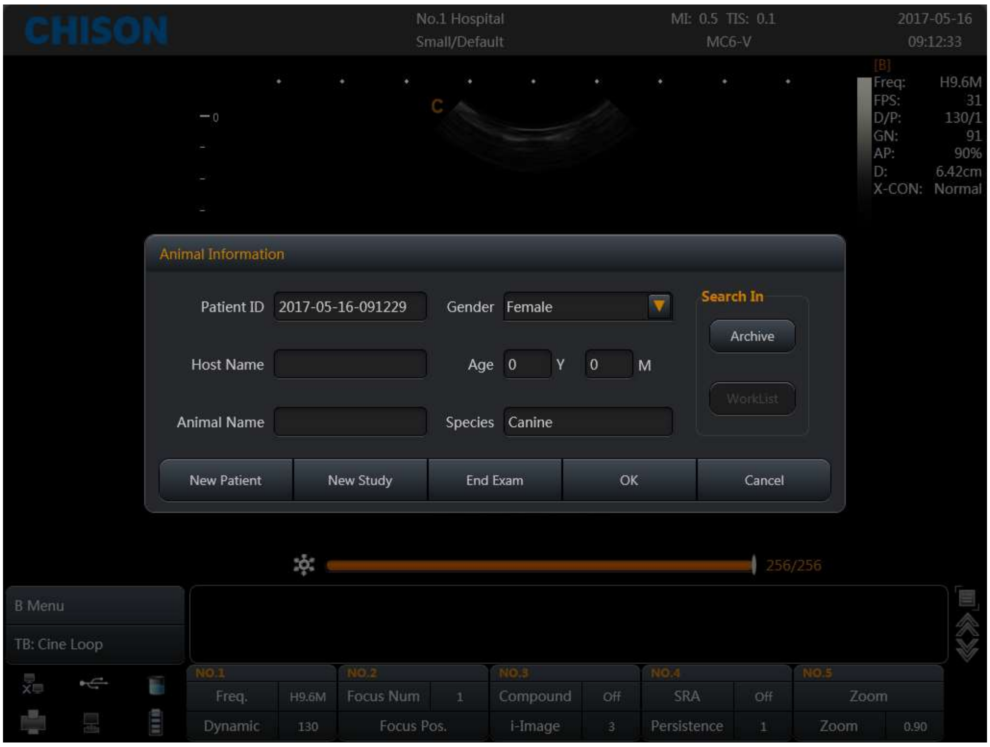


Fig.4- 2

Method of entering the patient information:

1) Move the cursor to input area and input the patient information through the keyboard. Move

trackball to exchange between each option. E.g., host name, gender, age, species.etc.

2) Click "OK" key to save the data after entering the appropriate information, then the system will go back to B mode.

4.2.3 Display Interface

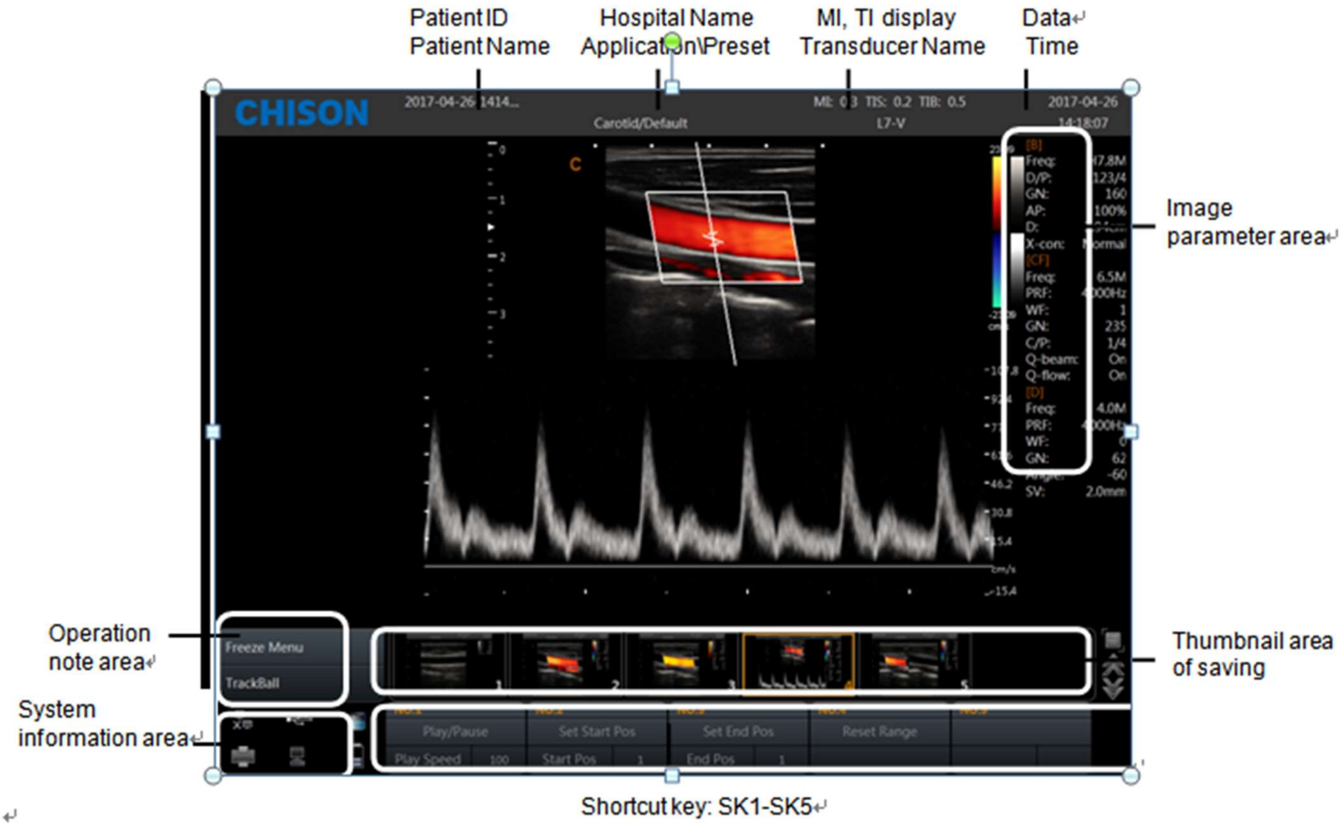


Fig.4- 3

- image parameter area: Display the parameters under current mode. The different modes have different parameters.
- thumbnail area of saving images: This area displays the thumbnail images of current patient. Selecting thumbnail images can recall this image immediately.
- shortcut key SK1—SK5: SK1—SK5 is corresponding to the menu of NO.1-NO5. Press the shortcut key to select the function in the first line. Rotate the shortcut key can adjust the parameters in the second line.
- operation note area: The first line shows the status of the current system. The second line indicates the current function of the trackball. In the picture Fig. 4-3, the first line display "freeze menu". It means the system is in frozen status. The second line display "recall image". It means moving the trackball can recall the images in current status.
- system information area: Display the current system information. Moving the mouse to different

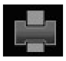
icon will display detailed information accordingly.

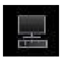
 Display current network situation. It will display the IP address after connecting to the network.

 Display the status of current removable disks. If removable disks exist, click this icon can quickly enter into the storage manager interface and do the operation for disks.

Fig.4- 4

 Display space size of all the drivers.

 Printer management, refer to section 7.8.

 Task manager: display the state of current task.

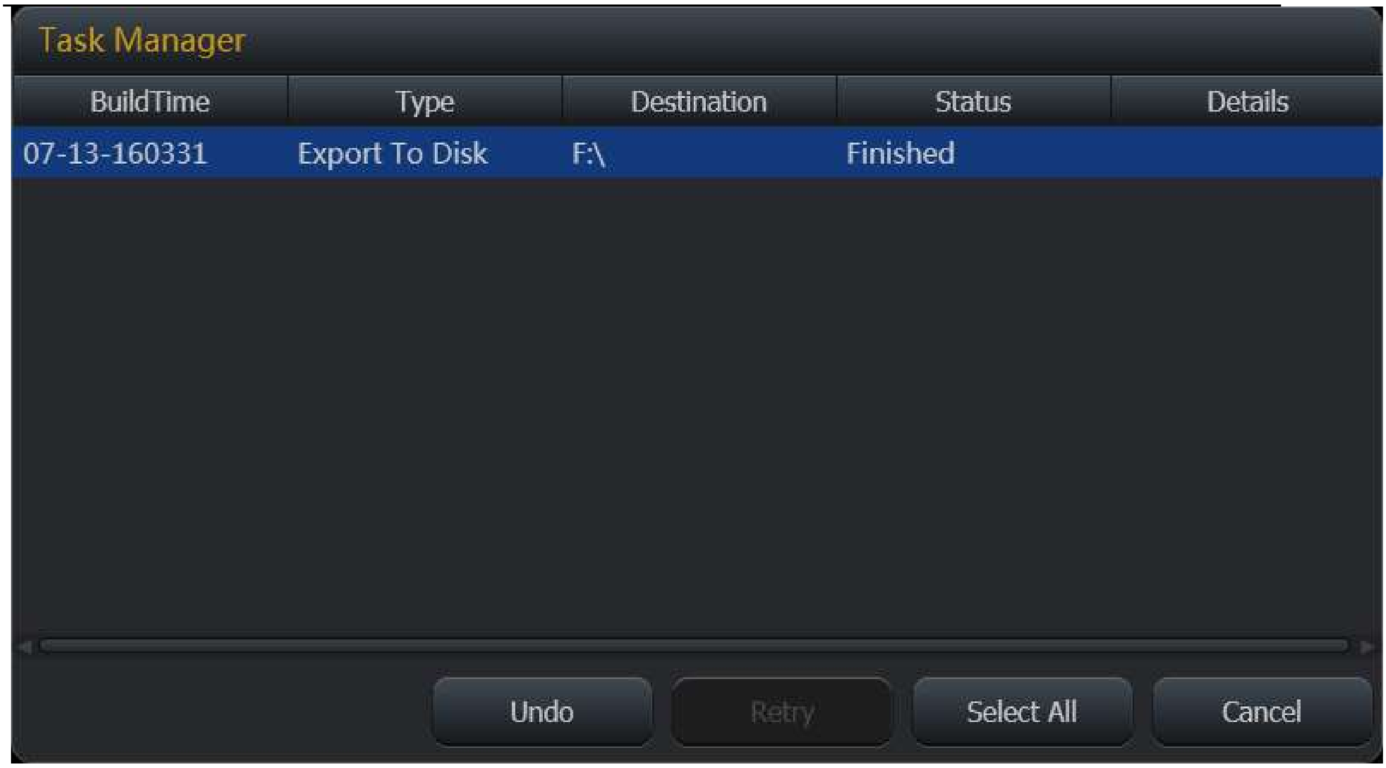


Fig.4- 5

 Show the present State of charge and discharge, remaining electricquantity and available time.

4.3 Optimizing the Image

4.3.1 Image Parameters Display

B	Meaning	CFM/PD/DPD	Meaning	PW	Meaning	M	Meaning
Freq	Frequency	Freq	Frequency	Freq	Frequency	SR	Sweep Speed
FPS	Frame rate	PRF	PRF	PRF	PRF	D/G	D: Dynamic G: M Gain
D/P	D: Dynamic P: Persistence	WF	Wall Filter	WF	Wall Filter		
GN	B Gain	GN	Color Gain	GN	Doppler Gain		
AP	Acoustic power	C/P	C: Color map P:Persistence	Angle	Doppler angle		
D	Display depth	Q-BEAM	Q-BEAM	SV	Sample volume gate		
X-CON	X-contrast	Q-FLOW	Q-FLOW				

4.3.2 Scanning Modes

<u>The system can support the following modes:</u>

- B Mode
- Dual Mode
- Quad Mode
- B/M Mode
- M Mode
- CFM Mode
- PD Mode
- DPD Mode
- PW Mode
- TDI Mode
- CW Mode
- Color M Mode

4.3.3 B Mode

<u>Intended Use:</u>

B mode is intended to provide two-dimensional images and measurement capabilities concerning the anatomical structure of soft tissue. Press B-key to enter into B mode. Rotate Gain-knob to adjust B gain.

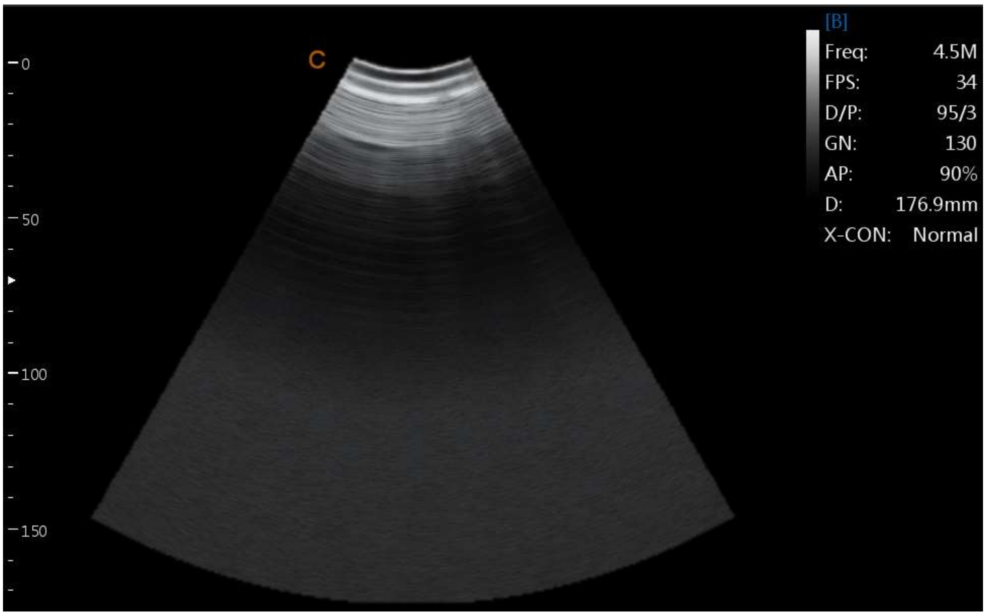


Fig.4- 6B Mode

4.3.4 Dual Mode

In B mode, press DUAL-key ,System will display the current image at the left side of the screen. Press DUAL-key second time, system will freeze the image displayed at the left side and activate the image displayed at the right side at the same time. Press DUAL-key continuously to achieve exchange of the freeze/real status between left side image and right side image. Press SINGLE-key to go back to B mode.

NOTE: ***There is only one image could be activated.Dual display is also available for the Color Mode.***

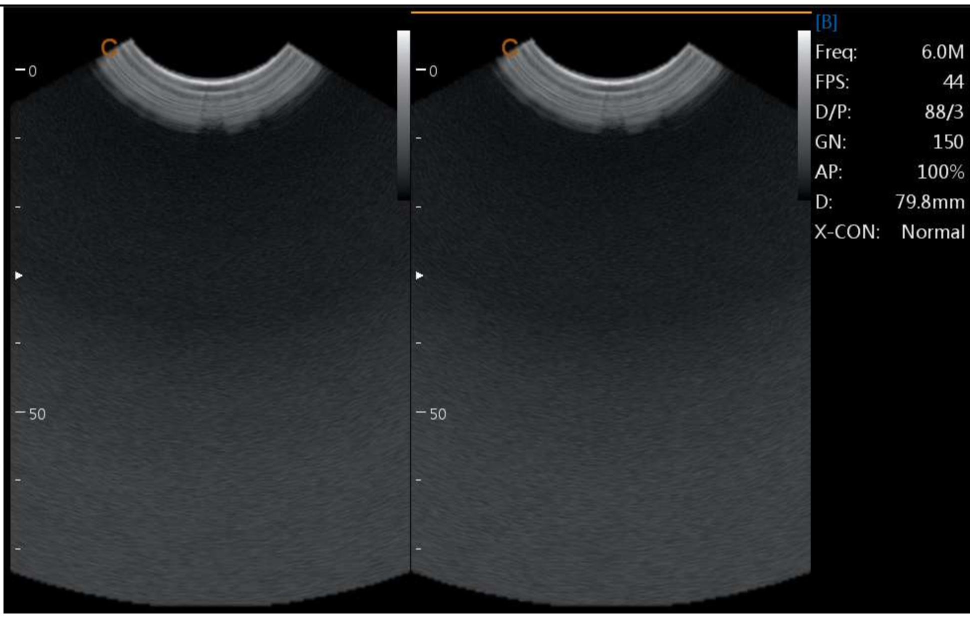


Fig.4- 7B/B Mode

4.3.5 Quad Mode

In B Mode, press  key, the image which is activated will be displayed at the upper left side of the screen, press  key continuously will freeze and activate the upper right image, lower left image, and lower right image in order. It will go back to B Mode if press SINGLE-key again.

⚠ ***NOTE**: There is only one image could be activated at one time.Quad display is also available for the Color Mode.*

4.3.6 B/M and M Mode

Intended Use:

M-mode is used to determine patterns of motion for objects within the ultrasound beam. The most common use is for viewing motion patterns of the heart.

B/M mode provides B mode image and M mode image at the same time. Press M-key to display the M line. Press M-key again to enter into B/M mode. Press M-key once more to enter into M mode.M mode is fit for heart scanning and measurement.

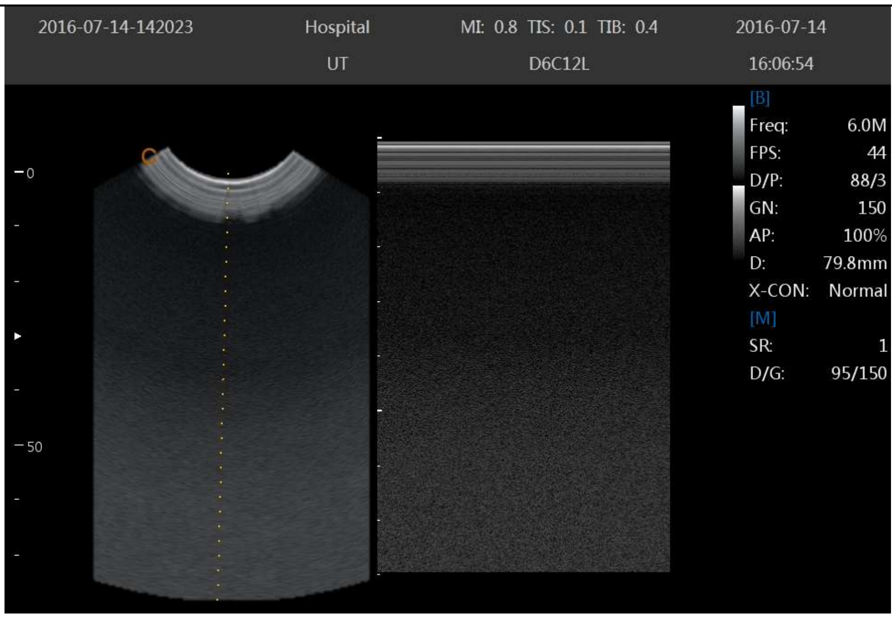


Fig.4- 8B/M Mode

M-mode Exam Procedure:

- Get a good B-mode image. Survey the anatomy and place the area of interest near the center of the B-mode image.
- Press the M-key, move the Trackball to position the M cursor over the area that you want to display in M-mode.
- Adjust the Sweep Speed, TGC, Gain etc, as needed.
- Press the FREEZE-key to stop the M scanning.
- Record the image to hard disk or to the printer.
- Press FREEZE-key to continue imaging.
- Press M-key to enter into M-mode.
- Press M –key again to exit M-mode.

M-mode Scanning Hints:

Color Map: adjust the color map of M mode.

Speed: adjust the fresh speed of M mode.

Dynamic: adjust the dynamic of M mode.

Layout: adjust the layout of B/M mode.

4.3.7 CFM mode

Intended Use:

CFM is a Doppler mode intended to add color-coded qualitative information concerning the relative velocity and direction of fluid motion within the B-mode image.

CFM is useful to see flow in a broad area. It allows visualization of flow in the CROI, whereas Doppler mode provides spectral information in a smaller area. CFM is also used a stepping stone to Doppler mode. You can use CFM to locate flow and vessels prior to activating Doppler.

In CFM mode, move the trackball to change the position of sampling box. [STEER] menu is used to adjust the angle of color sampling box (if current transducer is linear transducer). Press ENTER-key to fix the position of color sampling box.At this time adjusts the size of color sampling box through moving trackball. Press ENTER- key again and move trackball to change thecolor sampling position again.

Press C key to enter into CFM mode, after C key light is on, rotate the Gain-knob for adjusting the gain of CFM.

CFM mode Exam Procedure:

- Follow the same procedure as described under B-mode to locate the anatomical area of interest.
- After optimizing the B-mode image, add Color Flow.
- Move the color region of interest CROI as close to the center of the image as possible.
- Optimize the color flow parameters so that a high frame rate can be achieved and appropriate flow velocity can be visualized.
- Press FREEZE-key to hold the image in cine memory.
- Record color flow image as necessary.

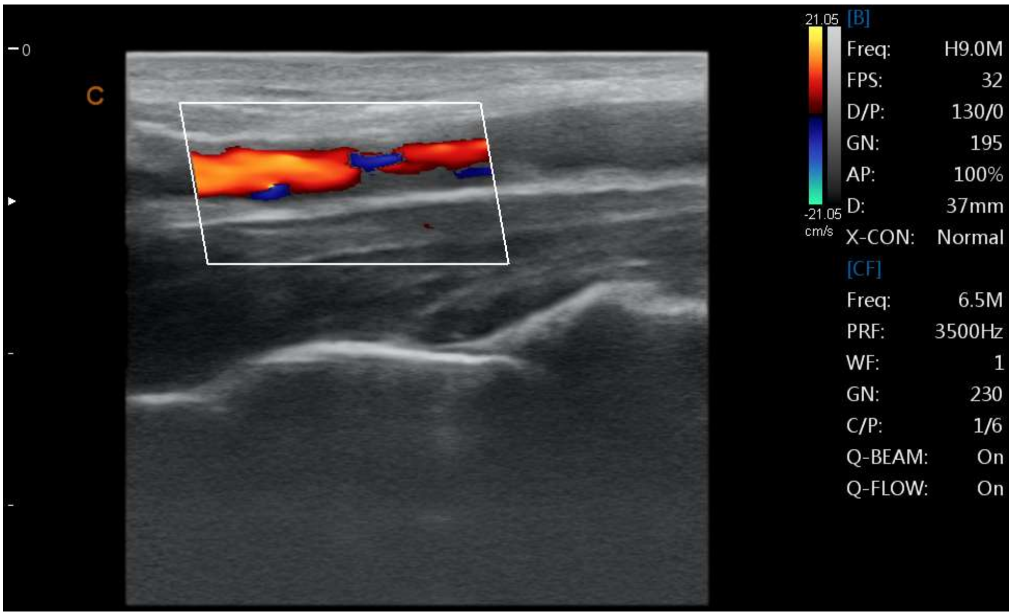


Fig.4- 9CFM Mode

CFM Scanning Hints:

PRF: increase/decrease the PRF on the color bar. Imaging of higher velocity flow requires increased velocity scale values to avoid aliasing

Wall Filter: affect low flow sensitivity versus motion artifact

Color Map: allow you to select a specific color map. It shows the direction of the flow and highlights the higher velocity flows.

Color Gain: amplify the overall strength of echoes processed in the CROI

Persistence: affect temporal smoothing and color Doppler 'robustness'.

Line Density: trade frame rate for sensitivity and spatial resolution. If the frame rate is too slow, decrease the CROI size and the line density.

B/BC: This function is used to display B image and Color image synchronously.

In real-time CFM mode, press MENU -knob and rotate MENU- knob to select the [B/BC],then press MENU-knob to turn on or off the function.When the function is turned on; the window will be automatically switched to the dual windows (One for B image, and the other for Color image).

4.3.8 PD (CPA) Mode

Power Doppler Imaging (PD) is a color flow mapping technique used to map the strength of the Doppler signal coming from the flow rather than the frequency shift of the signal. Using this technique, the ultrasound system plots color flow based on the number of reflectors that are moving, regardless of their velocity. PD does not map velocity, therefore it is not subject to aliasing.

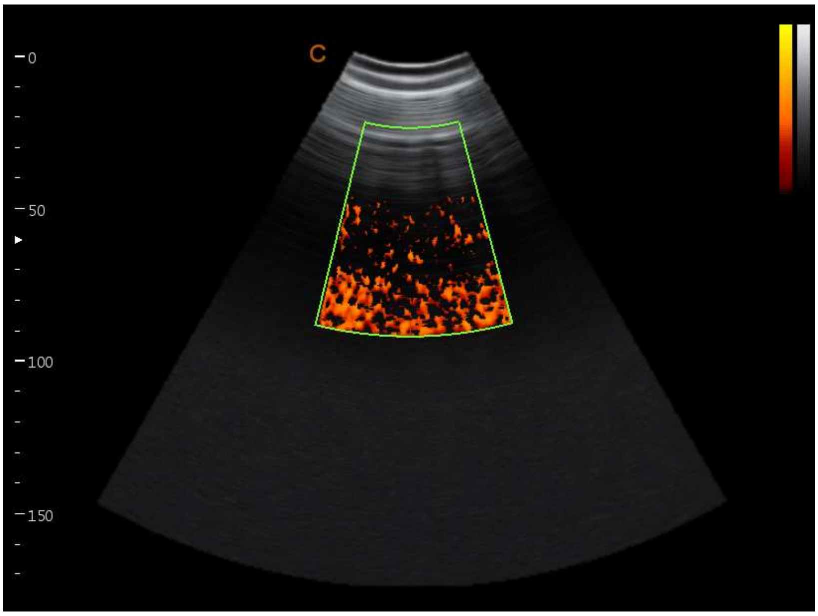


Fig.4- 10PD Mode

Press CPA -key to enter into the CPA mode and then CPA lights is on

Direction PD mode

In Power Doppler（CPA) mode, press MENU -knob to pop up the PD Menu . Rotate MENU- knob to select the PD (CPA) Mode and press MENU-knob to enter into DPD mode.

If you need go back to PD mode from DPD mode, you could press CPA key or select the PD mode item in the DPD mode.

4.3.9 PW mode

Intended Use:

Doppler is intended to provide measurement data concerning the velocity of moving tissues and fluids. PW Doppler lets you examine blood flow data selectively from a small region called the Sample Volume.

The X axis represents time while the Y axis represents velocity in either a forward or reverse direction.

PW Doppler is typically used for displaying the speed, direction, and spectral content of blood flow at selected anatomical sites.

PW Doppler can be combined with B-mode for quick selection of the anatomical site for PW Doppler examination. The site where PW Doppler data is derived appears graphically on the B-mode image (Sample Volume Gate). The Sample Volume Gate can be moved anywhere within B-mode image.

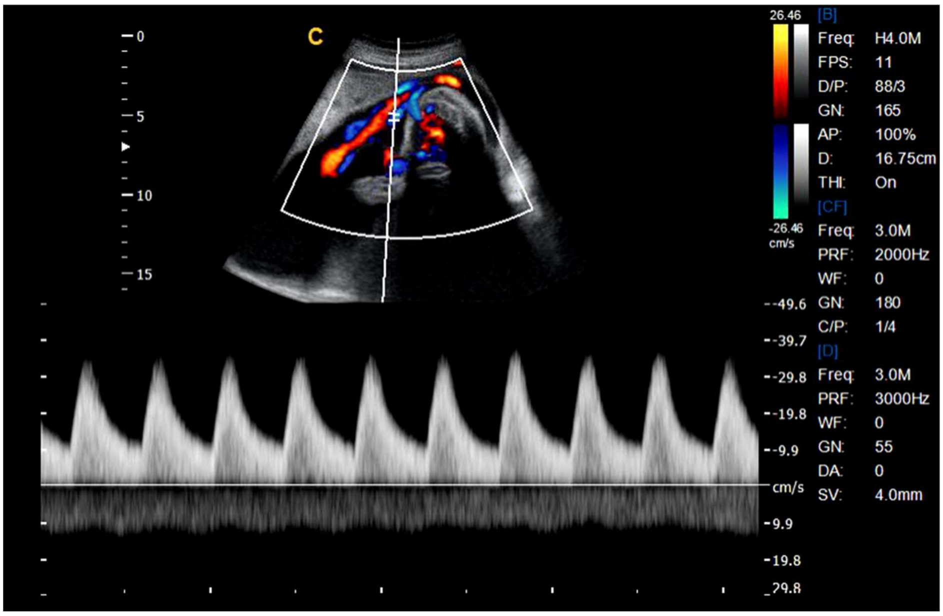


Fig.4- 11PW Mode

PW mode Exam Procedure:

- Select a high-quality image during B mode or B +Color (Power) scanning.
- Press PW-key to enter the sampling state.
- Position the sample volume cursor by moving the Trackball. Position or re-size the sample volume gate by moving the Trackball up and down, then press Enter-key.
- Press PW-key again or UPDATE-key to enter PW mode. The Doppler signal can be heard through the speakers.

- Optimize the PW Doppler spectrum, as necessary.
- Ensure that the sample line is parallel to the blood flow.
- Press FREEZE-key to hold the trace in cine memory and stop imaging.
- Perform measurements and calculations, as necessary.
- Record results with your recording devices.
- Press FREEZE-key to resume imaging.

⚠**CAUTION*****: When unfreeze in the PW mode; color image in the ROI was deleted.***

- Repeat the above procedure until all relevant flow sites have been examined.
- Replace the transducer in its respective holder.

When entering PW mode for the first time, the Doppler spectrum is not activated. The Doppler Sample Volume appears in the default position, and the B mode image or B (either B or Color) mode are active. Moving the Trackball will change the Sample Volume position. Press the Enter-key to toggle the Trackball function between Sample Volume Gate position and size. Press the UPDATE-key after the Sample Volume Gate is defined to activate the PW mode. Press the UPDATE-key for second time to toggle back to B (either B or Color) update and deactivate the PW.

Doppler mode Scanning Hints:

The best Doppler data will be got when the scanning direction is parallel to the direction of the blood flow; when the scanning direction is perpendicular to the anatomic target, you can get the best B mode image, so you should keep the balance as you don’t usually get both an ideal B-mode image and ideal Doppler data simultaneously.

PRF: adjust the velocity scale to accommodate faster/slower blood flow velocity. Velocity scale determines pulse repetition frequency.

Wall Filter: remove the noise caused by vessel or heart wall motion at the expense of low flow sensitivity.

Baseline: adjust the baseline to accommodate faster or slower blood flows to eliminate aliasing.

Angle Correct: optimize the accuracy of the flow velocity. It estimates the flow velocity in a direction at an angle to the Doppler vector by computing the angle between the Doppler vector and the flow to be measured. This is special useful in vascular applications where you need to measure velocity.

Doppler Gain: allow you to control the background information of spectral.

Sweep Speed: control speed of spectral update.

Doppler Sample Volume Gate Position and Size (Trackball and SET)

Move the sample volume on the B-mode’s Doppler cursor. The gate is positioned over a specific position within the vessel.

- To move Doppler cursor position, turn the trackball left or right until positioned over the vessel.
- To move sample volume gate position, move the trackball up or down until positioned inside the vessel.

- To size sample volume gate, press Enter-key to toggle trackball function from sample volume gate positioning to sizing, then move the trackball to change sample volume gate size.

4.3.10 CW Mode

Continuous Wave Doppler allows examination of blood flow data all along the Doppler cursor rather than from any specific depth. Gather samples along the entire Doppler beam for rapid scanning of the heart. Range gated CW allows information to be gathered at higher velocities.

It works with a phased array or pediatric transducer.

If the velocity of the blood flow is even too high for the HPRF mode to detect, you have to try CW mode. Press CW-key to enter CW mode when the transducer supports CW mode.

4.3.11 TDI Mode (option)

TDI mode is intended to provide information of low-velocity tissue motion, specifically for cardiac movement. Only phased array transducer is available for TDI function.
There are 2 types of TDI mode:
Tissue Velocity Imaging (TVI): This imaging mode is used to detect tissue movement with direction and speed information.
Tissue Velocity Doppler Imaging (TVD): This imaging mode provides direction and speed information of the tissue quantificationally with Doppler spectrum.
Enter TDI: In real-time mode, click <TDI> key to enter the corresponding TDI mode as follows:
In Color mode, press <TDI> key to enter TVI mode
In PW mode, press <TDI> key to enter TVD mode
Exit TDI: press <TDI> key to exit TDI mode or press <B> key to return to B mode.

4.3.12 Color M Mode

Color M mode provides information of color flow or tissue movement on the M mode images to indicate cardiac motion state.It is highly sensitive to the flow or tissue movement.
The Color M mode includes Color Flow M mode and Color Tissue M mode.
Enter Color M Mode
In B+M Mode, press<CFM> key.
In B+Color, B+Color+PW or B+Color+CW Mode, press<M> key.
Exit Color M Mode: press <CFM> or <M> key to exit Color M Mode or press <B> key to return to B mode.

4.3.13 Trapezoidal Mode

Trapezoidal image is available for linear transducers. In B mode, press menu knob to pop up B Menu, turn Trapezoidal Mode menu on to enter to Trapezoidal Mode.

4.3.14 Curved Panoramic imaging

The curved panoramic imaging function extends your field of view by piecing together multiple B images into a single, extended B image.

There are two types of Curved Panoramic imaging: Realtime Panoramic and Curved Panoramic.

Realtime Panoramic: In realtime, click [Realtime Panoramic] in the softmenu to turn on Realtime Panoramic imaging. Moving the transducer linearly and acquire a series of B images,the system piecing together multiple B images into a single, extended B image in real time.Click [Exit] to exit Realtime Panoramic imaging.

Curved Panoramic: freeze a series of B images, click [Curved Panoramic] in softmenu to turn on Curved Panoramic imaging.Press <Freeze> key to Exit Curved Panoramic imaging.

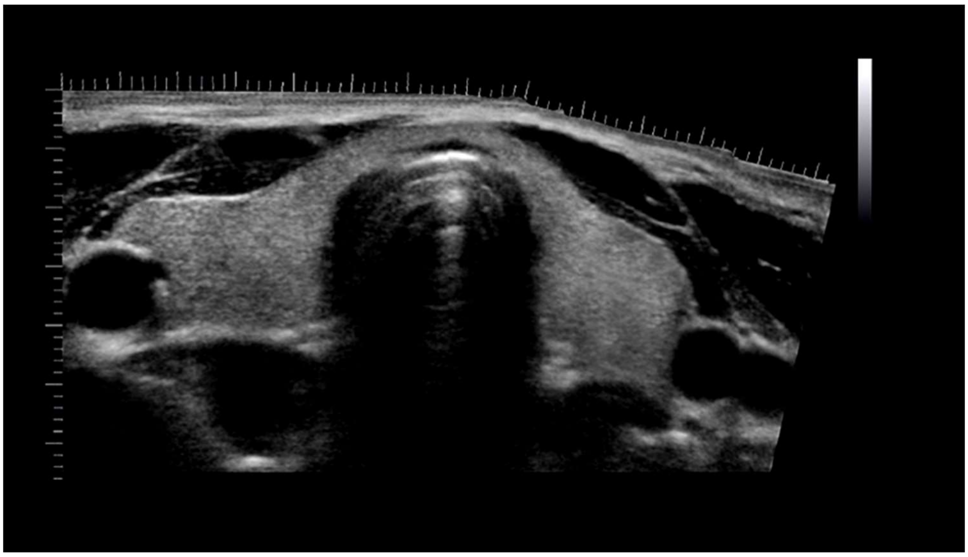


Fig.4-12 Curved Panoramic Mode

4.3.15 ECG (option)

The ECG module is a device that provides the 3 lead ECG signal acquisition for cardiac application. It is not intent for the ECG diagnostic purpose as in the 12-lead module. In the cardiac application, the ECG trace is displayed on the bottom of the screen. For echo-stress, the R-wave triggering is used to gate or synchronize the image acquisition. The ECG has 3 leads: LL (left leg, RED), LA (left arm, BLACK), RA (right arm, WHITE). LA is for reference, which usually provides a bias voltage from the ECG module, and the LL, LA are the two signals from the body and going to the differential input of the ECG isolation amplifier.

⚠ ***WARNING:***

1. ***DO NOT use the physiological trace for diagnosis and monitoring.***
2. ***To avoid electric shcok, the following checks shall be performed prior to an operation:***
   - ***The ECG electrode cable shall not be cracked, frayed or show any signs of damage or strain.***
   - ***The ECG electrode cable shall be correctly connected.***
   - ***The ECG electrode cable must be connected to the system first.Only after the cable is connected to the system, can the patient be connected to the ECG electrodes.Failure to follow these instructions may subject the patient to electric shock.***
3. ***DO NOT place the ECG electrode directly in contact the patient's heart; otherwise it may lead to stop of the patient's heartbeat.***
4. ***Frequency trampling or squeezing on the cables may result in cable break-down or fracture.***

The ECG control is in the soft-menu available for the cardiac transducer, it allows the user to set up the following control:

ECG ON/OFF: turn on/off the ECG trace.

UD Invert: turn on/off the UD invert.

ECG GAIN: increase or decrease the ECG gain.

ECG POS: set the ECG trace position.

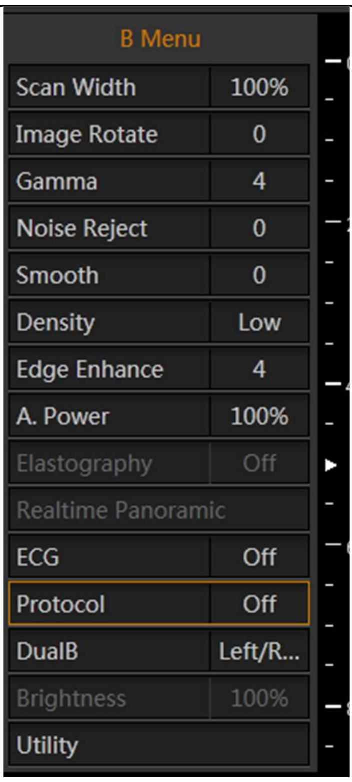
ECG Velocity: set the ECG Velocity.

Dynamic Range: adjust the Dynamic Range.

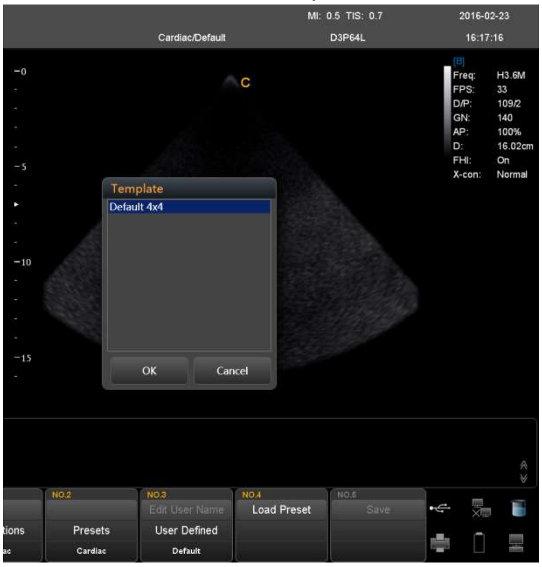
4.3.16 Stress Echo (option)

⚠ ***CAUTION**: **Stress echo data are provided for reference only, not for confirming a diagnosis.***

It works with a phased array transducer.



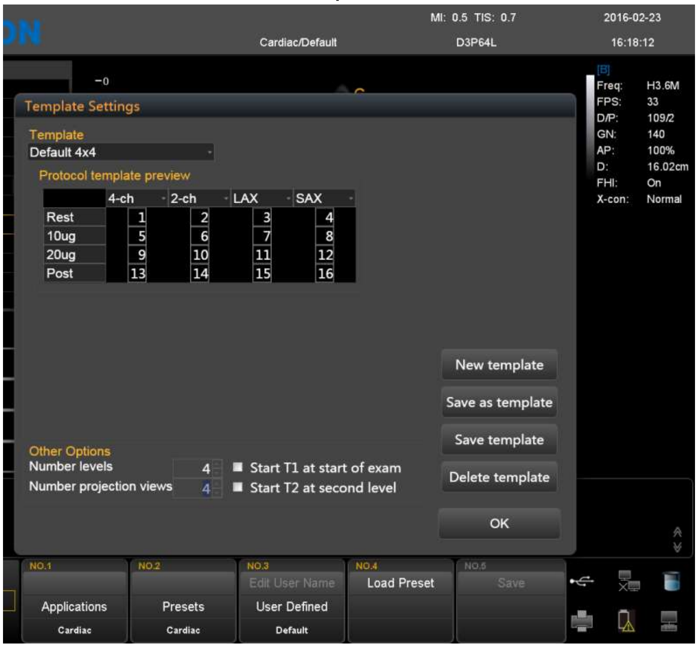
Select the Protocol item, press the menu knob to turn it on or off.



When the Protocol turns on, select the Default 4x4 template to start the study.User also can open the Timer1 for the study if needed.Save the cines for the study, after finished the study, enter into the Utility menu to select the Analyze to enter the Protocol Analyze interface.User can edit the Protocol Score for the study.

Press OK to exit the ProtocolAnalyze.

User also can edit the Template,defined the Number levels and Number projection views.



4.3.17 Biopsy and Super needle (option)

1. How to enter into Biopsy

Press the MENU in B mode and choose biopsy to turn on to display biopsy line and verify the biopsy line before biopsy. Press the Biopsy again to turn off the biopsy.

2. How to adjust the biopsy

Press Enter to edit the biopsy line and move the trackball to change the biopsy line position. Press Enter again to fix the biopsy line.

3. Super needle

Super needle is used for enhance the needle image in the B mode image. After turn on the super needle, super needle and needle angle function will be active and user can adjust the needle angle to optimize the image for needle only (The angle is 5 degree per step.).

4.3.18 Optimize Image

Methods for optimizing:

1. Use soft menu

Press MENU- knob under the display mode and tune out the soft menu. Press Change –key now can do the exchange of the menu to different exam mode. Rotate MENU- knob to select the menu items. Press MENU- knob to enter. Now rotate MENU -knob can change the parameter of selected item. After adjustment, press Menu-knob to exit from selected item, at this time rotate the Menu-knob can select the item again. Select the “EXIT” icon or press Menu-knob to exit from the menu.

2. Use shortcut menu

SK1—SK5 shortcut key respectively corresponding NO.1—NO5 menu. Press shortcut key will choose the menu function for the first line; rotate shortcut can adjust parameters for next line.

3. Use other keys

4.3.19 Image Optimization of B Mode

Soft menu adjustment:

Menu	Function	Menu Adjustable Range
Scan width	Adjust scan width of B image; frame rate will be fast if scan width is small.	6% to 100%
Image Rotate	Change the direction of B image. The angle will be increased at 90° interval in clockwise direction	Invert angle: 0°、90°、180°、270°.
Gamma	Adjust gamma value.	0~8 rank adjustable.
Noise Reject	Adjust the image noise suppression	Adjust range: 0-255，clockwise for increasing, anticlockwise for decreasing. Adjust range: 1.
Smooth	Adjust the image smooth.	0~7 rank adjustable.
Density	Change the image density	High and Low adjustable
Edge Enhance	Adjust edge enhance.	0~6 rank adjustable.
A．Power	Adjust acoustic power.	0-100%
Dual B	Change the DualB layout	Left/Right Up/Down

Shortcut adjustment:

Shortcut(Action)	Menu	Menu function	Adjustable range of menu
SK1(press)	Frequency	Adjust frequency of the transducer.	Relate to current transducer.
SK1(rotate)	Dynamic	Adjust the image dynamic range, increase or decrease, System dynamic range and contrast resolution.	multi-step adjustable
SK2(press)	Focus Num	Changes focus numbers.	multi-number adjustable
SK2(rotate)	Focus Pos.	Changes focus position.	
SK3(press)	Compound	Turn on /Off compound	On, Off
SK3(rotate)	i-image	Open optimizing image	multi-step adjustable
SK4(press)	SRA	Open SRA	It can be on or off while SRA is off or on.
SK4(rotate)	Persistence	Increase/decrease the contrast resolution of the image	0~7 grade adjustable，clockwise for increasing, anticlockwise for decreasing. Adjust range: 1.
SK5(press)	Zoom	Turn on/off Zoom	
SK5(rotate)	Zoom	Adjust the Zoom	Adjust range: 0.6~1.0

Other adjustments:

1. Depth (DEPTH up and down key)

   DEPTH up and down key is used for the adjustment of image depth. Depth will increase if press depth up key. Depth will decrease if press depth down key. For the best resolution of focusing and edge enhancement, it needs to adjust TGC after the depth has been adjusted.

2. Frequency (Frequency up and down key)

   Frequency up and down key is used to adjust the frequency of the tranducer. Frequency will increase if press Frequency up key. Frequency will decrease if press Frequency down key. It's adjustable range subjects to current transducer.

3. Gain knob

   Adjust gain could enhance or reduce quantities of echo information in images. Adjust the main gain can adjust sensitivity of overall images (brightness). Rotate the GAIN knob could adjust B gain when in B mode. The gain will be increased if rotate clockwise. And the gain will be decreased if rotate contra. Adjust range is from 0 to 255. STC will influence on each other between gain adjustment and STC adjustment.

4. STC

   STC with 8 adjustable slides: Slide the set of slider bars can change the depth gain of B mode images.

   STC returns signal amplifier to correct for the attenuation caused when adding depth. STC balance the image and make the density of echo uniformly distributed in images. Similarly the enlargement of every sliding channel area is also different.

The range of STC will redistribute according to the new depth while depth is changing.

Move the slide bar Left/Right can reduce/increase STC.

5. Image magnification (ZOOM -key)

In B real time, press ZOOM- knob, then press UPDATE-key to choose the size of ROI box. And press UPDATE-key again to choose the position. Press ENTER- key can realize multiple enlargements. Press EXIT-key or ZOOM knob to exit operation.

4.3.20 Image Optimization of M mode

Soft menu adjustment:

Menu	Function
2D Map	Adjust 2D map of M image

Shortcut menu adjustment:

Shortcut	Menu	Menu Function	Menu item adjustable rang
SK1 (rotate)	Color Map	Adjust the color of the M image	Adjust option:user,type1~9
SK2(rotate)	Speed	Adjust scanning speed	1，2，3，4 adjustable. Adjust clockwise, the numerical increase and adjust anticlockwise, the numerical decrease. Adjust range: 1.
SK2(rotate)	Dynamic	Adjust dynamic of M image	60~165
SK5 (press)	Layout	Adjust layout	UD, LR
SK5 (rotate)	Display Format	Adjust display format	When layout is UD, can adjust display format among1:1,2:1,1:2.

4.3.21 Color Flow Map(CFM) Mode image optimization

Soft menu adjustment:

MENU	Menu Function	Menu Item adjustable Rang
Color Mode	The way of selecting color	Velocity、Variance
Wall Thre.	Adjust the value of packet size	0~15
Blood Effection	Choose different blood effection	Smooth, HighRes, HighRes2, HighRes3

Shortcut Adjustment:

Shortcut(action)	Menu	Menu Function	Menu Item adjustable Rang
SK1(press)	Frequency	Adjust the frequency of transducer	Refer to current transducer
SK1(rotate)	Steer	Adjust angle of sampling box of blood flow under the linear transducer	Adjust range from -20 to 20
SK2(press)	Wall Filter	Change of Wall filtering	0~3 adjustable
SK2(rotate)	Color Map	Change of Color Map	Adjust option:User, Type:1- 9
SK3(rotate)	PRF	Adjust PRF value	The maximum PRF depends on the transducer and the position of sampling box.
SK4(press)	Color Invert	Realize invert of blood flow	Turn on or Turn of the invert
SK4(rotate)	Persistence	Improve the current color	0~7 grade adjustable. Adjust range: 1.
SK5(press)	Density	Change images density	High and Low adjustable.
SK5(rotate)	Baseline	Change the baseline of color-map	-3~3 adjustable.

Other adjustments：

1. CFM gain control.

   In CFM Mode, rotate <GAIN> knob to adjust the color gain and adjust range is from 0 to 255.

2. Sampling box.

   Moves sampling box through trackball to the area which you are interested and press the ENTER-key to confirm the position of sampling box then adjust the size of box trough trackball and press ENTER- key to confirm.

4.3.22 Power Doppler(CPA) Mode imaging optimization

Soft menu adjustment:

Menu	Function
Wall Thre.	Adjust wall threshold
Blood Effect	Smooth, HighRes, HighRes2, HighRes3

Shortcut Adjustment:

Shortcut（action）	Menu	Menu Function
SK1（press）	Frequency	Adjust the transducer launch frequency
SK1（rotate）	Steer	Adjust angle of sampling box of blood flow under the linear transducer
SK2（press）	Wall Filter	Change of Wall filtering

SK2（rotate）	Color Map	Change of Color Map
SK3（rotate）	PRF	Adjust PRF value
SK4（rotate）	Persistence	Improve the current color
SK5 (press)	Density	Low/High

Other adjustments:

1. CFM gain control.

   In CFM Mode, rotate <GAIN> knob to adjust the color gain and adjust range is from 0 to 255.

2. Sampling box.

   Moves sampling box through trackball to the area which you are interested and press the ENTER-key to confirm the position of sampling box then adjust the size of box trough trackball and press ENTER- key to confirm.

4.3.23 Pulse Wave Doppler Imaging Optimization(PW)

Soft menu adjustment:

MENU	Menu Function	Menu Item Adjustable Rang
2D Map	Adjust the color of spectrum	1~20, adjust range: 1
Wall Filter	Change wall filtering	0~3,adjust range:1
Spectrum Enhance	Adjust the brightness of the spectrum	0~3, adjust range:1
DynamicRange	Adjust the dynamic range of the spectrum	46~67
Auto Cal	Auto Cal	On/Off
Auto Cal Parameter	set the auto Calc parameters	
DTrace Smooth	Adjust the smooth of the trace of the spectrum	0~3,adjust:1
Threshold	Adjust the threshold of the spectrum	1~5,adjust:1
DVmean	turn on to display the trace of the Vmean	
DVmax	turn on to display the trace of the Vmax	
Trace Area	set the auto cal range	All,Above,Below

Shortcut adjustment:

Shortcut(action)	Menu	Menu Function	Menu Item Adjustable Rang
SK1(press)	Frequency	Adjust frequency of the transducer	Refer to current transducer
SK1(rotate)	Color Map	Adjust the color map of spectrum	Adjust options:user,type1~29

SK2(press)	Speed	Change of wall filtering	1~3 adjustable
SK2(rotate)	Audio	Adjust volume of Doppler	0~100% adjustable.
SK3(press)	Triplex	Turn on/off Triplex	On/Off
SK3(rotate)	PRF	Adjust PRF value	The maximum PRF value depends on the transducer and the position of sampling gate.
SK4(press)	QuickAngle		0,-60,60
SK4(rotate)	Steer	Adjust scanning speed	1，2，3 adjustable. adjust clockwise, the numerical increase and adjust anticlockwise, the numerical decrease. Adjust range: 1
SK5(press)	Quadplex		On/Off
SK5(rotate)	Baseline	Adjust the baseline position	0~6 adjustable.

Other adjustments:

1. Sampling line

In PW mode, move the trackball left and right to adjust the position of sampling line

2. Sampling gate (Sampling volume)

Move the sample volume on the B-mode's Doppler area. The gate is positioned over a specific position within the vessel.

To move Doppler line position, move the Trackball left or right until positioned over the vessel.

To move sample volume gate position, move the Trackball up or down until positioned inside the vessel.

To size sample volume gate, press [Enter] key to toggle Trackball function from sample volume gate positioning to sizing, then move the Trackball to change sample volume gate size.

3. Gain

Rotate Gain knob and adjust gain of PW mode when PW light is on. Gain will be increased if rotate clockwise；Gain will be decreased if rotate anti-clockwise. Adjustable range is from 0 to 255.

4.4 After Capturing the Image

4.4.1 Adding Comments

Comments can be added to an ultrasound image to bring attention, notate or communicate information observed during the examination.You can add comments to: zoomed image, cine review image, real-time image, frozen image.You can type the character as comments; insert the pre-defined comments from the comment library;insert arrow marks.

WARNING: ***You must ensure that the entered comments are correct.Incorrect comments may cause misdiagnosis!***

1. Press the [COMMENT] key ,and the cursor becomes "｜".
2. Press alphanumeric key, and the corresponding letter or numeral is displayed.
3. Place the cursor to the desired position and press ENTER key to set the comments.
4. Press COMMENT-key or EXIT- key to exit.

Edit custom comments bar：

Operation：

1. Press [COMMENT] key to enter into comments status.
2. Press SK4 key to select the comment bar.
3. Edit comments for text1~text6.
4. Press OK key to save changes or press [CANCEL] key to cancel revises.

NOTE： ***The user can edit 6 customized comments.***

Add comment note on images

Operation：

1. Press [COMMENT] key to enter into the comment status.
2. Rotate SK1 key to select the comment note.
3. Press SK1 shortcut key to append the selected comment bar.
4. Press [COMMENT] key, the [COMMENT] key will light off and the comment process is finished.

Adjust font size of comments

Operation：

1. Rotate SK2 in comment status.
2. Move the cursor to the comment note. Press [ENTER] key and choose the font size of comment
   note. Press [ENTER] key again to confirm revision.

Adjust position of comments

Operation：

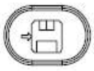
1. In comments status, moves the cursor to comments note which need to be changed then press
   [ENTER] key.
2. Move the comments where want to.

4.4.2 Adding Body Mark

Operation：

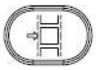
1. Press BODY- key to enter into the body status.
2. Press SK1~ SK5 shortcut key to add body image accordingly. Rotate SK5 shortcut key can realize page turning.
3. Move trackball after adding the body mark image and then adjust the position of transducer.
4. Rotate [ANGLE] key can adjust the transducer direction. Press Enter- key to confirm when adjustment was finished.
5. Press UPDATE-key and move the Trackball to change the position of the body mark.
6. If you want to exit from the body mark function, press BODY-key or EXIT-key
7. Press DEL key to delete all comments、arrows、body marks and measure tracks in frozen status.

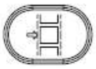
4.4.3 Saving Still Images

Save single image: Press  key to save the single image in the real time and frozen statue. The saved thumbnail images will be displayed under the image area for users to choose playback or post-processing quickly.

Recall single image: Press cursor key in re-call status, then the mouse will appear on the screen. Move the mouse to thumbnail images then click.

4.4.4 Saving Clips

Save forward cine files: Press  key in the real time to save forward cine files.

Save backward cine files: Press  key in frozen statue to save backward cine files.

The saved cine images will be displayed under the image area for users to choose playback or post-processing quickly.

Playback cine files: Press arrow key in recall status, then the mouse will appear on the screen. Move the mouse to the cine thumbnail image then click.

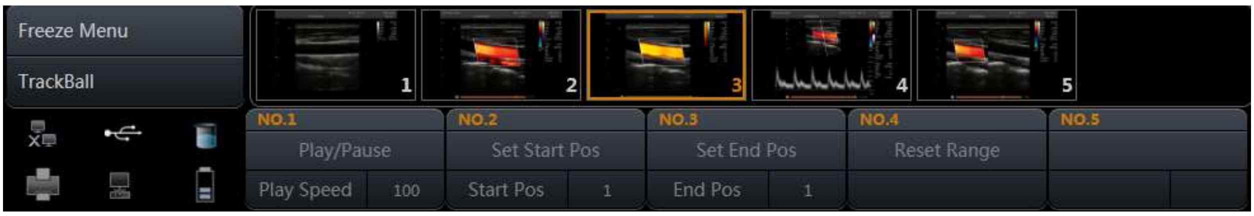


Fig.4- 13

Shortcut Action	SK1	SK2	SK3	SK4
Press	Play or Pause cine playback	Set the initial point of playback	Set the final point of playback	Reset the range of cine playback,the default range of playback is 1-maximum frame of current cine
Rotate	Adjust the playback speed of cine	The frame of start position	The frame of final position	

Manual playback cine: Press cursor key and back to recall status then manual playback through trackball.

Note: ***When you save the still images or cine images, if you do not establish a new patient, the system will establish a new ID according to the current date of the system automatically and save the data and operation under the folder of this ID.***

Quick transmission of image:

Image transmission: Press cursor key. Choose the image which you want to transfer or delete, and press Update key. Three icons will display in the thumbnail area.

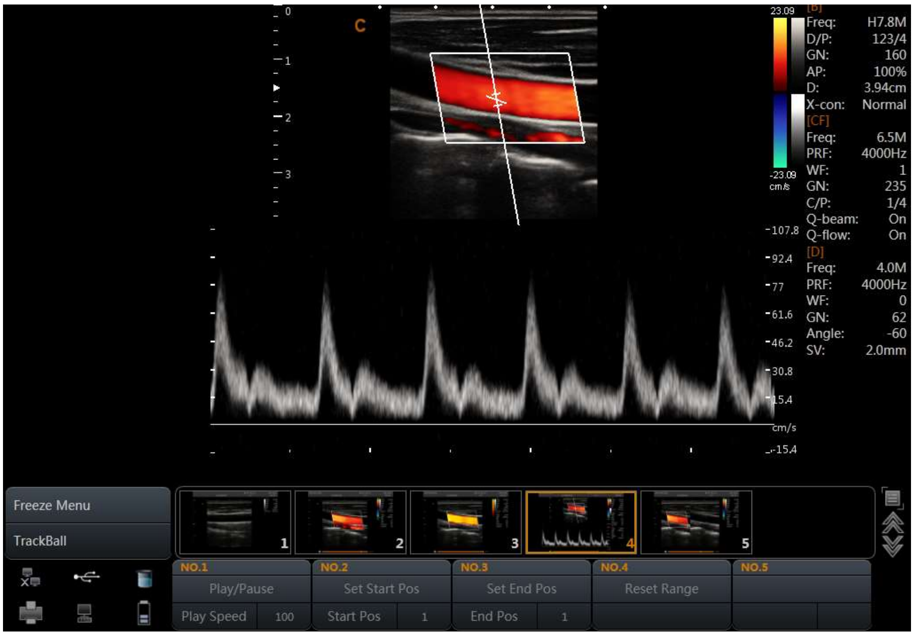


Fig.4- 14

 Transfer files to DICOM.

Transfer files to media.

 Delete the files.

4.4.5 Browse Images

Press  key to enter into the EasyView interface.

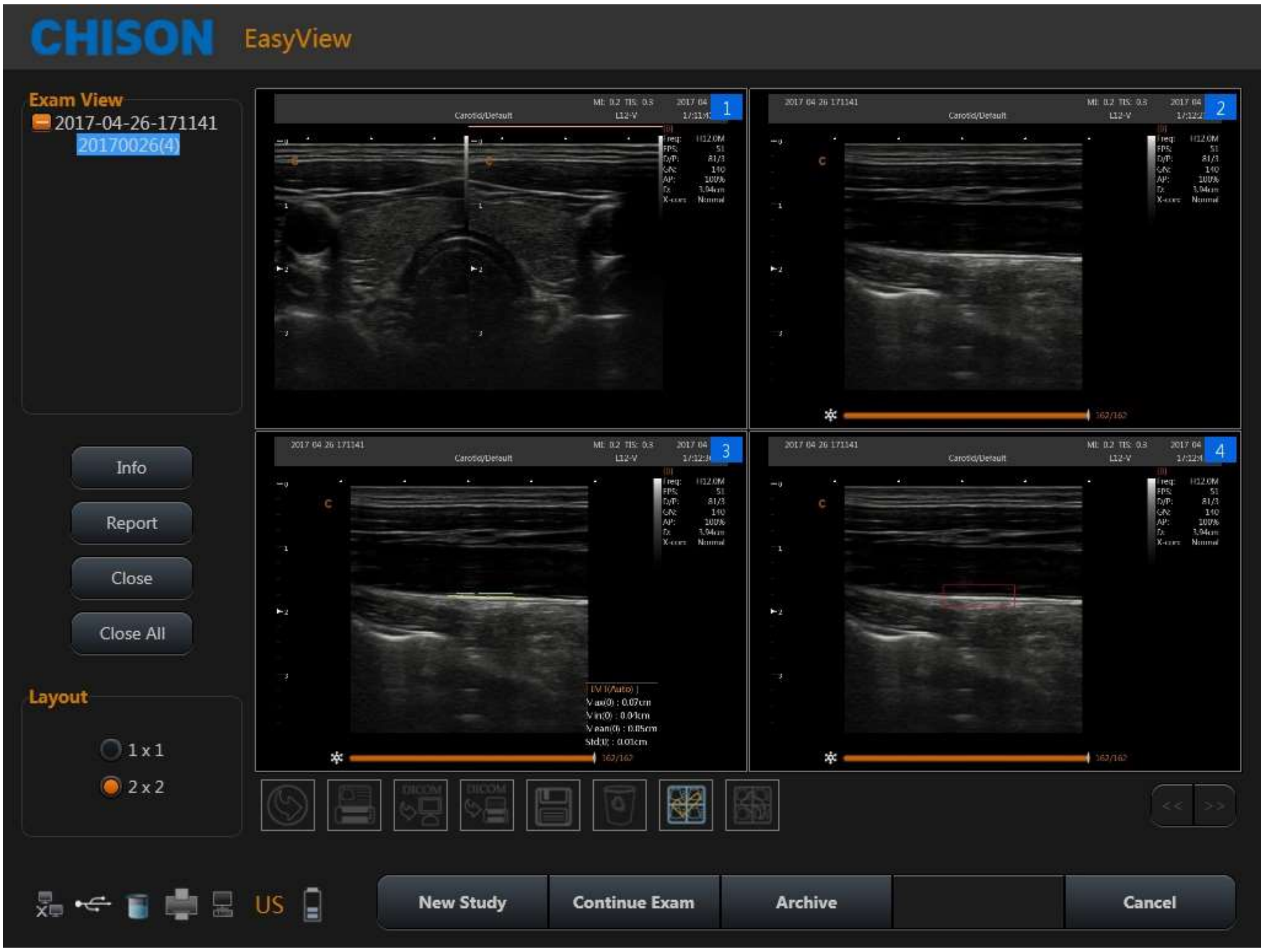


Fig.4- 15

Info：press this key can check the information of current patient.

Report：press this key can see the report of current patient

Close：click this key and choose to close information of patient.

Close all：close all current patients.

Continue/Edit Exam：Continue to check the current patient and back to B mode if press this key.

If current exam is 24 hours later than last exam, the system will not allow you to continue the exam. The function will be changed to “Edit” .In edit exam mode, the patient can active it and do measurements.To exit edit exam status, please “END” key to quit.

New Study：Create a new patient, then the system will automatically go to this new page.

Archive: Pop up Files Management interface. Multiple patients can be compared and browsed

Cancel：Exit.

4.4.6 Fast Storage

Setting: Enter into System Settings. Press General Menu and choose Normal Sub Menu to do fast storage setting.

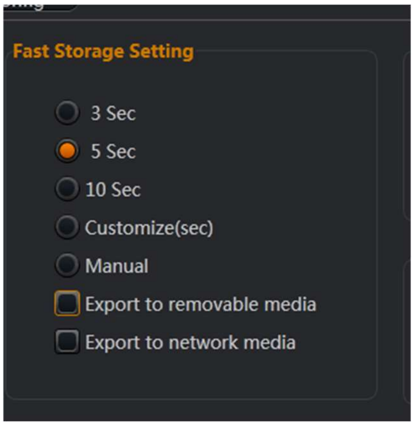
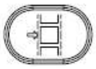
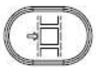


Fig.4- 16

After confirming time, back to examination.

For example, choose 5 seconds in the fast storage setting. The system begins to save cine in the 5 seconds after press  .

If you choose Manual in the fast storage setting, you should press  for two times. First time is to start saving and the second time is to finish.

If you choose Export to removable media, it will save the images to the removable media.

4.4.7 Files Management

In this interface you can manage patient's files. Press  key to enter into the browse interface. Then click “Archive” to enter into file management.

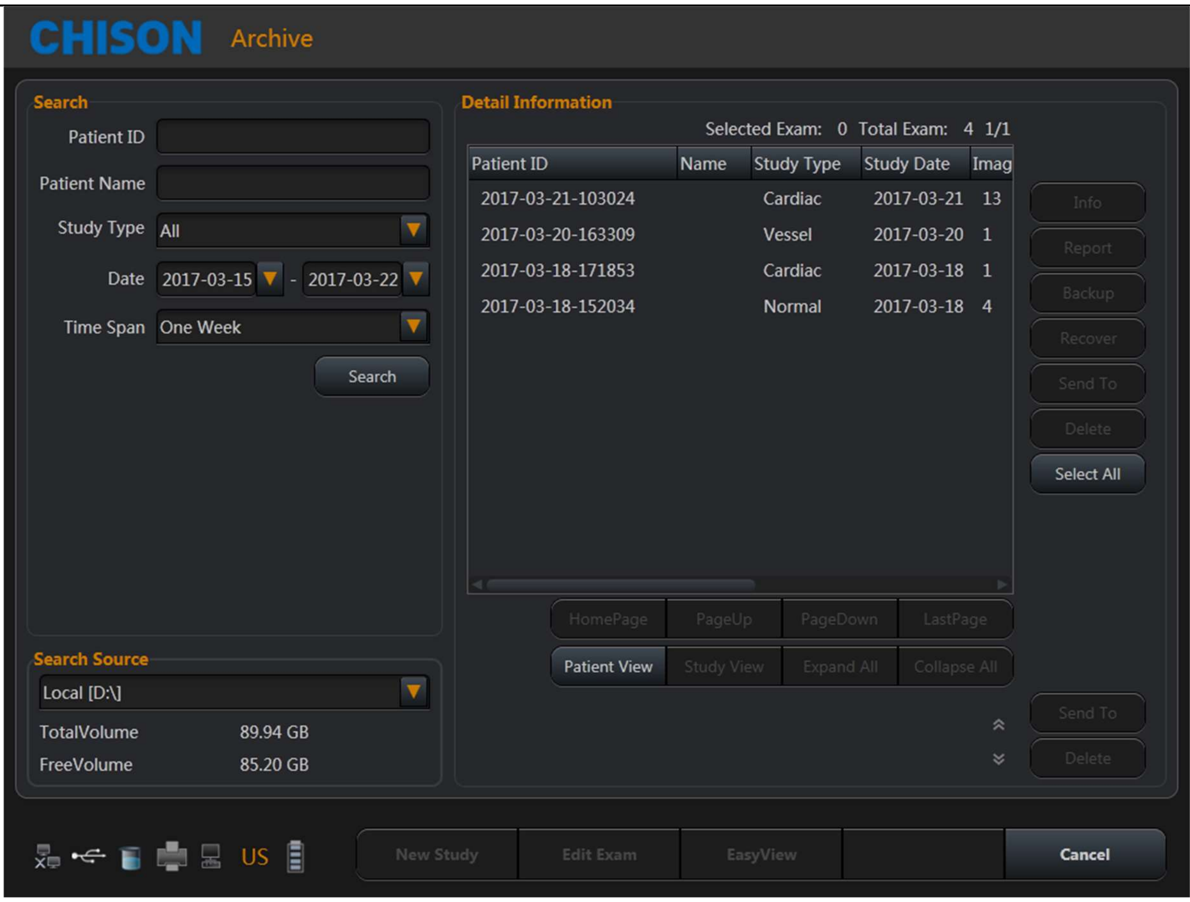


Fig.4- 17

Search: Can search the patient files after enter a search term. Search will be more accurate when input more conditions.

Info：View the selected patient information.

Backup：Click this item will store the database of this patient to the portable storage medium

Recover: Click this item can recover the images or video from USB to the system

WARNING:***Do not disconnect the portable storage medium when backuping or recovering the data. Disconnecting without stopping can lead to data loss and system damage!***

Send to：Select the content and click, can send files to other medium.

Delete：Can delete patient's files, images etc.

Select all：Select all the patients.

Patients View：Under this view, one patient with multiple inspection data will be listed in column and also you can check each exam file in details.

Study View：This view can list exam types one by one. Different exam type of one patient will not be listed in one column.

New study：Create a new patient and recall into the patient information interface.

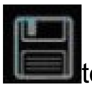
Continue/Edit Exam：Continue to check the current patient and back to B mode if press this key. If current exam is 24 hours later than last exam, the system will not allow you to continue the exam. The function will be changed to “Edit”. In edit exam mode, the patient can active it and do measurements.

Review：Select patient and click it to enter into images browse.

Cancel：Click “Cancel” to exit.

4.4.8 Network Storage Function

Before you use this function, please refer to Section 7.5 to set network storage parameters.

Click  button to enter into the Easy Review interface, select the picture you want to send, click to enter into the export interface, select the network drive and click "OK" to send.

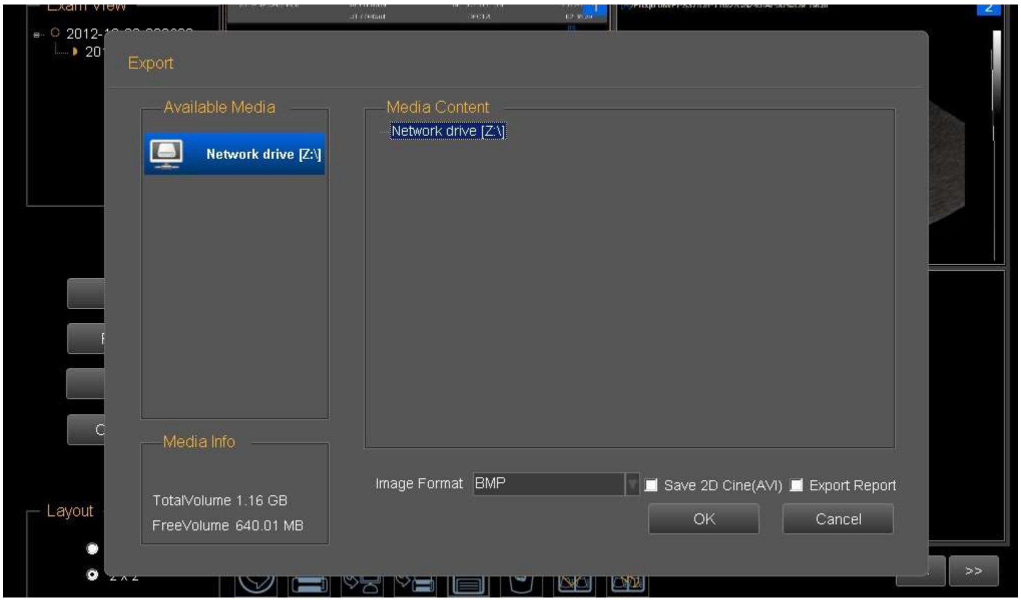


Fig.4- 18

After transmit into the target computer, open the shared folder, you can see the pictures you sent.

Chapter 5 General Measurements

Introduction

Measurements and calculations derived from ultrasound images are intended to supplement other clinical procedures available to the physician. The accuracy of measurements is not only determined by system accuracy, but also by the use of proper medical protocols by the operator. When appropriate, make sure to note any protocol associated with a particular measurement or calculation.

⚠ ***CAUTION:*** ***Please select the most appropriate ultrasound images, measurement tools and measurement methods for measurements according to your diagnosis needs. The final measurement results must be determined and verified by a physician. Measurement accuracies are affected by many non-technical factors, for example operator's experience, patient's status. Please do not only use the ultrasound measurement results as the sole basis for diagnosis, please always use other clinical information to do integrated diagnostics.***

Overview

This section provides information about taking measurements and describing calculations available in each mode. It includes the following topics:

- List of generic measurements
- Mode Measurements: Step-by-step instructions for taking specific measurements, organized by mode
- Measurement results display and erasing

5.1 Key for Measurement

- 【Trackball】

  Trackball is used to move the cursor, main functions are as follows:

  Before starting a measurement, use the trackball to choose the menu options;

  After starting a measurement, move the trackball to move the cursor, during the measurement, the cursor should not be moved out image area;

  During the Ellipse method measurement, use trackball to change the length of short axis.

- 【ENTER】

  During the measurement, the functions of 【ENTER】key are as follows:

  When cursor is on the menu, press the key to choose the options and start the measurement.

  During the measurement, press the key to anchor the start point and end point.

- 【CLEAR】

  Main functions are as follows:

  In frozen status, press the CLEAR key, delete all the measurement results, comments and traces.

- 【UPDATE】

  During the measurement, UPDATE-KEY is used to switch the start point and end point, long axis and short axis when the measurement is not finished.

  During the distance measurement, press the【ENTER】to fix the start point, when the end point is not fixed, press the UPDATE-KEY to switch the start point and end point.

  During the Ellipse measurement, when fix the long axis, but the short axis is not fixed, press the UPDATE-KEY to switch the long axis and short one.

5.2 Fast measurement

The system use Dist, Trace, SK1~SK3 to make fast measurement. In different modes, SK1~SK3 is corresponded to different measurement items. Users can rotate SK1~SK3 to choose the measurement items during the measurement.

5.2.1 Enter fast measurement

Press Dist or Trace to enter fast measurement
Dist: distance measurement
Trace: Area measurement

5.2.2 Exit fast measurement

During measurement, press the Dist key for second time，or press Trace-key or Exit-key.

5.2.3 Fast measurement in B mode

SK1-distance: Dis, %stD, Angle
SK2-area: Trace,Ellip,%stA
SK3-volume: 1 Dis,1 Ellipse,1Dis1Ellip，2 Dis，2 Ellip，3 Dis
SK4-Font Size: Rotate to adjust the font size, Press to reset.
SK5-Result Position: Rotate to move result position, Press to reset

<u>Distance</u>

1. In B Cine mode, press the DIST-key to bring up the first white plus sign (“+”) cursor.
2. Use the Trackball and the ENTER-key to anchor the start point of the desired distance to be measured.
3. Move the Trackball and a second white plus sign cursor will automatically appear. Move the second cursor to the s1pecified position. With the movement of cursor the system will update the measurement distance in real time in Result Window on the right side of the screen.
4. Press the ENTER-key to fix the second cursor, the first measurement result will appear on the screen.

5. When two points have been defined, a white plus sign cursor of next distance pair will pop out. Repeat the same steps to create other distance pairs
6. Press the DIST-key or EXIT-key to exit.

%stD—Distance ratio

1. In B mode, press the DIST-key to bring up the first white plus sign (“+”) cursor.
2. Rotate SK1,choose %stD。
3. Refer to the distance measurement method, measure the distance of second line.
4. After finishing the measurement, the distance of the two lines will appear automatically on the screen and calculate the ratio of the two lines automatically.

Area—trace

1. In B mode, press the TRACE-key to bring up the trace start cursor plus sign (“+”).
2. Use the trackball to move the cursor, press ENTER-key to set the start point.
3. Use the Trackball to trace the perimeter of the object to be measured, and press the Enter-key to set the end point. The end point and the starting point of the trace will be automatically connected with adistance .The area and the Circumference of the shape will be calculated. With the movement of the cursor, the result will appear on the right side of the screen, and will change along with the moving of the trace.
4. To get the multiple data, repeat the same steps to create other distance pairs.
5. Press the Trace-key or EXIT-key to exit.

Area—ellipse

1. In B mode, press the TRACE-key to bring up the trace start cursor plus sign (“+”).
2. Rotate SK2，choose ellipse.
3. Move the Trackball and press ENTER-key to set start point
4. The second point marker is displayed by a line connecting the first and second points. Use the Trackball to lengthen the line in order to change the diameter and press the ENTER-key to fix the length.
5. Use the Trackball to change the length of another axis. Press the ENTER-key to fix the length. The total area and circumference will be displayed in the result window.
6. To get the multiple data, repeat the same steps to create other distance pairs.
7. Press the Trace-key or EXIT-key to exit.

Area ratio

1. In B mode, press the TRACE-key to bring up the trace start cursor plus sign (“+”).
2. Rotate SK2，choose %stA.
3. Refer to the area-ellipse method to measure two ellipses.
4. After finishing the measurement, the area of the two lines will appear on the screen, and the area ratio will be calculated automatically.

Volume—1 distance

1. In B mode, press the distance-key or trace-key to enter the measurement mode.
2. Press SK3-key to enter volume measurement，the default measurement method is 1distance.

Volume—1 ellipse

1. In B mode, press the distance-key or trace-key to enter the measurement mode.
2. Press SK3-key to enter volume measurement，the default measurement method is 1distance.
3. Rotate SK3-key，choose 1 ellipse.

Volume—1distance 1 ellipse

1. In B mode, press the distance-key or trace-key to enter the measurement mode.
2. Press SK3-key to enter volume measurement，the default measurement method is 1distance.
3. Rotate SK3-key，choose 1straight line 1 ellipse.

Volume—2distance

1. In B mode, press the distance-key or trace-key to enter the measurement mode.
2. Press SK3-key to enter volume measurement，the default measurement method is 1distance.
3. Rotate SK3-key，choose 2distance.

Volume—2 ellipse

1. In B Cine mode, press the distance-key or trace-key to enter the measurement mode.
2. Press SK3-key to enter volume measurement，the default measurement method is 1distance.
3. Rotate SK3-key，choose 2 ellipse.

Volume—3distance

1. In B Cine mode, press the distance-key or trace-key to enter the measurement mode.
2. Press SK3-key to enter volume measurement，the default measurement method is 1distance.
3. Rotate SK3-key，choose 3distance.

5.2.4 Fast measurement in PW mode

SK1-distance: distance，peak, HR, Angle

SK2-area: automatic envelope，manual envelope，trace，ellipse，ratio

SK3-volume: 1distance.，1 ellipse，1distance 1 ellipse，2distance，2 ellipse，3distance

SK4-Font Size: Rotate to adjust the font size, and press to reset.

SK5-Result Position: Rotate to move result position, and press to reset

Peak

1. In PW Cine mode, press the Dist-key to bring up the sample marker.
2. Move the marker to the measurement start point with the Trackball, press Enter key, velocity and pressure of the current point will appear on the screen automatically.
3. Go on to measure Vd, after getting the result, the system will calculate S/D, RI, heart rate automatically.

Automatic envelope measurement

1. In PW mode, press the Trace-key to enter automatic envelope measurement. The system will finish the envelope of spectrum automatically. The cursor“+”will appear on the screen
2. Move the trackball to choose a start point of one cycle, press the Enter-key to confirm

3. The second cursor"+"will appear on the screen automatically, move the trackball to the end point of current cycle, and press the ENTER-key to set.
4. The measurement result and the other calculated parameters will appear on the screen automatically.
5. If the spectrum automatic envelop is not accurate, rotate SK4 and reselect cycle to correct.

Manual envelope

1. In PW Cine mode, press the Trace-key to enter automatic envelope measurement.
2. Rotate SK2，choose "Manual envelope".
3. Move the trackball to choose a start point of one cycle, press the Enter-key to confirm.
4. Move the trackball to trace the spectrum, press the ENTER-key to finish the envelope..
5. The measurement results and the other calculated results will appear on the screen automatically.
6. If the spectrum manual envelop is not accurate, rotate SK5 and restart to manual envelop.

5.2.5 Fast measurement in M mode

SK1-distance: M Distance，M Time, M Speed, Heart Rate, Distance Ratio

SK2-area: trace method，ellipse method, area ratio

SK3-Volume: 1straight line，1ellipse，1distance 1 ellipse，2distance，2 ellipse，3distance

SK4-Font Size: Rotate to adjust the font size, Press to reset.

SK5-Result Position: Rotate to move result position, Press to reset

M Distance

1. In M mode, press the DIST-key to enter M distance measurement. The cursor"+"will appear on the screen.
2. Move the trackball to move the cursor, press ENTER-key to fix it.
3. One dotted line and second cursor will appear on the screen..
4. Move the cursor by moving the trackball to the end point in the dotted line vertically, press the Enter-key to confirm.
5. The measurement result will appear on the screen automatically.

M Time

1. In M Cine mode, press the DIST-key to enter M distance measurement. The cursor"+"will appear on the screen.
2. Rotate SK1, choose M time.
3. Move the trackball to move the cursor, press Enter-key to fix it.
4. One dotted line and second cursor will appear.
5. Move the trackball to the end point in the dotted line horizontally, press the Enter-key to fix the cursor.
6. The measurement result will appear on the screen automatically.

5.3 Measurement and Calculation

There are Corresponding measurement menu in different modes. Press Calc-key to recall the measurement menu.

Press Change-key to do exchange during the measurements menus of different modes. Press Exit key to close the measurement menu.

Move the trackball to select the measurement item on the measurement menu and do the measurement in the image.

After finishing the measurement, press Report-key to generate the report template to view the measurement results or print the report.

5.3.1 OB Measurement in B mode

Press Calc-Key to enter into measurement package menu. Press Change-Key to change measurement package.

The parameters given as below are general indexes used to evaluate Canine's fetal growth.

GSD-Gestation Sac Diameter

CRL- Crown Rump Length

HD- Head Diameter

BD- Body Diameter

After measuring each parameter, the system will automatically calculate the GA based on the measured results.

Take GSD measurement of Canine for example:

Fig.5- 1

Measurement steps:

1.Move the cursor to menu item-"GSD", in [Canine MEAS.] menu, and press 【ENTER】 key to select it. Move the cursor into the image area.

2.Do GS measurement, the method is the same as "Distance" measurement in B mode, please refer to "Distance" measurement in 5.2.3

3.After the above measurement, the result of measured GSD, GA and EDD will be displayed in the measurement result area.

4.Press 【ENTER】key to start next “GSD” measurement.

For CRL, HD and BD, the measurement method is the same as GSD.

For Ovine, Bovine, Feline, Equine, the measurement method is the same as canine.

[Volume] measurement menu is used to measure Normal volume(3 distances), Bladder volume or Thyroid volume.

Take Bladder volume measurement of Canine for example:

Measurement steps:

Move the cursor to“Bladder Vol” and press【ENTER】 key to select it.

Move the cursor into the image area.

Do the measurement of length, width and height one by one.

After the above measurement, the result of bladder volume will be displayed in the measurement result area.

The measurement of Normal volume (3 distances) and Thyroid volume is the same as “Bladder volume” measurement.

For Ovine, Bovine, Feline, Equine, the measurement method is the same as canine.

5.3.2 Cardiology Measurement in B mode

Fig.5- 2

1. Single Plane

This method calculates the left ventricular volumes by using the 2D-mode long-axis image.When the left ventricle is traced and its long axis is specified on a 2D-mode cross-sectional image, this method allows the system to automatically divide the long axis into 20 segments to calculate the volume of the left ventricle as the 2D-mode cross-sectional image is rotated.

Calculation formula for volume

EDV=$\pi\frac{LVLd}{20}\times\sum_{i=1}^{20}r_{i2}$

ESV=$\pi\frac{LVLs}{20}\times\sum_{i=1}^{20}r_{i2}$

ri: Radius of the i-th circle

LVLd: Left ventricular long-axis length at end diastole

LVLs: Left ventricular long-axis length at end diastole

<<Items to be measured>>

Meas. item name	Description	Meas. method
EDV（A4C）	End-diastolic volume (A4C)	Measurement (trace)
ESV（A4C）	End-systolic volume (A4C)	Measurement (trace)

<< Items to be calculated >>

Calc. item name	Description	Calc. formula
SV	Stroke Volume	SV=EDV – ESV
EF	ejection fraction	EF=SV/EDV

2. BiPlane

This method allows the volume of the left ventricle to be calculated by repeating “Simpson SP method” on two 2D-mode cross-sectional images (two-chamber and four-chamber cross-sectional images). Calculation is also possible for only two-chamber cross-sectional images or only four-chamber cross-sectional images.

Calculation formula for volume

(1)EDV=$\pi(r_{2i}\times r_{4i})$

(2)ESV=π $(r_{2i}\times r_{4i})$

r_{2i}:Radius of i-th ellipse(2CH)

r_{4i}:Radius of i-th ellipse(4CH)

LVLd: Length of the left-ventricular long axis at end diastole for 2CH or 4CH, whichever is longer.

LVLs: Length of the left-ventricular long axis at end systole for 2CH or 4CH, whichever is longer.

(3) EDV=π_{2i}^{2}

(4) ESV=π_{2i}^{2}

ri: Radius of the i-th circle(2CH)

LVLd: Left ventricular long-axis length at end diastole

LVLs: Left ventricular long-axis length at end diastole

(5) EDV=π_{4i}^{2}

(6) ESV=π_{4i}^{2}

ri: Radius of the i-th circle(4CH)

LVLd: Left ventricular long-axis length at end diastole

LVLs: Left ventricular long-axis length at end diastole

<<Items to be measured>>

Meas. item name	Description [Unit]	Meas. method
EDV（A2C）	End-diastolic volume (A2C)	Measurement (trace)
ESV（A2C）	End-systolic volume (A2C)	Measurement (trace)
EDV（A4C）	End-diastolic volume (A4C)	Measurement (trace)
ESV（A4C）	End-systolic volume (A4C)	Measurement (trace)

<< Items to be calculated >>

Calc. item name	Description	Calc. formula
SV（SimpBP）	Stroke Volume	SV=EDV – ESV
EF（SimpBP）	ejection fraction	EF=SV/EDV

3. Bullet volume

This method calculates the left ventricular volume using the 2D-mode long-axis image and the short-axis image at the level of the mitral valve.

Calculation formula for volume

<<Items to be measured>>

Meas. item name	Description	Meas. method
LVAMd	Left ventricular short-axis area at the level of the mitral valve at end diastole.	Refer to “Area-trace measurement”
LVLd	Left ventricular long-axis length at end diastole.	Refer to "Distance Measurement (Distance)".
LVAMs	Left ventricular short-axis area at the level of the mitral valve at end systole.	Refer to “Area-trace measurement”
LVLs	Left ventricular long-axis length at end systole.	Refer to "Distance Measurement (Distance)".
HR	Heart rate	Refer to "Distance Measurement (Distance)".

<<Items to be calculate>>

Calc. item name	Description	Calc. formula
EDV	End-diastolic volume	EDV =(5/6.0)*LVLd * LVAMd

ESV	End-systolic volume	ESV =(5/6.0)*LVLs * LVAMs
SV	Stroke Volume	SV=EDV – ESV
CO	Cardiac output	CO=SV * HR /1000
EF	ejection fraction	EF=SV/EDV

4. Modify Simpson

This method calculates the left ventricular using the 2-D mode long-axis image, the short-axis image at the level of the mitral valve, and the short-axis image at the level of the papillary muscle.

Calculation formula for volume:

EDV= $\frac{LVLd}{9} \times (4 \times LVAMd + 2 \times LVAPd + \sqrt{LVAMd \times LVAPd})$

ESV= $\frac{LVLs}{9} \times (4 \times LVAMs + 2 \times LVAPs + \sqrt{LVAMs \times LVAPs})$

<<Items to be measured>>

Meas. item name	Description	Meas. method
LVAMd	Left ventricular short-axis area at the level of the mitral valve at end diastole	Refer to "Area/Circumference Measurement (Area)"
LVLd	Left ventricular long-axis length at end diastole	Refer to "Distance Measurement (Distance)"
LVAPd	Left ventricular long-axis area at the level of the papillary muscle at end diastole	Refer to "Area/Circumference Measurement (Area)".
LVAMs	Left ventricular short-axis area at the level of the mitral valve at end systole	Refer to "Area/Circumference Measurement (Area)"
LVLs	Left ventricular long-axis length at end systole	Refer to "Distance Measurement (Distance)"
LVAPs	Left ventricular long-axis area at the level of the papillary muscle at end systole	Refer to "Area/Circumference Measurement (Area)".
HR	Heart rate	Refer to “Heart Rate Measurement”

<<Items to be calculated>>

Calc. item name	Description	Calc. formula
EDV	End-diastolic left ventricular volume	Refer to << Calculation formula for volume>>

ESV	End-systolic left ventricular volume	Refer to << Calculation formula for volume>>
SV	Stroke volume	SV=EDV – ESV
CO	Cardiac output	CO=SV x HR /1000
EF	Ejection fraction	EF=SV/ EDV

5. Cube Method

This method calculates the left ventricular volume by approximating the given region to a cube.

Calculation formula for volume

EDV =LVIDd^3

ESV =LVIDs^3

<< Items to be measured>>

Meas. item name	Description	Meas. method
Diastole	End-diastolic left ventricular measurements	Refer to “Measurement position”
IVSTd	Interventricular septal thickness at end diastole	Refer to "Distance Measurement (Distance)".
LVIDd	Left ventricular short-axis diameter at end diastole	Refer to "Distance Measurement (Distance)".
LVPWd	Left ventricular posterior wall thickness at end diastole	Refer to "Distance Measurement (Distance)".
IVSTs	Interventricular septal thickness at end systole	Refer to "Distance Measurement (Distance)".
LVIDs	Left ventricular short-axis diameter at end systole	Refer to "Distance Measurement (Distance)".
LVPWs	Left ventricular posterior wall thickness at end systole	Refer to "Distance Measurement (Distance)".

<<Items to be calculated>>

Calc. item name	Description [Unit]	Calc. formula
EDV	End-diastolic left ventricular volume	Refer to << Calculation formula for volume>>
ESV	End-systolic left ventricular volume	Refer to << Calculation formula for volume>>
SV	Stroke volume	SV=EDV – ESV
CO	Cardiac output	CO=SV x HR /1000
FS	Fractional shortening	FS=(LVIDd-LVIDs)LVIDd

6. Teichholz Method

Calculation formula for volume

EDV =(7*LVIDd^3) / (2.4+LVIDd)

ESV =(7*LVIDs^3) / (2.4+LVIDs)

The items to be measured, the measurement procedures, and the items to be calculated are identical to those in the subsection ”CUBE method”.

7. LV/RV

<<Item to be measured>>

Meas. item name	**Description**	**Meas. method**
RVIDd	Right ventricular short-axis diameter at end diastole	Refer to "Distance Measurement (Distance)".
IVSTd	Interventricular septal thickness at end diastole	Refer to "Distance Measurement (Distance)".
LVIDd	Light ventricular short-axis diameter at end diastole	Refer to "Distance Measurement (Distance)"
LVPWd	Left ventricular posterior wall thickness at end diastole	Refer to "Distance Measurement (Distance)".
RVIDs	Right ventricular short-axis diameter at end diastole	Refer to "Distance Measurement (Distance)".
IVSTs	Interventricular septal thickness at end diastole	Refer to "Distance Measurement (Distance)"
LVIDs	Light ventricular short-axis diameter at end diastole	Refer to "Distance Measurement (Distance)".
LVPWs	Left ventricular posterior wall thickness at end diastole	Refer to "Distance Measurement (Distance)".

<<Item to be calculated>>

Calc. item name	**Description**	**Calc. formula**
EDV	End-diastolic left ventricular volume	EDV= LVIDd* LVIDd* LVIDd
ESV	End-systolic left ventricular volume	ESV= LVIDs* LVIDs* LVIDs
SV	Stroke volume	SV=EDV – ESV
CO	Cardiac output	CO=SV * HR /1000
EF	Ejection fraction	EF=SV/EDV
FS	Fractional shortening	FS = (LVIDd -LVIDs)/LVIDd

8. AO/LV

<<Item to be measured>>

Meas. item name	Description	Meas. method
Root of aorta	Root of aorta diameter	Refer to "Distance Measurement (Distance)".
LVIDd	Light ventricular short-axis diameter at end diastole	Refer to "Distance Measurement (Distance)".

<<Item to be calculated>>

Calc. item name	Description [Unit]	Calc. formula
AO/LV	AO/LVIDd	AO/LVIDd

9. LVOT

<<Item to be measured>>

Meas. item name	Description	Meas. method
LA Diam	left ventricular outflow tract diameter	Refer to "Distance Measurement (Distance)"

<<Item to be calculated>>

Calc. item name	Description [Unit]	Calc. formula
Area	left ventricular outflow tract area	Refer to "area"

10. MV

<<Item to be measured>>

Meas. item name	Description	Meas. method
MV Diam	Mitral valve diameter	Refer to "Distance Measurement (Distance)"
MVArea	Mitral valve area	Refer to "area Measurement

11. AV

<<Item to be measured>>

Meas. item name	Description	Meas. method
AV Diam	Tricuspid valve diameter	Refer to "Distance Measurement (Distance)"
AVArea	Tricuspid valve area	Refer to "area Measurement

12. Gibson

<<Item to be measured>>

Meas. item name	Description	Meas. method
LVIDd	Left ventricular short-axis diameter at end diastole	Refer to "Distance Measurement (Distance)"
LVIDs	Left ventricular short-axis diameter at end systole	Refer to "Distance Measurement (Distance)"

<<Item to be calculated>>

Calc. item name	Description	Calc. formula
EDV	End-diastolic left ventricular volume	π/6*(0.98*LVIDd+5.9)*LVIDd*LVIDd
ESV	End-systolic left ventricular volume	π/6*(0.98*LVIDs+5.9)*LVIDs*LVIDs
SV	Stroke volume	EDV-ESV
EF	Stroke volume	SV/EDV
CO	Cardiac output	SV * HR /1000
SI	Stroke volume index	SV/BSA
CI	Cardiac index	CO/BSA

5.3.3 OB Measurement in M mode

Fig.5- 3

M Distance

This feature allows the measurement of the distance between two points. It is a measurement between the two horizontal lines that lean on the two cursors. The position of the vertical time line does not affect the distance measurement.

Operation:

1. Rotate the trackball to select the “M distance” item in the menu. A start cursor“+” will appear on the screen.
2. Move the cursor through rotating the trackball and press Enter-key to fix the first point. The

second cursor will appear.

3. Move the second cursor to the end point and press Enter-key to fix it. The measurement result will appear on the right side of the screen.

M Time

Time is the measurement between the two vertical time lines created by two cursors. The position of the horizontal distance line does not affect time measurements.

Velocity

Velocity is the measurement between the intersections of the two cursors. Velocity can be positive or negative, and is measured as the rate of change between the two points defined by the intersections of the cursors in cm/sec.

HR

HR is the measurement between the two vertical lines that are created by two cursors in beat per minute (BPM). The position of the horizontal distance line does not affect HR.

5.3.4 Cardiac Measurement in M mode

Fig.5- 4

1. Distance

   Refer to distance measurement in OB measurement in M mode.

2. HR

   Refer to HR measurement in OB measurement in M mode.

3. Ejection_Time

   Refer to Time measurement in OB measurement in M mode.

4. LV

<<Items to be measured>>

Meas. item name	Description	Meas. Method
IVSd	Interventricular septal thickness at end diastole	Refer to distance measurement (Distance)in B mode
LVIDd	Left ventricular short-axis diameter at end diastole	Refer to distance measurement(distance) in B mode
LVIDs	Left ventricular short-axis diameter at end systole	Refer to distance measurement (Distance) in B mode
LVPWd	Left ventricular posterior wall thickness at end diastole	Refer to distance measurement (Distance) in B mode

<<Items to be calculated>>

Calc. item name	Description	Calc. formula
EDV	End-diastolic left ventricular volume	EDV = 7.0 / (2.4 + LVIDd) * LVIDd * LVIDd * LVIDd
ESV	End-systolic left ventricular volume	ESV = 7.0 / (2.4 + LVIDs) * LVIDs * LVIDs * LVIDs
SV	Stroke volume	EDV - ESV
CO	Cardiac output	SV x HR /1000
CI	Cardiac index	CO/BSA
EF	Ejection fraction	SV / EDV
FS	Fractional shortening	(LVIDd -LVIDs)/LVIDd

5. LVSHORT

<<Items to be measured>>

Meas. item name	Description	Meas. Method
AIVSD	Anterior wall of interventricular septum at end diastole	Refer to distance measurement in M mode
PIVSD	Posterior interventricular septum distance at end diastole	Refer to distance measurement in M mode
ENDOD	Endocardium of posterior wall of left ventricular at diastole	Refer to distance measurement in M mode
EPID	Epicardium at diastole	Refer to distance measurement in M mode

AIVSS	Anterior wall of interventricular septum at end systole	Refer to distance measurement in M mode
PIVSS	Posterior wall of interventricular septum at end systole	Refer to distance measurement in M mode
ENDOS	Endocardium of posterior wall of left ventricular at systole	Refer to distance measurement in M mode
EPIS	Epicardium at systole	Refer to distance measurement in M mode

<<Items to be calculated>>

Calc. item name	Description	Calc. formula
IVSd	interventricular septum at end diastole	
LVIDd	Left ventricular short-axis diameter at end diastole	
LVIDs	Left ventricular short-axis diameter at end systole	
LVPWd	Left ventricular posterior wall thickness at end diastole	
EDV	End-diastolic left ventricular volume	EDV = 7.0 / (2.4 + LVIDd) * LVIDd * LVIDd * LVIDd
ESV	End-systolic left ventricular volume	ESV = 7.0 / (2.4 + LVIDs) * LVIDs * LVIDs * LVIDs
SV	Stroke volume	EDV - ESV
CO	Cardiac output	SV x HR /1000
CI	Cardiac index	CO/BSA
EF	Ejection fraction	SV / EDV
FS	Fractional shortening	(LVIDd -LVIDs)/LVIDd

6. AV

<<Items to be measured>>

Meas. item name	Description	Meas. Method
AOD	Aorta diameter at diastole	Refer to distance measurement in M mode
LAS	Posterior interventricular septum distance at end diastole	Refer to distance measurement in M mode

AVO	AVO	Refer to distance measurement in M mode
LVET	Left ventricular ejection time	Refer to time measurement in M mode
PEP	Pre-ejection period	Refer to time measurement in M mode

<<Items to be calculated>>

Calc. item name	Description	Calc. formula
LAR	Ratio between LA and aorta	LAR=LAS/AOD
ETR	Ratio between PEP and LVET	ETR=PEP/LVET

7. AVSHORT

<<Items to be measured>>

Meas. item name	Description	Meas. Method
AAW	Posterior wall of aorta at diastole	Refer to distance measurement in M mode
PAWD	Posterior wall of aorta at diastole	Refer to distance measurement in M mode
AAL	Anterior leaflet at AVO	Refer to distance measurement in M mode
PAL	Posterior leaflet at AVO	Refer to distance measurement in M mode
PAWS	Posterior wall of aorta at leaflet closed point	Refer to distance measurement in M mode
PLA	Posterior wall of posterior leaflet of aorta of at closed point	Refer to distance measurement in M mode

<<Items to be calculated>>

Calc. item name	Description	Calc. formula
AO	Ratio between LA and aorta	
LAS	Ratio between PEP and LVET	
AVO	AVO	
LVET	Left ventricular ejection time	

PEP	Pre-ejection period	
LAR	Ratio between LA and aorta	LAR=LAS/AOD
ETR	Ratio between PEP and LVET	ETR=PEP/LVET

8. MV

<<Items to be measured>>

Meas. item name	Description
D	D wave
E	E wave
F	F wave
EPSS	The distance between mitral valve and interventricular septum

<<Items to be calculated>>

Calc. item name	Description
EPSS	Distance between the mitral valve and interventricular septum
DEex	D-E shift of mitral valve
DEsl	D-E slope of mitral valve
EFsl	E-F slope of mitral valve

9. MV Expert

<<Items to be measured>>

Meas. item name	Description
EFSLP	Closed velocity of mitral valve
EPSS	The distance between E point and interventricular septum
CEAMP	The amplitude of E wave
CAAMP	The amplitude of A wave
DEAMP	The amplitude of DE wave
DESLP	The open velocity of mitral valce

<<Items to be calculated>>

Calc. item name	Description [Unit]	Calc. formula
CA/CE	The ratio between A wave and E wave	CAAMP/CEAMP

10. AV (EXPERT)

<<Items to be measured>>

Meas. item name	Description	Meas. Method
AOD	Aorta diameter	M distance
LAD	Left ventricular diameter	M distance
AVD	Diameter of mitral valve	M distance
ET	Ejection time	M Time
RVOTD	Diameter of right ventricular outlet	M distance

11. AO/LV

<<Items to be measured>>

Meas. item name	Description	Meas. Method
AO Root	Aorta diameter	M distance
LA Diam	Left ventricular diameter	M distance
LVOT Diam	Diameter of mitral valve	M distance

<<Items to be calculated>>

Calc. item name	Description	Calc. formula
LA/AO	Ratio between left artrium and aorta	LAD/AOD

12. LVOT

LVOT Diam:According totheleft ventricular outflow tractdiameter，automaticallycalculatedleft ventricular outflowarea.

Left ventricular outflow tractdiametermeasurementmethod refer to”Mdistance "

13. TV

R-R interval: Selectone ortwocycles, automatically calculate the R-R interval, the measurementmethod refer to”M Time”.

14. PulV

R-R interval: Selectone ortwocycles, automatically calculate the R-R interval, the measurementmethod refer to”M Time”.

15. Cube

<<Items to be measured>>

Meas. item name	Description
Diastole	End-diastolic Left Ventricular Measurement
Systole	End-systolic Left Ventricular Measurement

16. Teichholz

<<Items to be calculated>>

Meas. item name	Description

IVSd	interventricular septum at end diastole
LVPWd	Left ventricular posterior wall thickness at end diastole
LVIDd	Left ventricular short-axis diameter at end diastole
IVSs	interventricular septum at end systole
LVPWs	Left ventricular posterior wall thickness at end systole
LVIDs	Left ventricular short-axis diameter at end systole

17. Gibson

<<Items to be calculated>>

Meas. item name	Description	Meas. Tool
LVIDd	Left ventricular short-axis diameter at end diastole	M Distance
LVIDs	Left ventricular short-axis diameter at end systole	M Distance

5.3.5 OB Measurement in PW mode

Fig.5- 5

1. Velocity

1) Rotate the trackball to move the cursor to the velocity item in the menu and press Enter-key to select it. Acursor"+" will appear on the screen.
2) Move the cursor "+" to the place where need to be measured and press Enter-key to fix it.
3) The value of velocity and pressure will appear on the screen.
4) Repeat step 1) to 3) to measure the next point.

2. Peak

Calculate the velocity over one cardiac cycle. The velocity, slope, RI and SD ratio are calculated.

1) Scan the object area in PW mode and freeze the image
2) Rotate the trackball to move the cursor to the Peak item in the menu and press Enter-key to select.
3) A cursor"+" will appear on the screen. Move the cursor "+" to the peak point where the cardiac systole and press Enter-key to fix it.

4) A second cursor"+" will appear on the screen again. Fix the second cursor to the end point where the cardiac diastole.
5) When the two points are all fixed, the value of Vs,Vd,RI,SD(Vs/Vd) will appear on the right side of the screen.

3. Auto Trace

1) Rotate the trackball to move the cursor to the auto trace item in the menu.
2) Press Enter-key to select it. A cursor"|" will appear on the screen.
3) Move the cursor by rotating the trackball to the start point of the one cycle and press Enter-key to fix it. A second cursor "|" will appear.
4) Rotate the trackball the end point of the cycle and press Enter-key to fix it.
5) After the measurement, the value of Vs,Vd,RI,SD ratio,PI will appear on the screen.

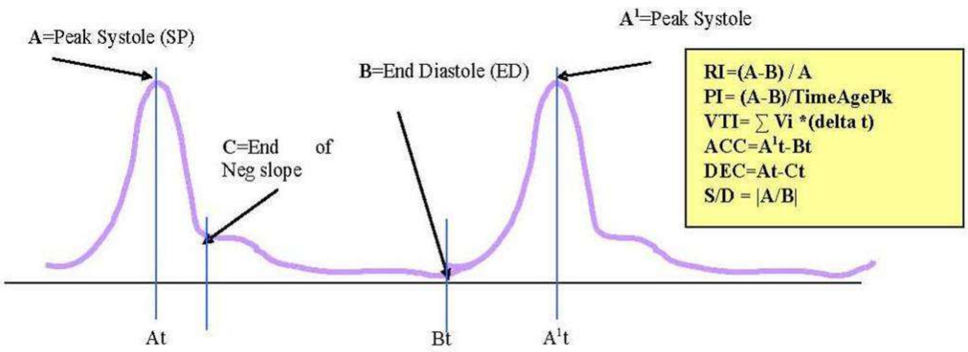


Fig.5- 6

- <u>Peak Velocity or Doppler frequency</u>

  Peak velocity over one cardiac cycle (Vpk)

- <u>Doppler Time Distance</u>

  Time distance between two cursors in ms. The invert is the heart beat rate if the two cursors are at one cardiac cycle period. (T)

- <u>Spectral Velocity Time Integral (VTI)</u>

  VTI= ∑Vpk *(delta t). Where delta t is T/N, N is the data point over one cardiac cycle.

- <u>Pulsatility Index (PI)</u>

  It can be used to represent the degree of pulse-wave damping at different arterial sites; the smaller the PI, the greater the degree of damping. Typical value for CCA is 1.90+/-0.5.
  PI = | (A-B)/TimeAvgPk |, TimeAvgPk=Σ Vpk/ N

- <u>Resistive Index (RI)</u>

  Vary from 0 to 1. It is an indicator of the circulatory resistance. Typical value for CCA is 0.75+/- 0.05.
  RI = | (A-B) /A|

Note:

a) In order to get accurate result, the PW image must be clear and high quality.

b) Insure you fix the cursor at the exact place of cardiac systole and diastole

4. Manual trace

Automatically measure the Peak Systolic Velocity, VTI, end diastolic velocity, HR, Time, minimum velocity, PI, and RI after manually tracing of the curve is finished.

Note: Manual trace requires the user to trace two peak point of two cycles

5. Flow volume

<<Items to be measured>>

Meas. item name	Description [Unit]	Meas. Method
Diam	Diameter of vessel [mm]	Refer to “distance” measurement
VTI	Velocity time integral	Refer to “area-trace” measurement
Time	Time	Refer to “time” measurement in M mode

<<Items to be calculated>>

Calc. item name	Description [Unit]	Calc. formula
SV	Stroke volume[ml]	SV=0.785 * diameter * diameter * ｜VTI｜
CO	Cardiac output[L/min]	CO=SV*heart rate/1000
HR	Heart rate	Heart rate=60/time

6. HR

Refer to HR measurement in OB measurement in M mode.

7. FHR

Refer to HR measurement in OB measurement in M mode.

5.3.6 Cardiology Measurement in PW mode

1. LVOT

<<Item to be measured>>

Meas. item name	Description	Meas. method
LVOT Diam	left ventricular outflow tract diameter	Measurement (Distance)
LVOT Area	left ventricular outflow tract area	area Measurement

2. Aortic

<<Item to be measured>>

Meas. item name	Description
AV Vmax	Mitral Valve E-wave flow velocity
AV VTI	Mitral Valve Velocity-Time Integral
LVOT VTI	Left Ventricular Outflow Tract Velocity-Time Integral
LVOT Vmax	Left Ventricular Outflow Tract Maximum Velocity
LVPEP	Left Ventricular Pre-ejection period
LVET	Left Ventricular ejection time
AR Vmax	Mitral Valve Regurgitation Maximum Velocity
AR VTI	Aortic Valve Regurgitation Velocity-Time Integral
AR DecT	Aortic Valve Regurgitation Deceleration Time
AR PHT	Aortic Valve Regurgitation Pressure Half Time

3. Mitrual Valve

Measurement of Mitral valve function is performed in frozen Doppler spectral trace.

<<Measurement and calculation items>>

Meas. item name	Description
MV E Vel	Mitral Valve E-wave flow velocity
MV A Vel	Mitral Valve A-wave flow velocity
MV VTI	Mitral Valve Velocity-Time Integral
MVA(PHT)	Mitral Valve Orifice Area Pressure half time
LVOT VTI	Left Ventricular Outflow Tract Velocity-Time Integral
MV E Dur	Mitral Valve E-wave duration
MV A Dur	Mitral Valve A-wave duration
MV DecT	Mitral Valve Deceleration Time
MR Vmax	Mitral Valve Regurgitation Maximum Velocity
MR VTI	Mitral Valve Regurgitation Velocity-Time Integral
dp/dt	Rate of Pressure change
IVRT	Isovelocity Relaxation Time

IVCT	Isovelocity Compression Time

4. TV

Measurement of tricuspid valve function is performed by using Doppler images.

<<Measurement items>>

Meas. item name	Description
TV E Vel	Tricuspid Valve E-wave flow velocity
TV A Vel	Tricuspid Valve A-wave flow velocity
TV Vmax	Tricuspid Valve Maximum Velocity
TV VTI	Tricuspid Valve Velocity-Time Integral
RVOT VTI	Right Ventricular Outflow Tract Velocity-Time Integral
TR Vmax	Tricuspid Valve Regurgitation Maximum Velocity
RAP	Right Atrium Pressure

5. PV

Measurement of pulmonary valve function is performed by using a Doppler image.
<<Measurement items>

Meas. item name	Description
RVOT Vmax	Right Ventricular Outflow Tract Maximum Velocity
RVOT VTI	Right Ventricular Outflow Tract Velocity-Time Integral
PV Vmax	Pulmonary Valve Maximum Velocity
PV VTI	Pulmonary Valve Velocity-Time Integral
LVPEP	Left Ventricular Pre-ejection period
LVET	Left Ventricular ejection time
MPA Vmax	Main Pulmonary Artery Maximum Velocity
RPA Vmax	Right Pulmonary Artery Maximum Velocity
LPA Vmax	Left Pulmonary Artery Maximum Velocity
RVPEP	Right Ventricular Pre-ejection period
RVET	Right Ventricular ejection time
PR Vmax	Pulmonary Valve Regurgitation Maximum Velocity
RAP	Right Atrium Pressure

PR Vmax	Pulmonary Valve Regurgitation MaxiumVelocity
PR VTI	Pulmonary Valve Regurgitation Velocity-Time Integral
PR PHT	Pulmonary Valve Regurgitation Pressure Half Time

6. Pulmonary Vein

<<Measurement items>>

Meas. Item name	Description
PVein S Vel	Pulmonary Vein S-wave Flow Velocity
PVein D Vel	Pulmonary Vein D-wave Flow Velocity
PVein A Vel	Pulmonary Vein A-wave Flow Velocity
PVein A Dur	Pulmonary Vein A-wave Duration
PVein S VTI	Pulmonary Vein S-wave Velocity-time Integral
PVein D VTI	Pulmonary Vein D-wave Velocity-time Integral

7. Tei Index

Tei Index =（ICT+IRT）/ET

<<Measurement items>>

Meas. Item name	Description
IRT	Isovelocity Relaxation Time
ICT	Isovelocity Compression Time
ET	Ejection Time

5.4 Edit measurement results

After the user finishes the measurements, this system allows users to move the position of measurement results, or change the font size of measurement results.

To move result position, operations are as follows:

1. In the measurement status, rotate SK2-key to choose “Move result position”.
2. Press SK2-key, and use trackball to move the position of measurement results .
3. Press Enter-key to confirm it

To reset result position, operations are as follows:

1. In the measurement status, rotate SK3-key to choose “Reset result position”
2. Press SK3-key，the position of current measurement result will be reset back to default.

To change the font size of measurement results, operations are as follows:

In the measurement status, rotate SK1-key to adjust the font size of measurement results.

To reset the font size of measurement results, operations are as follows:

In the measurement status, press SK1-key, the font size of measurement results will be reset back to default. The system default font size is 12.

5.5 Report

After finishing the exam, press the Report-key to pop up report interface, edit and print the report.

Report Interface:

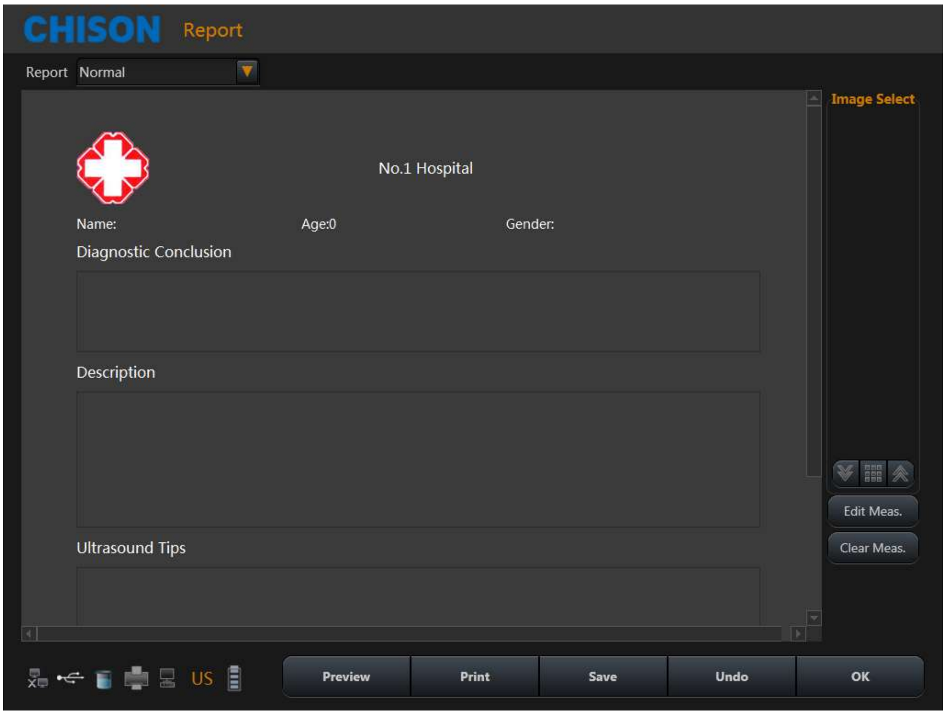


Fig.5- 18

Choose the image: Click the image can add the image to the image area in the report, and click the image in the report to remove it.

Preview: preview the whole report and its format before printing

Print: print the current report, please make sure that the printer is normal working.

Save: store the report on the disk.

OK: confirm the operation and exit the interface

Undo: cancel the operation and exit the interface

Edit Meas: Press this icon to enter into Measurement Edit Item. Choose the measurement result, which you want to display in the report. Customer also can edit the result.

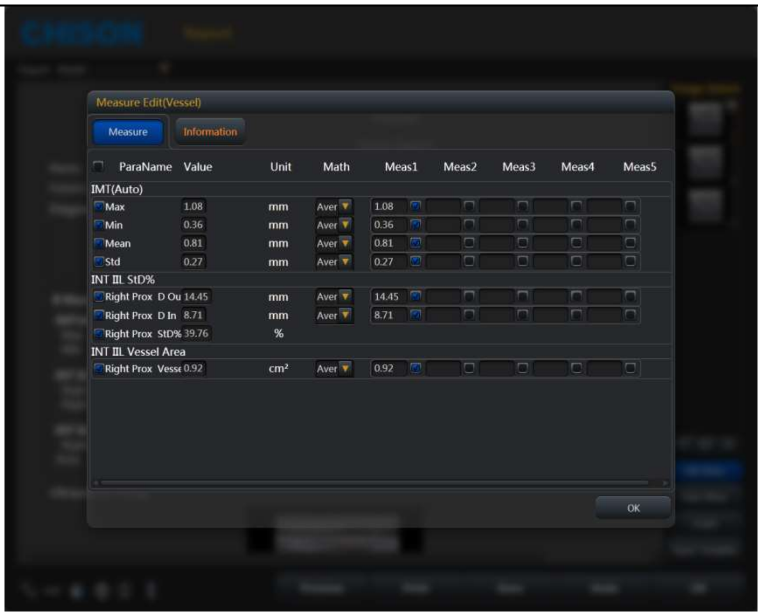


Fig.5- 19

Graph: Under OB report you can press this icon to enter in to see the fetal production graph.

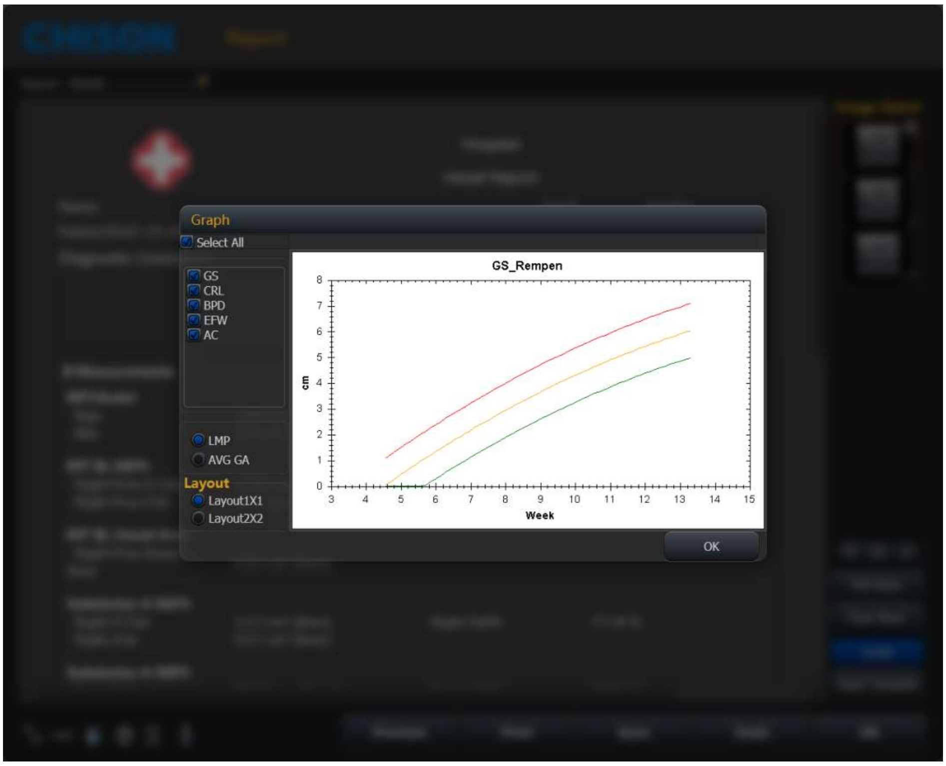


Fig.5- 20

Input Template: Input annotation from templates

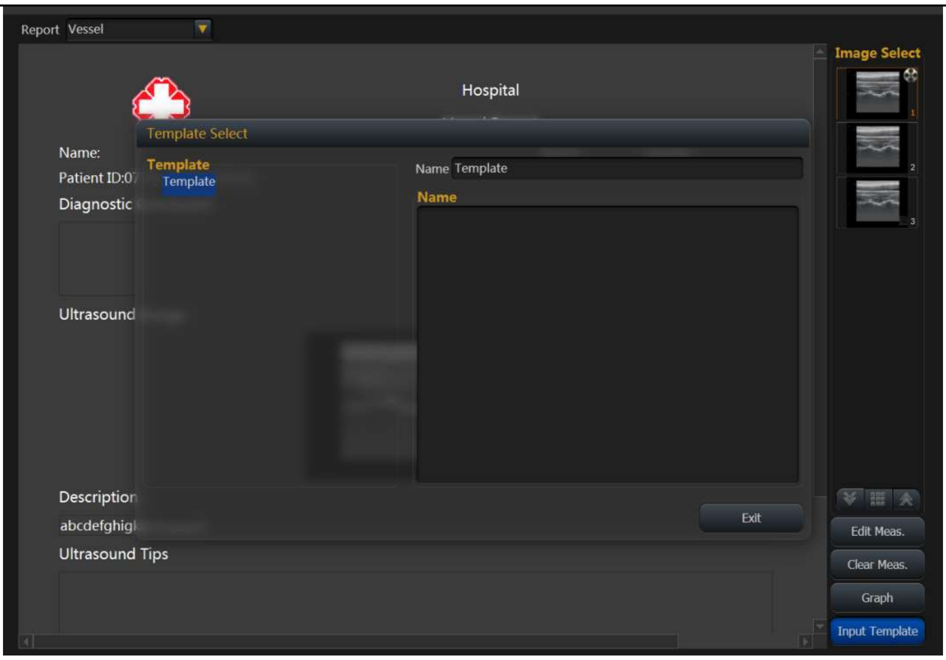

Report
Vessel
Hospital
Template Select
Name:
Patient ID:07
Diagnostic
Ultrasound
Description
abcdefghigl
Ultrasound Tips
Template
Template
Name
Template
Name
Exit
Image Select
Edit Meas.
Clear Meas.
Graph
Input Template

Fig.5- 21

Chapter 6 Preset

6.1 Recall Preset

a) Press  button to choose the transducer type.

b) Choose a clinical application.

c) Choose a preset.

d) Choose a user defined preset and double-click it.

The default choice of the system is DEFAULT preset.

After entering into the system, if you want to change preset and do not want to quit the current interface, operate as follows:

1. Press MENU- knob.
2. Rotate MENU- knob and select [Utility] item.
3. Press MENU-knob to enter into the item.
4. Now SK1—SK5Shortcut keys are corresponding with following operation:

SK1—rotate SK1 to choose the clinical application.

SK2—rotate SK2 to choose the preset.

SK3—rotate SK3 to choose the user-defined.

SK3—press SK3 edit user name (just user 1 to user 5 can be edited).

SK4—press SK4 to load preset.

SK5—press SK5 to save preset. (Just can save into user 1 to user 5 can be edited)

6.2 Save user defined preset

1) Choose and recall a preset first.

2) Adjust parameters to current preset.

3) Press MENU- knob when adjustment is finished. Rotate MENU- knob and select [utility] item. Press MENU- knob to enter.

4) Rotate SK1 to choose clinical application name (skip this step if do not need adjustment).

5) Rotate SK2 to choose the name of preset(skip this step if do not need adjustment)

6) Rotate SK3 to choose user defined. Press SK3 for editing user name. (Just user 1 to user 5 can be edited).

7) Press SK5 to save preset.

6.3 Manage Preset

Press key to enter into system setting interface. Select preset page. Add or delete the current preset.

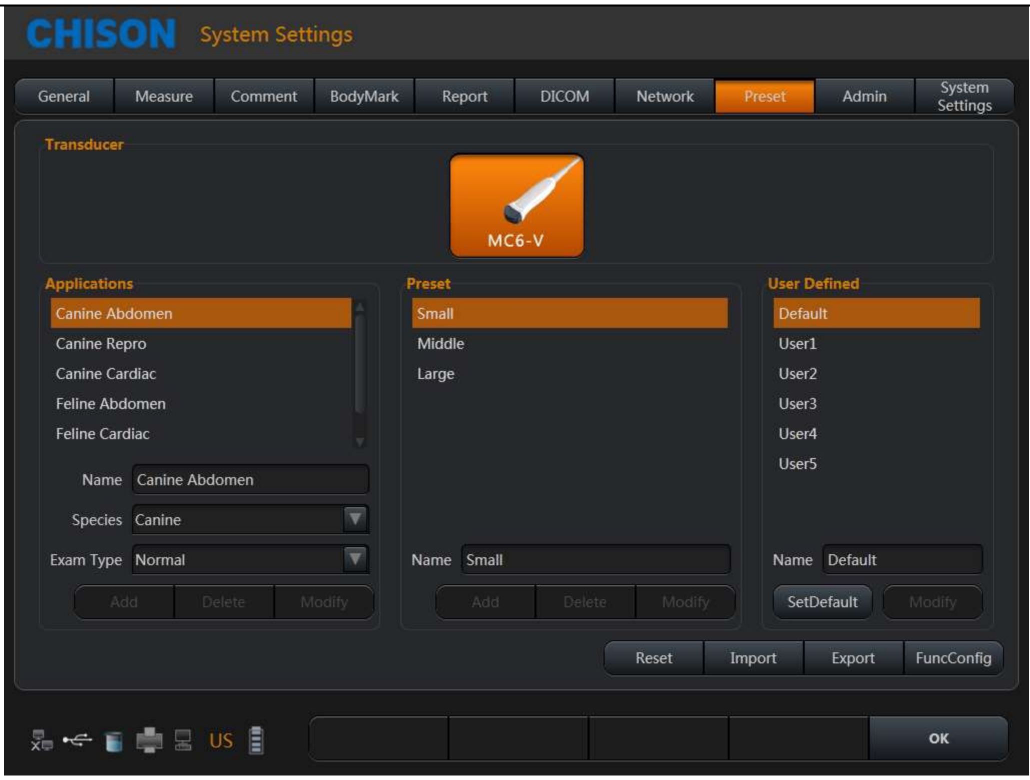


Fig.6-1

Name: input Application/Preset/User Defined name.

Exam Type: select clinical application.

Add: add Application/Preset.

Delete: delete a Application/Preset.

Modify: revise Application/Preset/User Defined name

SetDefault: user can set the default preset of the transducer on the first connector.

Reset: restore the preset to factory setting.

Import: import preset to system. Plug in U disk which has preset. Press Import key ,preset can be imported into the system .

Export: export system preset. Plug in U disk, Press the Export key, System automatically derive the preset to U disk.

OK: exit system setting interface

Chapter 7 System Setting

Press the  key to enter system setting interface. User can do user-defined setting. Click "OK" to save current preset and exit.

7.1 General settings

Normal Settings: Set the hospital information, date-time, language etc.

Items	Description
Hospital Information	To set the Hospital name and Department name.
PersonName Format	To set the PersonName Format
Date-Time	To set Date Time To set Time Zone, Data Format, Time Format Warning: Can not change date and time when examing.
Language	To select the language for the system, the available languages are Chinese, English, Portuguese, Polish, Russian, Spanish, French, Dansk, Genman, Italian, Turkish, and Romanic.
Image Option	To set STC Curve always shows or not.
Fast Storage Setting	Set the fast storage among 3 seconds/5 seconds/10 seconds /Customize (sec) /Manual. Export to removable media Export to network media
Color Map	To set the Color map for the Chroma
Screen Saver Setting	To set Screen Saver ON or OFF and Screen Saver wait time.

Keyboard Settings

Items	Description
Footswitch	To select function for footswitch among Video Print；PC Print；Freeze/UnFreeze；Cine Save；Still Save.
P1 key	To select function for P1 key between Arrow Mark, Exit and None
Print-key	To select function for Print-key between Video print and PC print.
Trackball Option	To set the sensitivity of the trackball.
PC print & Image Save selection	Picture and info Only Picture

Video Config	Set the video standard between NTSC and PALD Select “Video Enable” to enable video port Select “VGA Enable” to enable VGA port
Video Print Option	Only Picture Picture and Info Full Screen

Key Config:

Set the function for the 0~9 keys of Alphanumeric Keyboard.Select the Key Function that wanted to set ,then select the Function for the selected key.

Function Config:

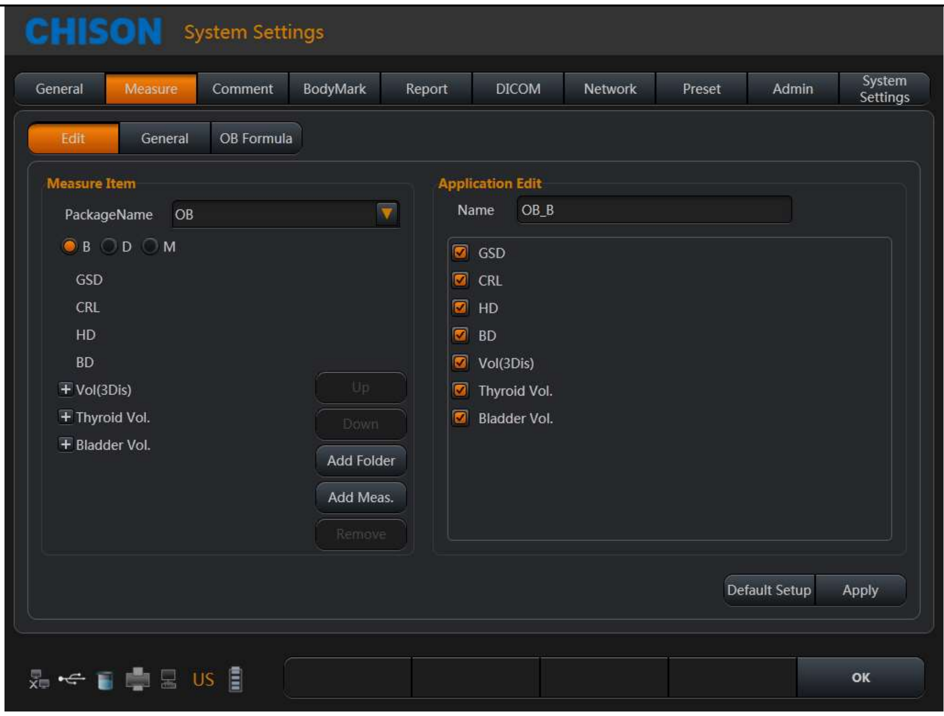
Items	Description
TIB in B/C Mode	Select it to display TIB in B/C mode
Changing the focus by trackball in B Mode	Select it to change the focus by trackball in B Mode
Keyboard Light	Set the brightness of the keyboard light.
UnFreezing Setting	Set the Unfreezing setting.Select to Clear BodyMark, Clear Comment, and Clear Arrow when Unfreezing the image.
Roi Setting	Select “Move up to enlarge ROI” to enlarge ROI by move trackball up. Select “Move up to minify ROI” to minify ROI by move trackball up.
Report Setting	Select to display Doctor Signature and Report Date in the report.

7.2 Measurement

Set the measurement formula of measurement.

Edit Settings:

Click the measurement page, and click on the Edit page, then users can edit custom configuration measurement.



1. Package Name: Choose the different examinations.
2. Choose the different exam modes.
3. Choose the measurement item and click "UP" or"Down" buttonto move itsposition.
4. Add Folder: Click this button to add a new item.
5. Clicking “Add Meas.” can adda new measurement.
6. Remove: select the measurement you want to remove, click remove button.

General Settings:

Click the General page, and you can do some general settings of measurement items

Font size: Settodefault font size ofthemeasurementresults

HR cycleoptions:

One cycle: onecycletomeasureheart rate intheDopplerenvelopecalculation

Two cycles: twocyclestomeasureheart rate intheDopplerenvelopecalculated, theresult will be moreaccurate.

1～6 can be chosen.

Unit: settheunitofmeasurementresults

Always show measure result: select the menu to always show measure result on the screen until press CLEAR key.

OB Formula Setting:

Click OB Table page, you can set the formula of the OB measurement items for measuring fetal weight formula.

Set measurement Item: choose a measurement project, gestational age table or developmental table, and then choose a formula, click the information button, you can view the current formula. Click New, you can create a new formula in the current directory.

Fetal Weight: Select the EFW equation, or EFW development table, and then choose a formula, click on the information button, you can view the information of current fetal weight formula. Click New, you can create a new fetal weight formula in the current directory.

7.3 Comment

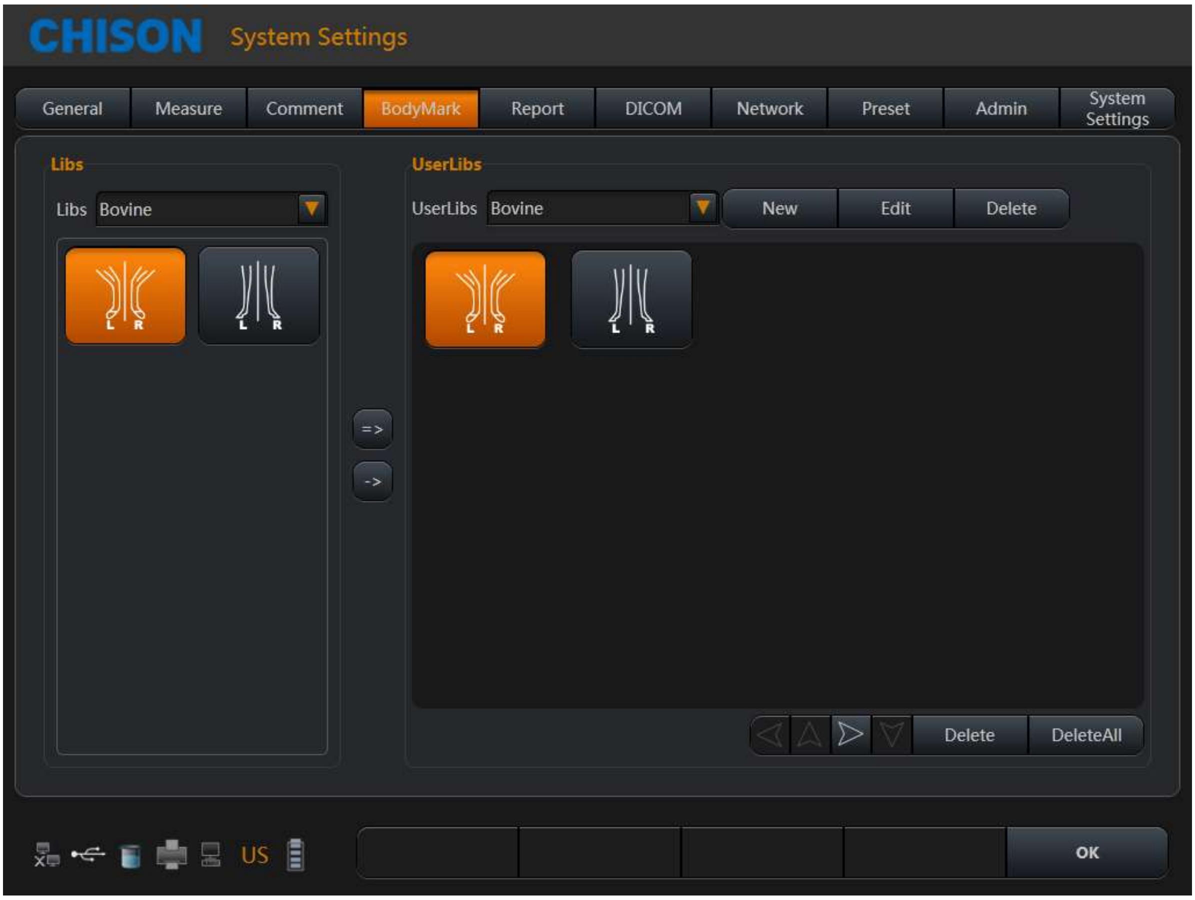
Set the comment function, manage the comment Library

Options Page:

Search option	Search comment or Abbreviations	Input search function Select the comment item, it will search notes when searching Select abbreviations, it will search abbreviations when searching
Font	Font size	Set the font size of notes

Library Page:

Comment	Provide the comment notes in different exam types.
Comment Display	List the comment notes have been chosen.
Exam type	Establish the new exam type: click New near the drop-down list on the right to establish the new exam type.
	Edit the name of the exam type: click Edit near the drop-down list on the right to edit the name of current exam type displayed in the drop-down list box.
	Delete the exam type: click Delete near the drop-down list on the right to delete the current exam type displayed in the drop-down list box.
Comment notes	Add comment notes：select the comment note on the left, click "->" to add it on the right
	Click delete, delete all to delete the selected note or all the notes on the right.
	Edit the comment note: select the comment note on the right, and input comment notes in boxes after Abbreviation and Comment, then click Edit to edit the selected comment note.
	Create the new comment note: input the comment note in boxes after Abbreviation and Comment, and click Add to create the new comment note.
OK	Click OK to save the edit and exit the system settings interface.



7.4 BodyMark

This function is to preset body marks in each preset or application of transducers.

Libs:

Provide different body marks of different presets or applications of probes

UserLibs:

List the body mark chosen from the Libs.

Establish the new category in the UserLibs:

Click the New icon near the drop-down list in the right to create a new category of body marks.

Click the Edit icon near the drop-down list in the right to change the name of current category displayed in the drop-down list box.

Click the Delete icon near the drop-down list in the right to delete the current category displayed in the drop-down list box.

Add or delete body mark:

Click 

to add the selected item in the body mark library into User Body Mark.

Click 

to add all items in the body mark library into User Body Mark.

Click Delete icon to delete the selected item on the right.

Click DeleteAll icon to delete all items on the right.

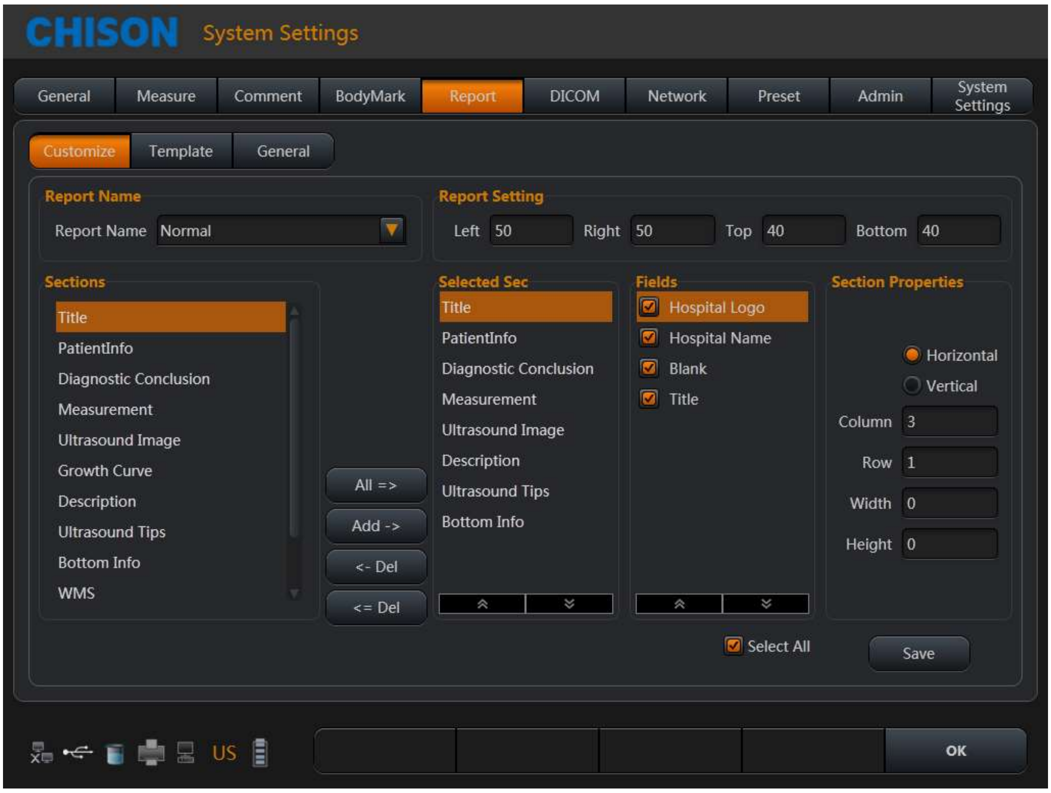
Click  to adjust the sequence of the selected items.

7.5 Report

Including the report design and report template

<u>Customize settings:</u>

Set the design of the report



Report Name：select report type

Left：Set left margins

Right：Set right margins

Top：Set top margins

Bottom：Set bottom margins

Sections: list all the sections which can be added

Selected sections: Section used in current report

All: Click this button to add " available section " to " selected section

Add: Select the section that need to be added, then click this button, add selected section

Delete: Select the section that need to be deleted, then click this button, delete the selected section from the "selected section".

Delete all: Click this button to empty the content of "selected section"

Section Properties: Set the display of section, you can select arrange horizontally or vertically

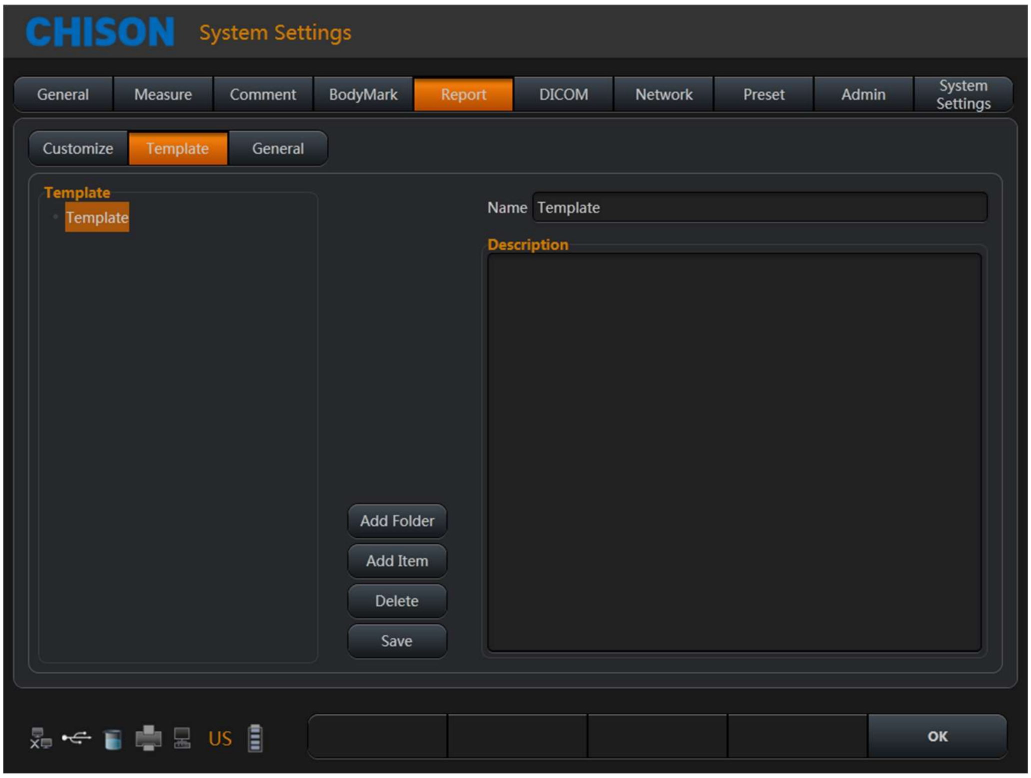
Set rows and columns of the arrangement.

Set the width and height of the image

Save: After setting the current report, click the button, save the settings

OK: Save and exit current page

Template Page:



Modify template note: Select the template note which you want to change, input modification content in the right box

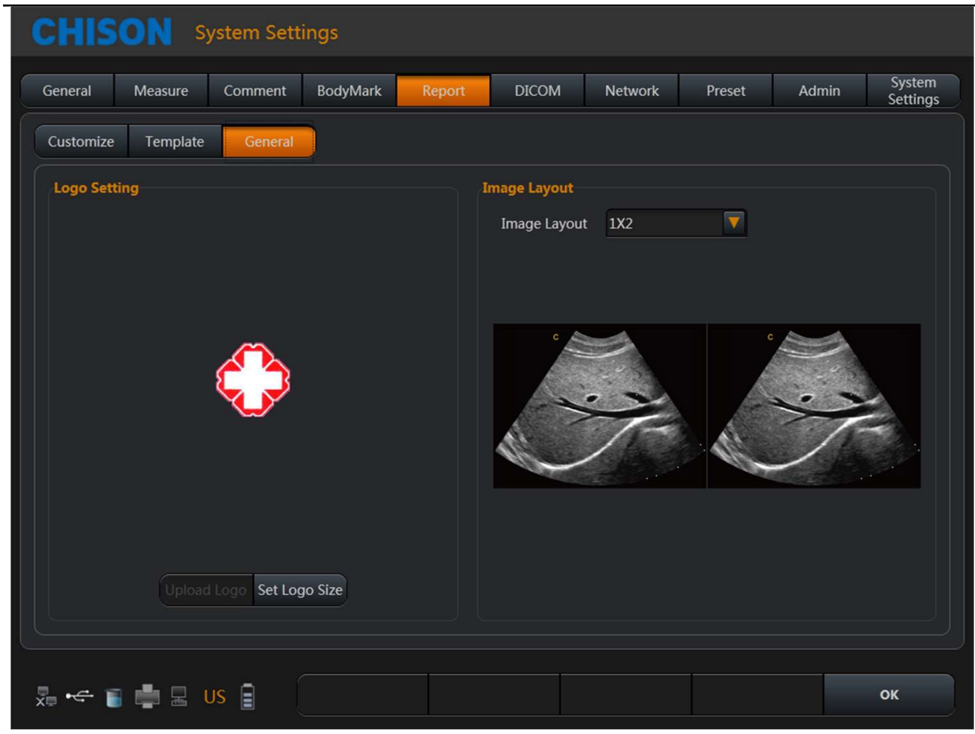
Add Folder: Press this icon to add a new Folder and name it.

Add Item: Press this icon to a new Item under current folder, and name it.

Delete: Press this icon to delete the template, which you selected.

Save: Save the changes.

General Page:



Logo Setting: Upload Logo and set logo size.

Image Layout: Choose different styles of image layout.

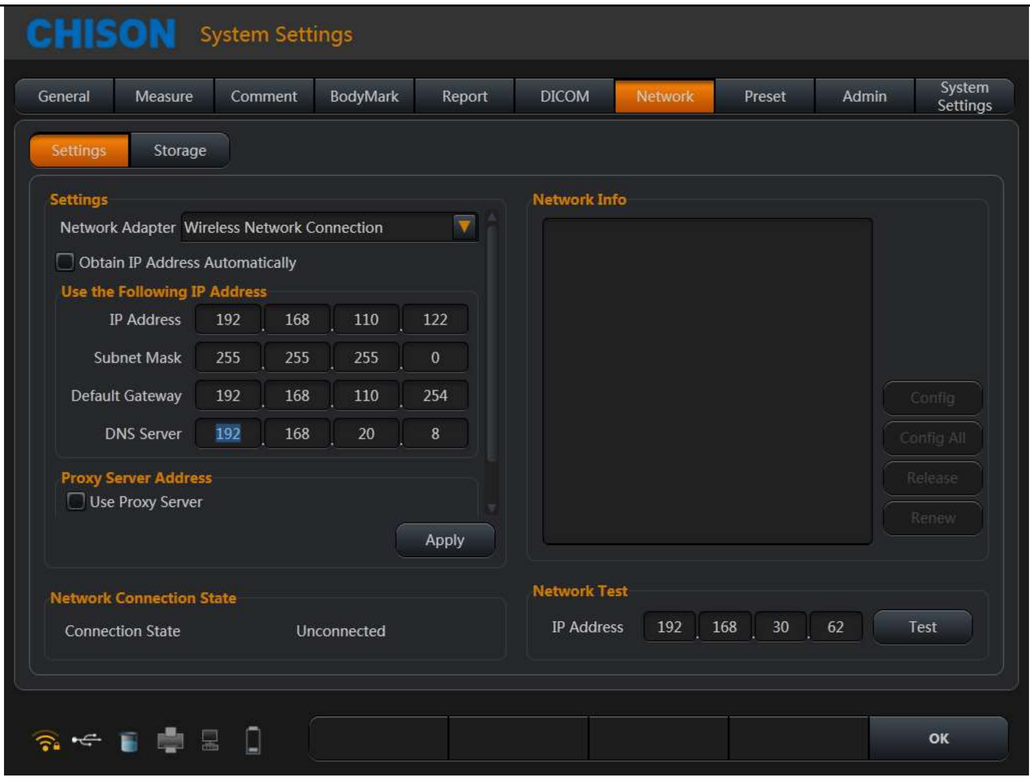
OK: Save the changes and exit the system setting interface.

***<u>NOTE</u>*: *the LOGO should be named with 'hLogo' in PNG format, which resolution is 168x169. And put LOGO file into the folder named 'hLogo'*.**

7.6 Network

Press key to enter into the system setting unit. Click the page of Network Settings to enter into the network settings interface.

Before setting up the network settings, plug the cable into the LAN port of the system.



Network Settings

Network Adapte: Display the existing network cards on this system. The user can select “Local Network Conncetion” or “Wireless Network Connection”.

Obtain an IP address automatically: When this option is selected, the system will obtain an IP address automatically.

Use the following IP address (recommended): Set the IP address of the system manually. After setting, click Apply to confirm the application.

IP address: Input the IP address of the system manually, and make sure the IP address of the network printer is in the same network segment.

Subnet Mask: Input the subnet mask manually.

Default Gateway: Input the gateway manually.

DNS server: Input DNS server manually.

Proxy Server Address: Select “Use Proxy Server” to use Proxy Server

Network Connection Status: Check the network connection status.

Connected: The system is connected to the network successfully.

Unconnected: The system is not connected to the network.

Network Information: Display the current network information.

Configuration information: Click this button to display the network configuration information.

For more information: Click this button to display network details.

Release of the connection: Click this button to disconnect the current connection.

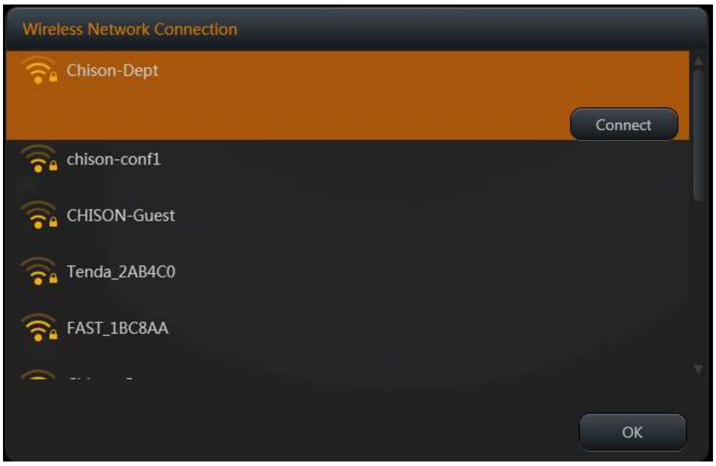
Network test: in the case of network connection status is connected, enter the IP address of the test, click the test, you can test the network the connection status between the IP of current system and the IP that needs to be tested.

To use the W-LAN Function

The system can be configured with wireless net adapter, so as to assist information communication.

1. Connect the Wireless Network.

Select the wireless LAN icon  to enter the Wireless Network Connection list

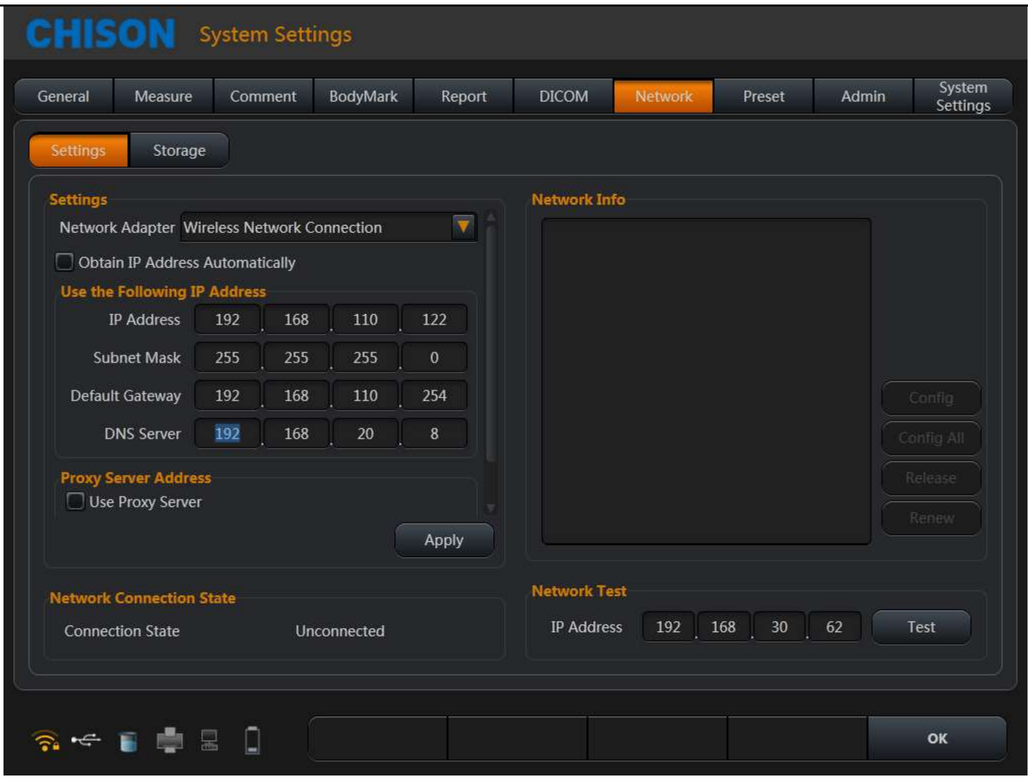


Choose a network connection, click “Connect” and enter the password for the connection, click “Next” to join as click “WirelessCancel” to cancel.

2. Setup the Wireless Network Connection

Press <SETUP> to enter the System Settings.

Click the “Network” and select the “Settings” to open the screen, as shown in the figure below:



Network Adapter: To select net adapter type

Obtain the IP Address Automatically: Select to obtain the IP address automatically

Use the Following IP Address:

IP Address: IP address of the system

Subnet Mask: Use to set different network segment.

Default Gateway: Use to set Gateway IP.

DNS Server: Use to set the DNS Server IP

Proxy Server Address: Select “Use Proxy Server” to use Proxy Server

Network Info: show the network info.

Network Test: input IP address to ping the communication

Network Storage

Network Storage is used to save image files and measurements reports to the remote PC server. To use the network storage function, the user should connect the target computer to the network first, and build a new folder on the computer, right-click it to open the attribute, select shared page, set to share this folder on the network and allow network users to change the file (as shown below).

⚠***NOTE**: the folder built on the computer is not allowed to sit on the desktop, otherwise create an error 67.*

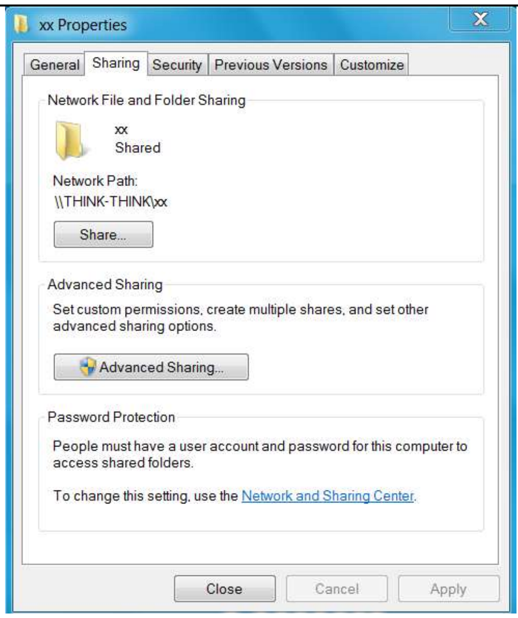


Fig.7- 1

Click “Advanced Sharing”

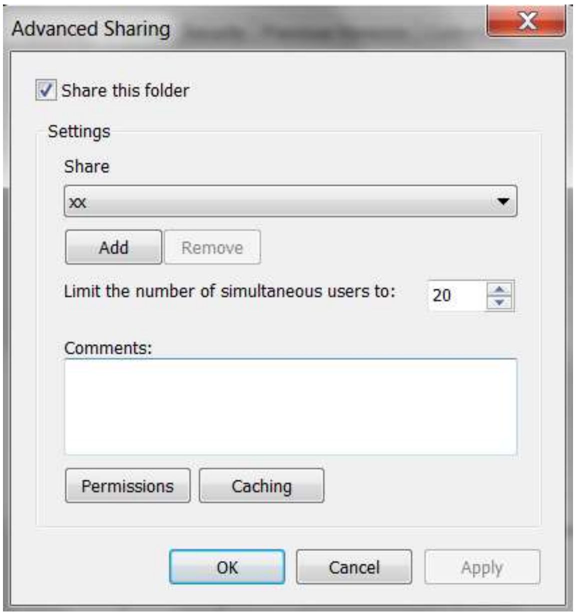


Fig.7- 2

Select “Share this folder”, and click “Permissions” to modify user permissions.

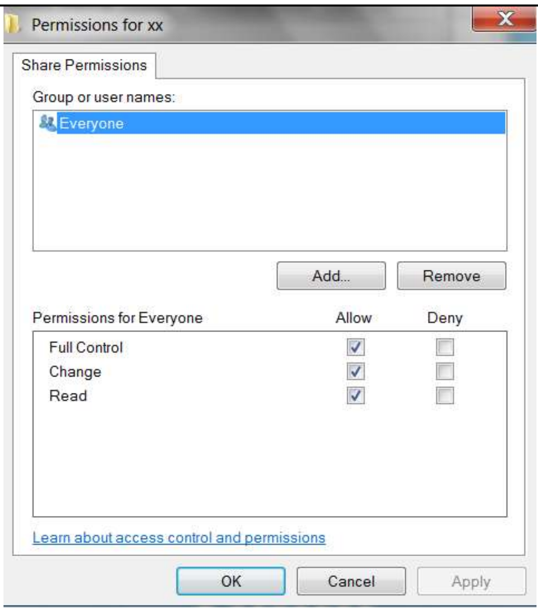


Fig.7- 3

Select “Full Control”, “Change”, “Read” for “Allow”.Click “OK” to complete modification.

Click Network Storagepage, enter the networkstoragesettingspage. Theninputshared directoryname and IP address, and click Add.

Items	Description
Shared Dir	The shared folder directory name should be same as the shared folder name in remote PC server
IP address	IP address of the remote PC server with the shared directory
User name	User name for entering the shared PC server
Password	Password for entering the shared PC server
Ping	Click it to test the communication between the shared PC and the system.
Add	Click it to add the Network service to the service list.
Cancel	Click it to cancel parameter setting.
Delete	Click it to delete the selected service in the service list.

⚠***Note:*** ***you can add multi-numbers of network storage service to realize the transmission among multi systems.***

7.7 Admin

⚠***NOTE:*** ***If the HIPPA function is not open, the system setting interface will not display Admin page. Please make sure the HIPPA function is open before you use this function.***

There are two kinds of users: the system administrator and operator customer.

The system administrator can view all patient data, such as patient information, image and report, ect.

The operator customer can only view the exam information operator by himself or herself, such as patient information, image and report, and ect.The operator cannot view the exam data operated by others.

Emergency operators are general ones; they can enter system without entering password.

The administrator can add and delete a user, change password, while the operator customer cannot.

Setting Account Control

The system administrator can preset the access control.

If “Enable Account Control” is selected, you need to have the authority before accessing the data.If not, you can access all the data without the authority.

System Login

If control has been set by the system administrator, you can access the data in the system only after you log on the system.

The login interface is as below:

User Name: Select the user name which want to login.

Password: Input the password for user name.

Login: Click the icon to login the system.

Emergency: Login as “Emergency User”, no password required.The Emergency user only can review and manager the patient information that was created by Emergency User.

User can select the “Admin” to login first time, the default password for Admin is 123456.

Add/Delete a User

The administrator can add and delete a user, change password, while the operator customer cannot.

Add a user

Click “Add” to enter the following page.

Enter the user name (you are not allowed to enter the same name or modify the name already exist)

Enter the password and confirm password

Set the user authority in the drop-down list: Administrator or Customer

Click "OK" to confirm the setting and exit the dialogue box, then the new user will appear on the User List.

7.8 System

Display the settings of system configuration information and functions

System information:

System SN: display the unit SN

Build time: The build time of software

Version: display the current software version and hardware version

Upgrade: When the U-disk with the upgrading software or is inserted to the system, click this button to upgrade software.

⚠ ***NOTE: System software will be upgraded to the new version. This action will override the user level presets and cause the system to reboot.***

⚠ ***CAUTION: When upgrade SW or FW, do not remove the USB flash disk or turn off power. It will cause system damaged.***

⚠ ***CAUTION: After upgrade SW successfully, please do not turn off the system within about 10 minutes. While press the power button, it will show "the system is updating, please don't shutdown". If the system is off at this moment, the recovery mode data will be damaged and one-key-recovery Function won't be useful.***

System Version: Display the operating system used by the current system

Function settings: DICOM, CFM mode, ECG, TDI, Elastography, Realtime Panoramic, Supper Needle, Free M Mode, 2D Steer, VirtualHD, Stress Echo, HIPPA.

DICOM is the option function.If you want to use it, please contact CHISON authorized service engineer to obtain the password to open the function.

Display the status of current function, and click the "turn on" button to turn on this function.

Software Lease: Key Input

It is time to the data time, SonoBook cannot be entered for use. User can decode by pressing Key Input key and input the code which gets from authorized service engineer.

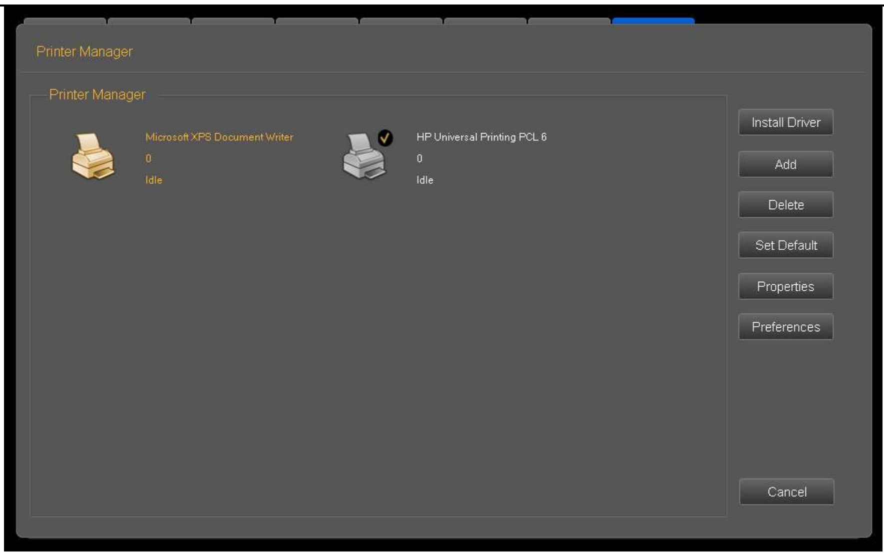
Log: Export Log

Plug in U disk to export log files which saved on system automatically for engineers to analyze.

License: Export License

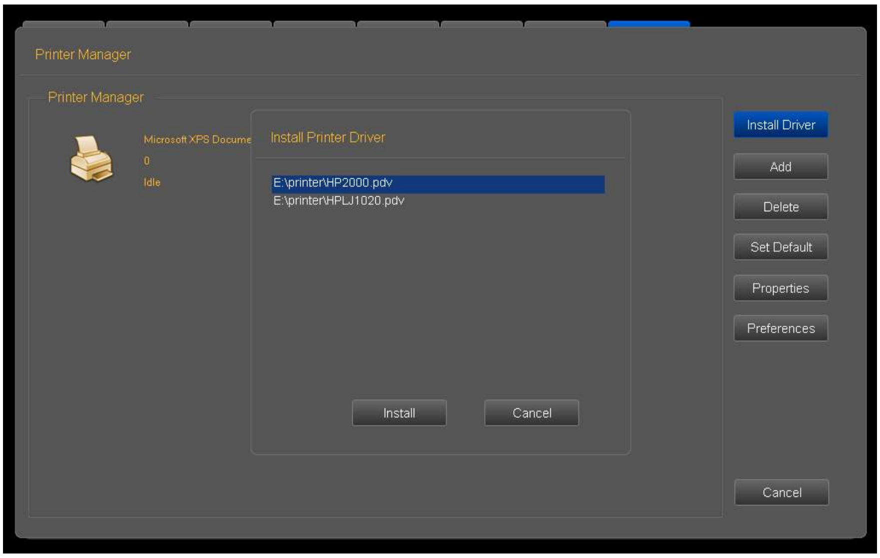
Plug in U disk to export license to U Disk.

Printer management: Users can manage the printers. Click "Open" to enter into the printer management screen.



Operating methods: insert U disk with installation driver to the system, click “Install Driver”. The installation driver must be put in the folder named “printer” and the format must be .pdv.

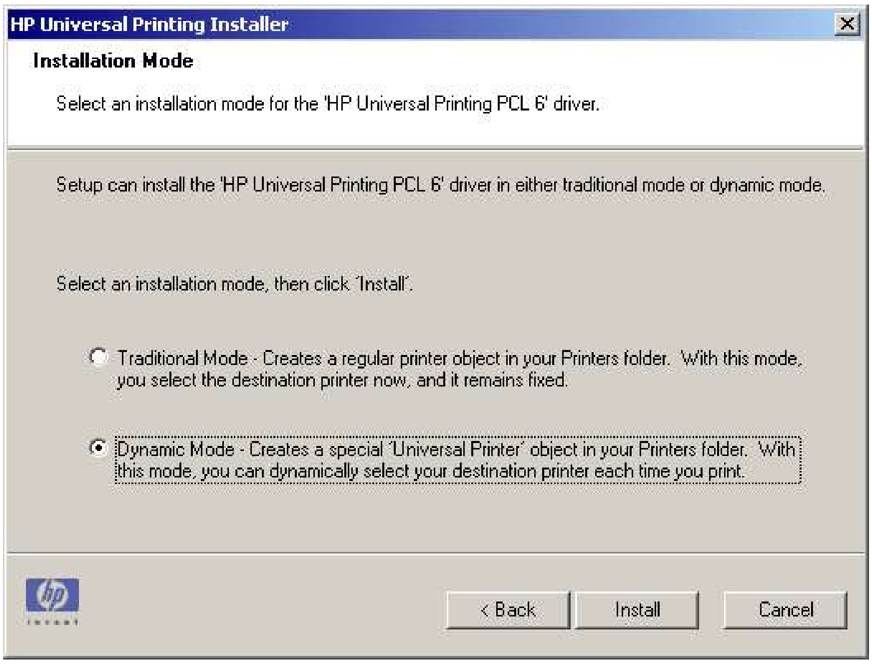
⚠**NOTE:** ***Please contact CHISON authorized service engineer if need new printer’s driver which the system does not support.***



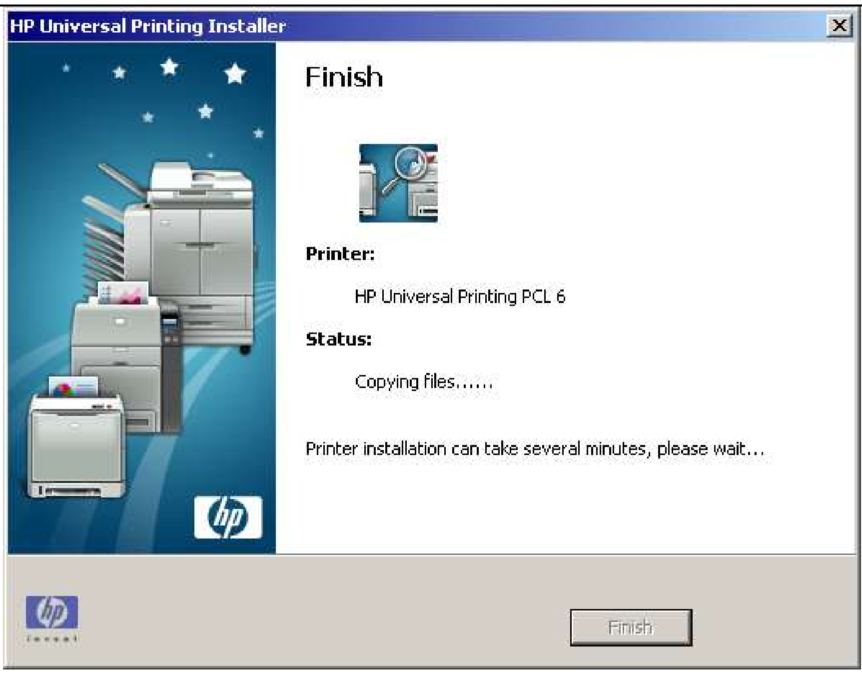
Select the driver, click “Install”, the system will jump out installation guide. Complete the installation by following up -the guide.

The steps are as below

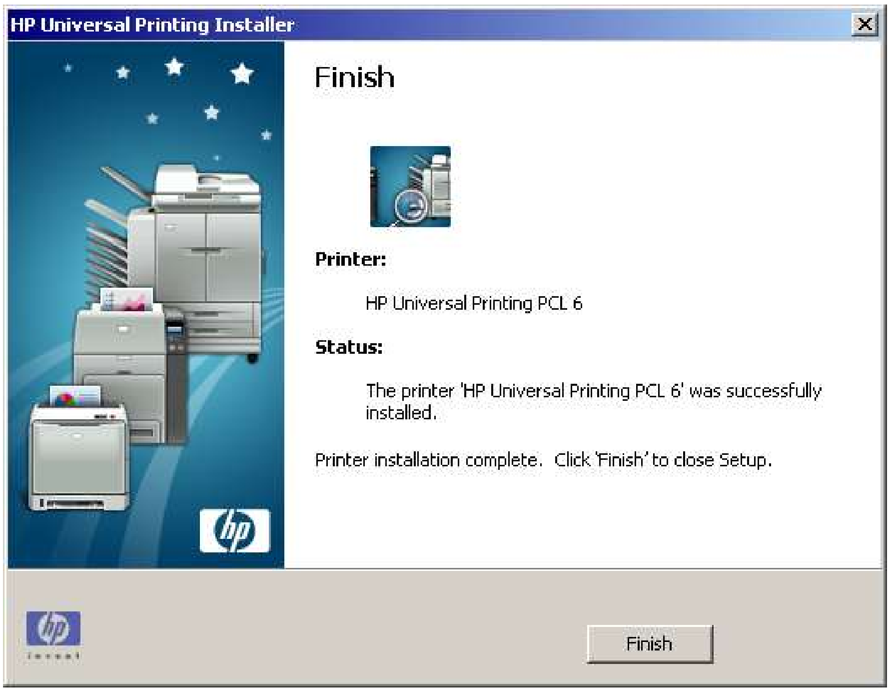
Click “Yes”



Select “Dynamic Mode”, click “Install”



Being installed automatically



Click “Finish” to finish the printer installation.

Click”Add” to add printer.

Chapter 8 Transducers

8.1 General Description

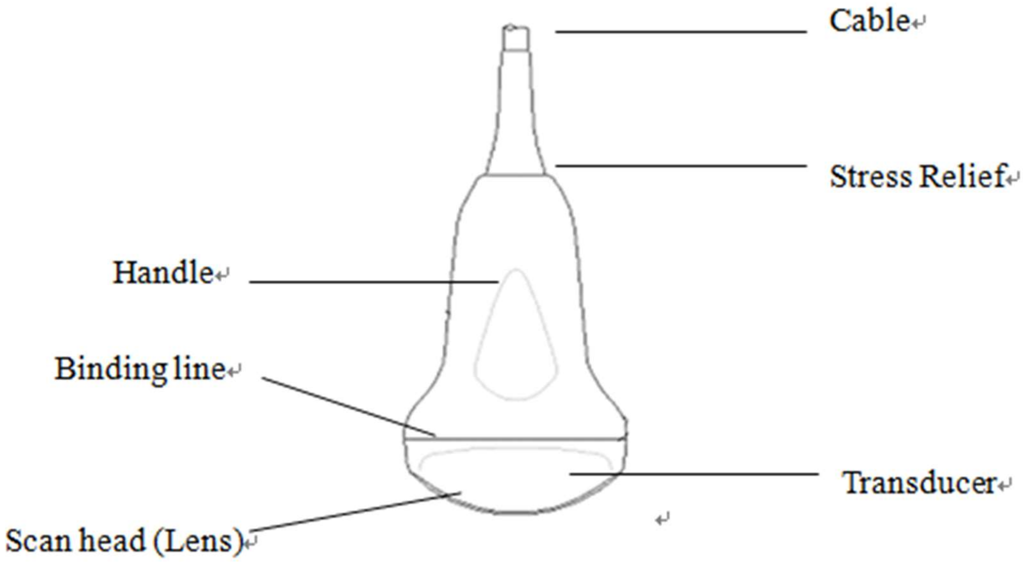


Fig.8-1: Convex Transducer Overview

The transducers provide high spatial and contrast ultrasound imaging of frequencies from 2.5MHz to 12.0MHz. These transducers operate by pulsing sound waves into the body and listening to the returning echoes to produce high-resolution brightness mode, and a real time display.

8.2 Care and Maintenance

The transducers that come with the system are designed to be durable and dependable. These precision instruments should be inspected daily and handled with care. Please observe the following precautions:

- Do not drop the transducer on hard surface. This can damage the transducer elements and compromise the electrical safety of the transducer.
- Avoid kinking or pinching the transducer cable.
- Use only approved ultrasonic coupling gels.

8.2.1 Inspecting Transducers

Before and after each use, inspect carefully the transducer's lens, cable, casing, and connector. Look for any damage that would allow liquid to enter the transducer. If any damage is suspected, do not use the transducer until it has been inspected and repaired/replaced by a CHISON's authorized service engineer.

⚠ **NOTE*****: Keep a log of all transducer maintenance, along with a picture of any transducer malfunction.***

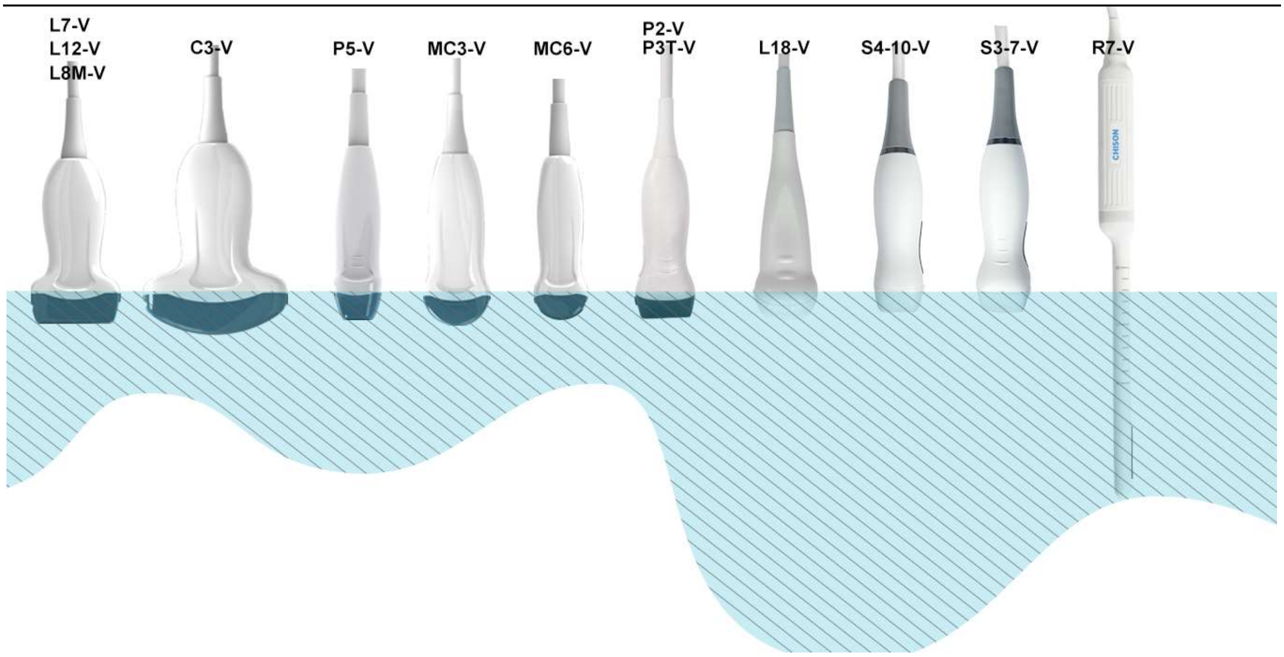
⚠ **WARNING:**

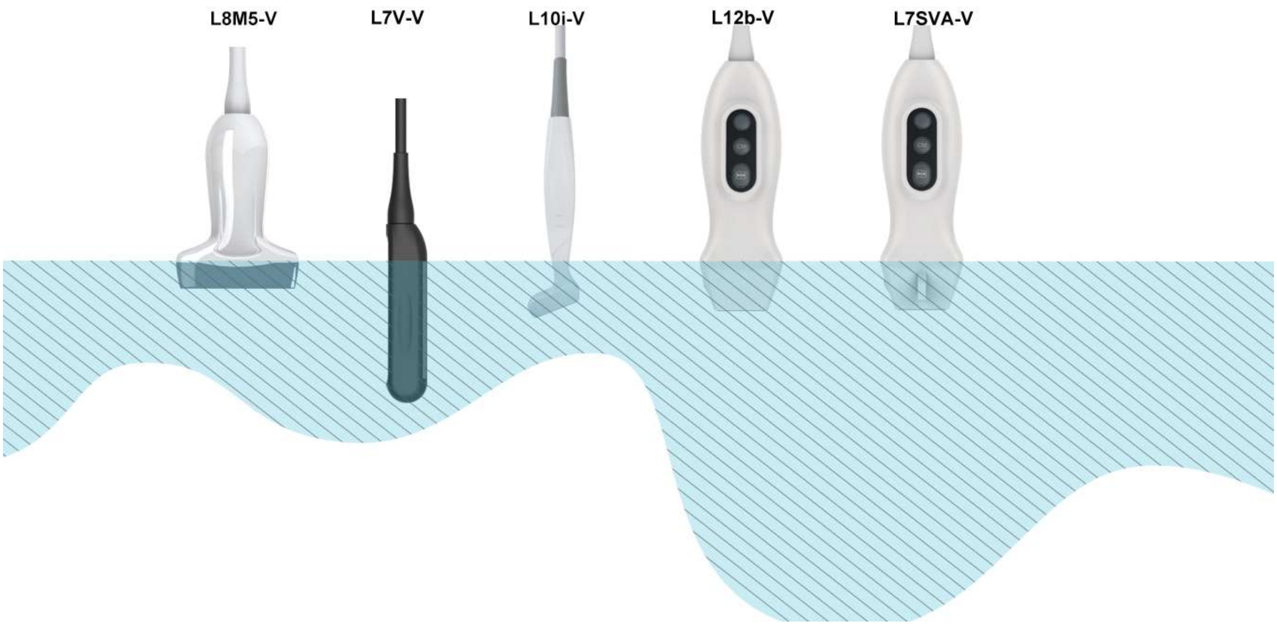
The transducers are designed to be used only with this ultrasound system. Use of these transducers on any other system or a non-qualified transducer may cause electric shock or damage on the system/transducer.

8.2.2 Cleaning and Disinfecting

- Place the transducer into the solution of cleaning-disinfectant. Make sure not to immerse the transducer into the liquid beyond the immersion level given in the pictures below. Make sure that the transducer is covered with the cleaning-disinfectant up to the immersion level during the complete disinfection time.
- For the recommended cleaning and disinfection time, please see your Operating Manual.
- Scrub the transducer as needed using a soft sponge, gauze, or cloth to remove all visible residue from the transducer surface.
- Rinse the transducer with enough clean, potable water to remove all disinfectant residues.
- Use a soft cloth to clean the cable and the user section of the transducer with the cleaning disinfectant liquid. Make sure that the surface of the transducer and cable is wetted thoroughly with the cleaning-disinfectant.
- Allow transducer to air dry completely.
- Reconnect the transducer to the ultrasound console and place the transducer into it’s holder.

Transducer Immersion Levels





Recommended materials for cleaning and disinfecting transducer

Solution	Origin	Qualified Use	Active Ingredients	Purpose
CIDEZYME	Any	Soak	enzyme	Clean
Epizyme Rapid(Rapid Multi-Enzyme cleaner	Any	Soak	enzyme	Clean
ANIOSYME DD1	FRA	Soak	enzyme	Clean
neodisher mediclean	DEU	Soak	enzyme	Clean
MetriZyme	USA	Soak	enzyme	Clean
Endozime Xtreme Power	USA	Soak	enzyme	Clean

AVAGARD Environmental Surface Wipe	Any	Wipe	Quat.Ammonia	disinfection
WIP'ANIO	FRA	Wipe	Quat.Ammonia	disinfection
Sani-Cloth AF3	USA	Wipe	Quat.Ammonia	disinfection
MetriCide OPA Plus	USA	Soak	Ortho-phthalaldehyde	disinfection
CIDEX OPA	Any	Soak	Ortho-phthalaldehyde	disinfection
Sani-Cloth Bleach Germicidal Wipes	USA	Wipe	Sodium hypochlorite	disinfection

Transducer Safety

Handling precautions

Ultrasound transducers are highly sensitive medical instruments that can easily be damaged by improper handling. Use care when handling and protect from damage when not in use. DO NOT use a damaged or defective transducer. Failure to follow these precautions can result in serious injury and equipment damage.

Electric shock hazard:

The transducer is driven with electrical energy that can injure the patient or user if live internal parts are contacted by conductive solution:

- DO NOT immerse the transducer into any liquid beyond the level indicated by the immersion level diagram. Never immerse the transducer connector into any liquid.
- Prior to each use, visually inspect the transducer lens and case area for cracks, cuts, tears, and other signs of physical damage. DO NOT use a transducer that appears to be damaged until you verify functional and safe performance. You need to perform a more thorough inspection, including the cable, strain relief, and connector, each time you clean the transducer.
- Before inserting the connector into the transducer port, inspect the transducer connector pins. If a pin is bent, DO NOT use the transducer until it has been inspected and repaired/replaced by a CHISON's authorized service engineer.
- Electrical leakage checks should be performed on a routine basis by CHISON's authorized service engineer.

Mechanical hazard:

A defective transducer or excess force can cause patient injury or transducer damage:

- Observe depth markings and do not apply excessive force when inserting or manipulating endocavitary transducer.

- Inspect transducers for sharp edges or rough surfaces that may injure sensitive tissue.
- DO NOT apply excessive force to the transducer connector when inserting into the transducer port. The pin of a transducer connector may bend.

Special handling instructions

Using protective sheaths

The use of market cleared transducer sheaths is recommended for clinical applications. Reference FDA March 29, 1991 "Medical Alert on Latex Products".

Protective sheaths may be required to minimize disease transmission. Transducer sheaths are available for use with all clinical situations where infection is a concern. Use of legally marketed, sterile transducer sheaths is strongly recommended for endo-cavitary procedures.
DO NOT use pre-lubricated condoms as a sheath. In some cases, they can damage the transducer. Lubricants in these condoms may not be compatible with transducer construction.
Devices containing latex may cause severe allergic reaction in latex sensitive individuals. Refer to FDA’s March 29, 1991 Medical Alert on latex products.
DO NOT use an expired transducer sheath. Before using a sheath, verify if it has expired.

Endocavitary Transducer Handling Precautions

If the sterilization solution comes out of the endocavitary transducer, please follow the cautions below:
Sterilant Exposure to Patient: Contact with a sterilant to the patient’s skin for mucous membrane may cause an inflammation. If this happens, refer to instruction manual of the sterilant.
Sterilant Exposure from Transducer handle to Patient: DO NOT allow the sterilant to contact the patient. Only immerse the transducer to its specified level. Ensure that no solution has entered the transducer’s handle before scanning the patient. If sterilant comes into contact with the patient, refer to the sterilant’s instruction manual.
Sterilant Exposure from Transducer connector to Patient: DO NOT allow the sterilant to contact the patient. Only immerse the transducer to its specified level. Ensure that no solution has entered the transducer’s connector before scanning the patient. If sterilant comes into contact with the patient, refer to the sterilant’s instruction manual.
Endocavitary Transducer Point of Contact: Refer to the sterilant’s instruction manual.

Transducer handling and infection control:

This information is intended to increase user awareness of the risks of disease transmission associated with using this equipment and provide guidance in making decisions directly affecting the safety of the patient as well as the equipment user.

Diagnostic ultrasound systems utilize ultrasound energy that must be coupled to the patient by direct

physical contact.
Depending on the type of examination, this contact occurs with a variety of tissues ranging from intact skin in a routine exam to recirculating blood in a surgical procedure. The level of risk of infection varies greatly with the type of contact.

One of the most effective ways to prevent transmission between patients is with single use or disposable devices. However, ultrasound transducers are complex and expensive devices that must be reused between patients. It is very important, therefore, to minimize the risk of disease transmission by using barriers and through proper processing between patients.

Risk of Infection
ALWAYS clean and disinfect the transducer between patients to the level appropriate for the type of examination and use FDA-cleared transducer sheaths where appropriate.

Adequate cleaning and disinfection are necessary to prevent disease transmission. It is the responsibility of the equipment user to verify and maintain the effectiveness of the infection control procedures in use. Always use sterile, legally marketed transducer sheaths for intra-cavitary procedures.

Transducer Cleaning process:

DO disconnect the transducer from the system prior to cleaning/disinfecting the transducer. Failure to do so could damage the system.

Perform Cleaning transducer after each use

Disconnect the transducer from the ultrasound console and remove all coupling gel from the transducer by wiping with a soft cloth and rinsing with flowing water.
Wash the transducer with mild soap in lukewarm water. Scrub the transducer as needed using a soft sponge, gauze, or cloth to remove all visible residue from the transducer surface. Prolonged soaking or scrubbing with a soft bristle brush (such as a toothbrush) may be necessary if material has dried onto the transducer surface.

⚠ **WARNING:**

To avoid electric shock, always turn off the system and disconnect the transducer before cleaning the transducer.

⚠ **CAUTION:**

Take extra care when handling the lens face of the Ultrasound transducer. The lens face is especially sensitive and can easily be damaged by rough handling.

NEVER use excessive force when cleaning the lens face.

- Rinse the transducer with enough clean potable water to remove all visible soap residue.
- Air dry or dry with a soft cloth.

⚠**CAUTION:**

To minimize the risk of infection from blood-borne pathogens, you must handle the transducer and all disposables that have contacted blood, other potentially infectious materials, mucous membranes, and non-intact skin in accordance with infection control procedures. You must wear protective gloves when handling potentially infectious material. Use a face shield and gown if there is a risk of splashing or splatter.

Disinfecting the transducers:

After each use, please disinfect the transducers. Ultrasound transducers can be disinfected using liquid chemical germicides. The level of disinfection is directly related to the duration of contact with the germicide. Increased contact time produces a higher level of disinfection.

In order for liquid chemical germicides to be effective, all visible residue must be removed during the cleaning process. Thoroughly clean the transducer, as described earlier before attempting disinfection.

You MUST disconnect the transducer from the system prior to cleaning/disinfecting the transducer. Failure to do so could damage the system.

DO NOT soak transducers in liquid chemical germicide for longer than is stated by the germicide instructions for use. Extended soaking may cause transducer damage and early failure of the enclosure, resulting in possible electric shock hazard.

- Prepare the germicide solution according to the manufacturer's instructions. Be sure to follow all precautions for storage, use and disposal. The transducer is not designed to be totally submerged in fluid. Permanent damage will result if the entire transducer is submerged. The immersed part shall not exceed the transducer binding line.
- Place the cleaned and dried transducer in contact with the germicide for the time specified by the germicide manufacturer. High-level disinfection is recommended for surface transducers and is required for endocavitary transducers (follow the germicide manufacturer's recommended time).
- After removing from the germicide, rinse the transducer following the germicide manufacturer's

rinsing instructions. Flush all visible germicide residue from the transducer and allow to air dry. Ultrasound transducers can easily be damaged by improper handling and by contact with certain chemicals. Failure to follow these precautions can result in serious injury and equipment damage

- Do not immerse the transducer into any liquid beyond the level specified for that transducer. Never immerse the transducer connector or transducer adapters into any liquid.
- Avoid mechanical shock or impact to the transducer and do not apply excessive bending or pulling force to the cable.
- Transducer damage can result from contact with inappropriate coupling or cleaning agents:
  - Do not soak or saturate transducers with solutions containing alcohol, bleach, ammonium chloride compounds or hydrogen peroxide
  - Avoid contact with solutions or coupling gels containing mineral oil or lanolin
  - Avoid temperatures above 60°C. Under no circumstances should the transducer be subjected to heat sterilization method. Exposure to temperatures above 60º C will cause permanent damage to the transducer.
- Inspect the transducer prior to use for damage or degeneration to the housing, strain relief, lens and seal. Do not use a damaged or defective transducer.

Coupling gels

AQUASONIC Gel made by R. P. Kincheloe Company in USA is recommended.

In order to assure optimal transmission of energy between the patient and transducer, a conductive gel must be applied liberally to the patient where scanning will be performed.

⚠ **CAUTION:**

Please do not use any gel or other materials which are not provided by CHISON. Un-authorized gel, lubricants and other materials may corrode transducers and other parts of the device, for example the keyboard. This may reduce the safety and effectiveness of the system and transducers, and may also reduce the life time of the systems and transducers. Damages caused by such reason will not be covered by the warranty.

DO NOT apply gel to the eyes. If gel contacts to the eye, flush eye thoroughly with water.

Coupling gels should not contain the following ingredients as they are known to cause transducer damage:

- Methanol, ethanol, isopropanol, or any other alcohol-based product.
- Mineral oil

- Iodine
- Lotions
- Lanolin
- Aloe Vera
- Olive Oil
- Methyl or Ethyl Parabens (para hydroxybenzoic acid)
- Dimethylsilicone

Planned maintenance

The following maintenance plan is suggested for the system and transducers to ensure optimum operation and safety.

Daily: inspect the transducers

After each use: clean the transducers disinfect the transducers.

As necessary: inspect the transducers, clean the transducers, and disinfect the transducers.

Returning/Shipping Transducers and Repair Parts

Transportation dept. and our policy require that equipment returned for service MUST be clean and free of blood and other infectious substances.

When you return a transducer or part for service, you need to clean and disinfect the transducer or part prior to packing and shipping the equipment.

Ensure that you follow transducer cleaning and disinfection instructions provided in this Manual.

This ensures that employees in the transportation industry as well as the people who receive the package are protected from any risk.

AIUM outlines cleaning the endocavitary transducer:

Guidelines for Cleaning and Preparing Endocavitary Ultrasound Transducers Between Patients From AIUM

Approved June 4, 2003

The purpose of this document is to provide guidance regarding the cleaning and disinfection of transvaginal and transrectal ultrasound transducers.

All sterilization/disinfection represents a statistical reduction in the number of microbes present on a surface. Meticulous cleaning of the instrument is the essential key to an initial reduction of the microbial/organic load by at least 99%. This cleaning is followed by a disinfecting procedure to ensure a high degree of protection from infectious disease transmission, even if a disposable barrier covers the instrument during use.

Medical instruments fall into different categories with respect to potential for infection transmission. The most critical level of instruments are those that are intended to penetrate skin or mucous membranes. These require sterilization. Less critical instruments (often called "semi-critical" instruments) that simply come into contact with mucous membranes such as fiber optic endoscopes require high-level disinfection rather than sterilization.

Although endocavitary ultrasound transducers might be considered even less critical instruments because they are routinely protected by single use disposable transducer covers, leakage rates of 0.9% - 2% for condoms and 8%-81% for commercial transducer covers have been observed in recent studies. For maximum safety, one should therefore perform high-level disinfection of the transducer between each use and use a transducer cover or condom as an aid in keeping the transducer clean.

There are four generally recognized categories of disinfection and sterilization. Sterilization is the complete elimination of all forms or microbial life including spores and viruses.
Disinfection, the selective removal of microbial life, is divided into three classes:

High-Level Disinfection - Destruction/removal of all microorganisms except bacterial spores.

Mid-Level Disinfection - Inactivation of Mycobacterium Tuberculosis, bacteria, most viruses, fungi, and some bacterial spores.

Low-Level Disinfection - Destruction of most bacteria, some viruses and some fungi. Low-level disinfection will not necessarily inactivate Mycobacterium Tuberculosis or bacterial spores.

The following specific recommendations are made for the use of Endocavitary ultrasound transducers. Users should also review the Centers for Disease Control and Prevention document on sterilization and disinfection of medical devices to be certain that their procedures conform to the CDC principles for disinfection of patient care equipment.

1. CLEANING

After removal of the transducer cover, use running water to remove any residual gel or debris from the transducer. Use a damp gauze pad or other soft cloth and a small amount of mild non-abrasive liquid soap (household dishwashing liquid is ideal) to thoroughly cleanse the transducer. Consider the use of a small brush especially for crevices and areas of angulation depending on the design of your particular transducer. Rinse the transducer thoroughly with running water, and then dry the transducer with a soft cloth or paper towel.

2. DISINFECTION

Cleaning with a detergent/water solution as described above is important as the first step in proper disinfection since chemical disinfectants act more rapidly on clean surfaces. However, the additional use of a high level liquid disinfectant will ensure further statistical reduction in microbial load. Because of the potential disruption of the barrier sheath, additional high level disinfection with chemical agents is necessary. Examples of such high level disinfectants include but are not limited to:

- Non-glutaraldehyde agents including Cidex OPA (o-phthalaldehyde), Cidex PA (hydrogen peroxide & peroxyacetic acid).
- 7.5% Hydrogen Peroxide solution.
- Common household bleach (5.25% sodium hypochlorite) diluted to yield 500 parts per million chlorine (10 cc in one liter of tap water). This agent is effective, but generally not recommended by transducer manufacturers because it can damage metal and plastic parts.

Other agents such as quaternary ammonium compounds are not considered high level disinfectants and should not be used. Isopropanol is not a high level disinfectant when used as a wipe and transducer manufacturers generally do not recommend soaking transducers in the liquid.

<u>The FDA has published a list of approved sterilants and high level disinfectants for use in processing reusable medical and dental devices. That list can be consulted to find agents that may be useful for transducer disinfection.</u>

Practitioners should consult the labels of proprietary products for specific instructions. They should also consult instrument manufacturers regarding compatibility of these agents with transducers. Many of the chemical disinfectants are potentially toxic and many require adequate precautions such as proper ventilation, personal protective devices (gloves, face/eye protection, etc.) and thorough rinsing before reuse of the transducer.

3. TRANSDUCER COVERS

The transducer should be covered with a barrier. If the barriers used are condoms, these should be no lubricated and no medicated. Practitioners should be aware that condoms have been shown to be less prone to leakage than commercial transducer covers, and have a six-fold enhanced AQL (acceptable quality level) when compared to standard examination gloves. They have an AQL equal to that of surgical gloves. Users should be aware of latex-sensitivity issues and have available no latex-containing barriers.

4. ASEPTIC TECHNIQUE

For the protection of the patient and the health care worker, all endocavitary examinations should be performed with the operator properly gloved throughout the procedure. Gloves should be used to remove the condom or other barrier from the transducer and to wash the transducer as outlined above. As the barrier (condom) is removed, care should be taken not to contaminate the transducer with secretions from the patient. At the completion of the procedure, hands should be thoroughly washed with soap and water.

NOTE: ***Obvious disruption in condom integrity does NOT require modification of this protocol. These guidelines take into account possible transducer contamination due to a disruption in the barrier sheath.***

In summary, routine high-level disinfection of the endocavitary transducer between patients, plus the use of a transducer cover or condom during each examination is required to properly protect patients from infection during endocavitary examinations. For all chemical disinfectants, precautions must be taken to protect workers and patients from the toxicity of the disinfectant.

Amis S, Ruddy M, Kibbler CC, Economides DL, MacLean AB. Assessment of condoms as transducer covers for transvaginal sonography. J Clin Ultrasound 2000;28:295-8.

Rooks VJ, Yancey MK, Elg SA, Brueske L. Comparison of transducer sheaths for endovaginal sonography. Obstet. Gynecol 1996;87:27-9.

Milki AA, Fisch JD. Vaginal ultrasound transducer cover leakage: implications for patient care. Fertil Steril 1998;69:409-11.

Hignett M, Claman P. High rates of perforation are found in endovaginal ultrasound transducer covers before and after oocyte retrieval for in vitro fertilization-embryo transfer. J Assist Reprod Genet 1995;12:606-9.

Sterilization and Disinfection of Medical Devices: General Principles. Centers for Disease Control, Division of Healthcare Quality Promotion. http://www.cdc.gov/ncidod/hip/sterile/sterilgp.htm (5-2003).

ODE Device Evaluation Information--FDA Cleared Sterilants and High Level Disinfectants with General Claims for Processing Reusable Medical and Dental Devices, March 2003. http://www.fda.gov/cdrh/ode/germlab.html (5-2003).

8.3 Transducer Operation Instructions

For details on connecting, activating, deactivating, disconnecting, transporting and storing the transducers, see Section 3.7 “Transducers” in Chapter 3.

8.3.1 Scanning the Patient

In order to assure optimal transmission of energy between the patient and transducer, a conductive gel must be applied liberally to the patient where scanning will be performed.

After the examination is complete, follow the cleaning and disinfecting, or sterilizing procedures as appropriate.

8.3.2 Operating TV,TR transducer

The TV,TR transducers are endo-cavity transducers, for the operation safety, please refer to "Care and Maintenance" for cleaning and disinfection.

Transvaginal transducer should be used with FDA approved condom or transducer cover. See the following instructions to put the transducer into the condom:

⚠ ***CAUTION:***

- ***Some patients may be allergic to natural rubber or medical device with rubber contains. FDA suggests that the user to identify these patients and be prepared to treat allergic reactions promptly before scanning.***
- ***Only water-solvable solutions or gel can be used. Petroleum or mineral oil-based materials may harm the cover.***
- ***When the transvaginal transducer is activated outside patient's body, its acoustic output level should be decreased to avoid any harmful interference with other equipment.***
- ***During scanning with the transvaginal transducer, the following message will display if the temperature at the transducer surface exceeds 43℃.***

⚠ **WARNING: Temperature is over limit!**

In this case, the system will freeze the image to stop the examination. After 2 to 3 minutes, user can unfreeze the system and scan again with this transvaginal transducer.

Operation Procedure:

- Put on medical sterile glove
- Get the condom for the package.
- Unfold the condom.
- Load some ultrasound gel into condom.
- Take the condom with one hand, and put the transducer head into the condom.
- Fasten the condom on the end of the transducer handle.
- Confirm the integrity of the condom, and repeat the above steps to the condom if any damage to the condom is found.

8.3.3 Cleaning and Disinfecting TV,TR Transducer

We strongly recommend wearing gloves when cleaning and disinfecting any endo-cavitary transducer.

- Every time before and after each exam, please clean the transducer handle and disinfect the transvaginal transducer using liquid chemical germicides
- If the transducer is contaminated with body fluids, you should disinfect the transducer after cleaning.
- Regard any exam waste as potentially infectious and dispose of it accordingly.

⚠ **CAUTION:**

Since the transducer is not waterproof, you should disconnect it from the system before cleaning or disinfecting.

Before and after each exam, please clean the transducer handle and disinfect the endo-cavitary transducer using liquid chemical germicides.

Cleaning

You can clean the endo-cavitary transducer to remove all coupling gel by wiping with a soft cloth and rinsing with flowing water. Then wash the transducer with mild soap in lukewarm water. Scrub the transducer as needed and use a soft cloth to remove all visible residues from the endo-cavitary transducer surface. Rinse the transducer with enough clean potable water to remove all visible soap residues, and let the transducer air dry.

⚠ **CAUTION:**

- ***Please remove the cover (if any) before cleaning the transducer.(The cover like condom is one time usable).***
- ***When cleaning the endo-cavitary transducer, it is important to be sure that all surfaces are thoroughly cleaned.***

Disinfecting

To keep the effectiveness of the disinfection solutions, a thoroughly cleaning must be done to the transducer before the disinfecting, make sure no residues remain on the transducer.

Disinfecting Procedure:

- Following all precautions for storage, use and disposal, prepare the germicide solution according to the manufacturer's instructions.
- Place the cleaned and dried transducer to contact with the germicide, being careful not to let the transducer drop to the bottom of the container and thus damage the transducer.
- After placing/immersing, rotate and shake the transducer while it is below the surface of the germicide to eliminate air pockets. Allow the germicide to remain in contact with the fully immersed transducer. For high level disinfection, follow the manufacturer's recommended time.
- Following all precautions for storage, use and disposal, prepare the germicide solution according to the manufacturer's instructions.
- After removing from the germicide, rinse the transducer according to the germicide manufacturer's rinsing instructions.
- Flush all visible germicide residues from the transducer and allow to air dry.

Chapter 9 System Maintenance and Troubleshooting

9.1 Back up information

⚠ ***CAUTION:***

- ***All patient data created is NOT backed-up! It is highly recommended to create a full system backup of patient data regularly and empty the hard disk (HDD), to ensure the hard disk (HDD) has never reached its maximum capacity.***

⚠ ***NOTE:***

- ***To Backup exams to USB DVD/CD+(R) W disk, please confirm that the USB DVD/CD+(R) W storage medium used is clean and not scratched!***

⚠ ***WARNING:***

- ***Do not disconnect an external USB pen drive without stopping it. Disconnecting without stopping can lead to data loss on the external device.***

9.2 System Care and Maintenance

The system is a precise electrical device. To ensure the best performance and operation of the system, observe proper maintenance procedures. Contact the local CHISON's Authorized Service Representative for parts or periodic maintenance inspections.

Inspecting the System

Examine the following on a monthly basis:

- Connectors on cables for any mechanical defects.
- Entire length of electrical and power cords for cuts or abrasions.
- Equipment for loose or missing hardware.
- Control panel and keyboard for defects.

To avoid electric shock hazard, do not remove panels or covers from console. This servicing must be performed by CHISON's authorized service engineer. Failure to do so could serious injury.

If any defect is observed or malfunctions occur, do not operate the equipment but inform CHISON's authorized service engineer for information.

Weekly Maintenance

The system requires weekly care and maintenance to function safely and properly. Clean the following:

- LCD monitor
- Operator control panel
- Footswitch

- Printer

Cleaning the System

Prior to cleaning any part of the system, turn off the system power and disconnect the power cord. See Section 3.4.4“Power Off” in Chapter 3 for more information.

Cleaning Method

- Moisten a soft, non-abrasive folded cloth.
- Wipe down the top, front, back, and both sides of the system.

⚠ ***NOTE:***

- ***Do not spray any liquid directly into the unit.***
- ***Do not use acetone/alcohol or abrasives on painted or plastic surfaces.***

Cleaning LCD Monitor

To clean the monitor face:

- ***Use a soft, folded cloth. Gently wipe the monitor face.***
- ***Do NOT use a glass cleaner that has a hydrocarbon base (such as Benzene, Methyl Alcohol or Methyl Ethyl Ketone) on monitors with the filter (anti-glare shield). Hard rubbing will also damage the filter.***

⚠ ***NOTE:When cleaning the screen, make sure not to scratch the LCD.***

Cleaning Control Panel

- Moisten a soft, non-abrasive folded cloth with a mild, general purpose, non-abrasive soap and water solution.
- Wipe down operator control panel.
- Use a cotton swab to clean around keys or controls. Use a toothpick to remove solids from between keys and controls.

⚠ ***NOTE:***

- ***When cleaning the operator control panel, make sure not to spill or spray any liquid on the controls, into the system cabinet, or in the transducer connection receptacle.***
- ***DO NOT use Tspray or Sani Wipes on the control panel.***

Cleaning Footswitch

- Moisten a soft, non-abrasive folded cloth with a mild, general purpose, non-abrasive soap and water solution.
- Wipe the external surfaces of the unit then dry with a soft, clean cloth.

Cleaning Printer

- Turn off the power. If possible, disconnect the power cord.
- Wipe the external surfaces of the unit with a soft, clean, dry cloth.
- Remove stubborn stains with a cloth lightly dampened with a mild detergent solution.

⚠ **NOTE:**

- ***Never use strong solvents, such as thinner or benzine, or abrasive cleansers because they will damage the cabinet.***
- ***No further maintenance, such as lubrication, is required.***
- ***For more information, see the Printer's Operation Manual.***

9.3 Safety Check

To ensure the system work normally, please make a maintenance plan, check the safety of the system periodically. If there is any abnormal phenomenon with the machine, please contact our authorized agent in your country as soon as possible.

If there is no image or menu on the screen or other phenomenon appears after switching on the machine, please do troubleshooting first according to the following check list. If the trouble is still not solved, please contact our authorized agent in your country as soon as possible.

9.4 Troubleshooting

It is necessary to maintain the system regularly, as it can ensure the system being operated under safe state by eliminating possible trouble, and it can shorten the checking and repair period, lower the service costs and reduce the operation danger.

If you have any difficulty with the system, use the following information for your reference to help correct the problem. For a problem not covered here, contact your local distributor or Manufacturer.

Symptom	Solution
The system can't power on	1) Check power connections, e.g. power cord connection on the rear panel; 2) Check the fuse: if it is burnt due to mains fluctuation, use spare fuse for replacement.
When starting the system, the monitor has signal but no ultrasound image	Switch off the system, and check transducer connection.
System image quality is not good	1) Adjust the LED monitor position for a better viewing angle; 2) Adjust the brightness and contrast of LED monitor; 3) Adjust the image parameters, e.g. Gain, Dynamic range.
No OB calculation package menu	Select the OB application before scanning.
PRINT-key doesn't work	1) Check if the approved printer is connected; 2) Check if the printer power is on; 3) Check printer connection; 4) Check printer setting in system setup.

External monitor doesn't work	1) Check the monitor connections; 2) Check if the monitor power is on and is set up correctly.
CFM or PW Doppler image has noise	1) Adjust CFM or PW gain value properly; 2) Check if there is appliance or equipment resulting in strong electromagnetic interference
Image has interference	1) Move or avoid interference source; 2) Use separate power outlet; 3) Perform good ground protection
The gray scale is S- twisted in the image area	Adjust the power supply to normal voltage or use a voltage stabilizer
The date and time on the screen is not correct	Press Setup-key to display General Setting screen, and correct time and date.
The Video printer is not work	1) Please confirm the signal cable, Remote cable are connected well. 2) Please make sure you have finished the setting for Video printer at system interface. 3) If you can't change the setting at system interface, please check whether the video printer is turned on and connected well with the main unit. 4）Please make sure the switch on the rear panel of printer is "on" status.

9.5 Service Responsibility

If users install, use and maintain the system fully according to CHISON's installation manual, operation manual and service manual, then main unit has a life time of 5 years and transducers have life time of 5 years after ex-work.

The warranty of the system and transducers after ex-work is as the time in the warranty card.

The system is a precise electronic system. Only the CHISON's authorized service engineer could replace the defective parts. Any assembly, disassembly, handling, repair, or replacement by any other people may have adverse impact on the safety and effectiveness of the systems and transducers, and thus will reduce the life time of the system and transducers, and such systems and transducers will not be covered by CHISON warranty after the above improper handling. Standard maintenance must be performed byCHISON's authorized service engineer during the life time of the product.

CAUTION: When the above life time is expired, the effectiveness and safety of system and probes maybe greatly affected, so it's NOT suggested to continue using the system and probes even the system and probes seem work properly. But if user still wants to continue using the system and probes, user should first contact CHISON service center at CHISON headquarter to arrange the necessary safety check and calibration by CHISON's authorized service engineer. If CHISON headquarter service center provides the calibration certificate for the related system or probe, then user could continue use the system or probes according to the calibration certificate. However, if CHISON headquarter service center concludes that the system or probe is no longer complied with the safety and effectiveness standard, and then user should immediately stop using the system or probe. User understands that such check and calibration cost will be born by the user.

Systems and probes keep on using after the life time may also be difficult to repair and maintain, so it's suggested to renew the product after the life time.

REFERENCE:

1. AIUM: Medical Ultrasound Safety, American Institute of Ultrasound in Medicine, Laurel, MD, 1994. NOTE: As of this writing an update of this publication is being finalized by the AIUM. AIUM: Acoustic Output Labeling Standard for Diagnostic Ultrasound Equipment: A Standard for How Manufacturers Should Specify Acoustic Output Data, Revision 1, American Institute of Ultrasound in Medicine, Laurel, MD, 2008.

2. AIUM/NEMA: Standard For Real-Time Display of Thermal and Mechanical Acoustic Output Indices On Diagnostic Ultrasound Equipment, Revision 2. NEMA Standards Publication UD 3-2004; American Institute of Ultrasound in Medicine, Laurel MD; National Electrical Manufacturers Association, Rosslyn, VA; 2004a.

3. AIUM/NEMA: Acoustic Output Measurement Standard for Diagnostic Ultrasound Equipment, Revision 3. NEMA Standards Publication UD 2-2004; American Institute of Ultrasound in Medicine, Laurel, MD; National Electrical Manufacturers Association, Rosslyn, VA; 2004b.

4. Implementation of the Principle of As Reasonably Achievable (ALARA) for Medical and Dental Personnel, National Council on Radiation Protection and Measurements (NCRP), report NO.107, December 31,1990

5. FDA Center for Devices and radiological Health (CDRH), 510(K) Guidance for Diagnostic Ultrasound and Fetal Doppler Ultrasound Medical Devices, September 8 1989 draft

6. FDA/CDRH,510(K) Diagnostic Ultrasound Guidance Update of 1991, April 26, 1991 draft

7. Biological Effects of Ultrasound: Mechanisms and Clinical Implications, NCRP Report No. 74, December 30,1983

8. Exposure Criteria for Medical Diagnostic Ultrasound: I. Criteria Based on Thermal Mechanisms, NCRP Report No.113, June 1,1992

9. Bioeffects Considerations for the safety of Diagnostic Ultrasound, Journal of Ultrasound in Medicine, AIUM, September1988

10. Geneva Report on Safety and Standardization in Medical Ultrasound, WFUMB, May 1990 Medical Ultrasound Safety, AIUM, 1994

11. Medical Electrical Equipment standard IEC 60601-1, IEC60601-1-2, IEC 60601-2-37

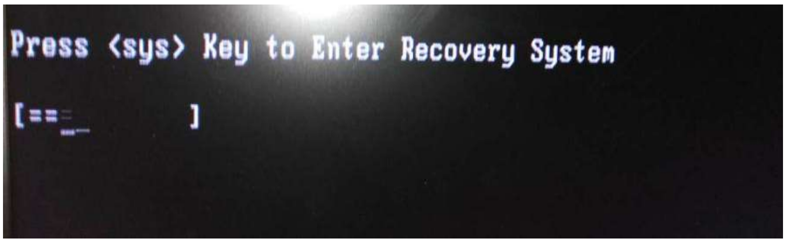
7. Diagnostic Ultrasound Physics and Equipment, edit by P. R. Hoskins, in 2003

APPENDIX A System one-key-recovery Function

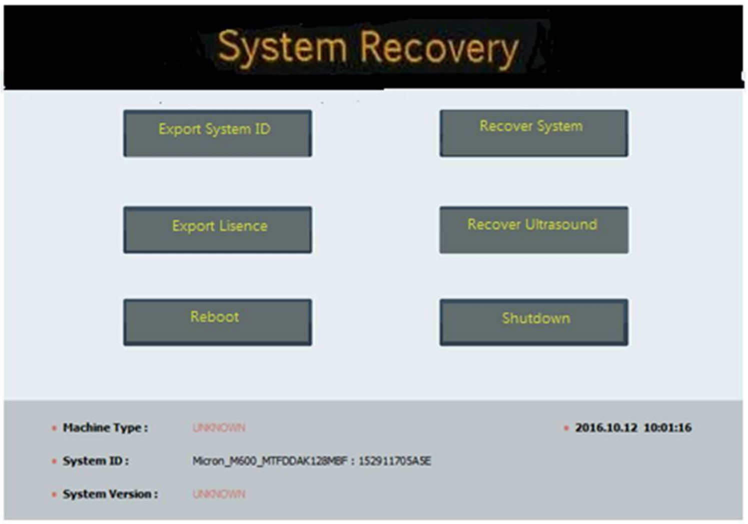
This system has one-key-recovery function. Uses can use this function to recovery system when the system has problems.

Detailed operations are as follows:

1. Press  button to boot the system.
2. Press <sys> button when the system enter into the following boot screen.



3. Select Recover System or Recover Ultrasound.



Export System ID: Export System ID to the media.

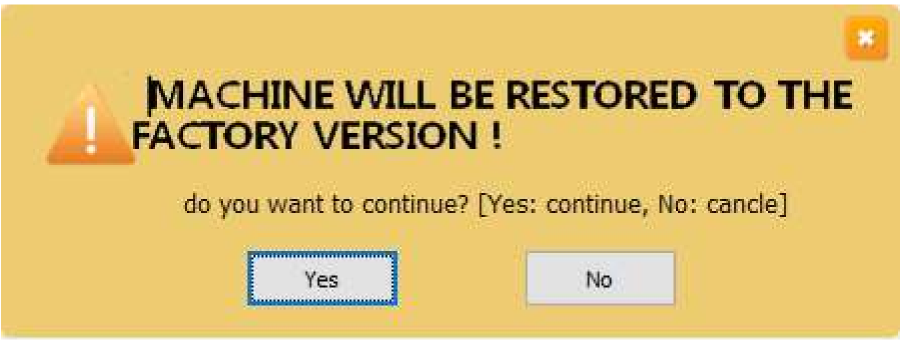
Recover System: Recovery system including ultrasound software.

Export License: Export license to the media.

Recover Ultrasound: Recovery ultrasound software only.Reboot: Reboot system.

Shutdown: Shutdown system.

4. After click “Recover System”, the following interface will pop up.



Click “OK” to confirm and start the recovery.

Click “Cancel” to cancel the system recovery.

5. After finishing the recover, the system will pop the interface, and click “OK” to exit. Select “Reboot” to reboot system.

APPENDIX B MAXIMUM ACOUSTIC OUTPUT REPORT

Transducer Model: _C3-V_
Operating Mode: B_

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.62	0.97				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.04					
	W_o	(mW)		510.36				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	6.53					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	2.80	2.76				
	Dim of A_{aprt}	X (cm)		4.61				
		Y (cm)		1.10				
Other Information	PD	(μsec)	0.57					
	PRF	(Hz)	9652.00					
	$p_r@PII_{max}$	(MPa)	1.95					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.21				
		FL_y (cm)		0.31				
	$I_{PA.3}@$ MI_{max}	(W/cm²)	76.58					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	6.0	7.0				
	Depth	(cm)	20.45	20.45				
	Scanning width	%	100	100				
	Freq	MHz	3.0	3.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: C3-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.64	0.73				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.09					
	W_o	(mW)		369.36				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	6.25					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	2.88	2.87				
	Dim of A_{aprt}	X (cm)		4.61				
		Y (cm)		1.10				
Other Information	PD	(μsec)	1.34					
	PRF	(Hz)	6010.00					
	$p_r@PII_{max}$	(MPa)	2.02					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.21				
		FL_y (cm)		0.28				
	$I_{PA.3}$@ MI_{max}	(W/cm^2)	35.32					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	6.0	8.0				
	Depth	(cm)	11.82	9.36				
	Scanning width	%	100	100				
	Freq	MHz	3.0/3.0	3.0/3.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: C3-V
Operating Mode: PW

Index Label			MI	TIS Scan	TIS non-scan $A_{aprt} \le 1$	TIS non-scan $A_{aprt} > 1$	TIB non-scan	TIC
Global Maximum Index Value			0.62			1.73	1.01	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.05					
	W_o	(mW)					16.01	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)				7.00		
	z_1	(cm)				4.20		
	z_{bp}	(cm)				3.81		
	z_{sp}	(cm)					6.51	
	$z@PII_{.3max}$	(cm)	4.50					
	$d_{eq}(z_{sp})$	(cm)					0.67	
	f_c	(MHz)	2.87			2.86	2.85	
	Dim of A_{aprt}	X (cm)				4.61	4.61	
		Y (cm)				1.10	1.10	
Other Information	PD	(μsec)	1.32					
	PRF	(Hz)	9664.00					
	$p_r@PII_{max}$	(MPa)	1.64					
	$d_{eq}@PII_{max}$	(cm)					0.67	
	Focal Length	FL_x (cm)				0.31		
		FL_y (cm)				0.36		
	$I_{PA.3}@ MI_{max}$	(W/cm²)	129.68					
Operating Control Conditions	Mode	NA	PW			PW	PW	
	Focus	(cm)	8			7.0	10.0	
	Depth	(cm)	9.36			8.13	11.82	
	Scanning width	%	100			100	100	
	Freq	MHz	3.0/3.0			3.0/3.0	3.0/3.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: C3-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			1.22			1.93	1.41	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	2.03					
	W_o	(mW)					21.23	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				9.59		
	z_1	(cm)				4.20		
	z_{bp}	(cm)				3.81		
	z_{sp}	(cm)					6.50	
	$z@PII_{.3max}$	(cm)	5.53					
	$d_{eq}(z_{sp})$	(cm)					0.81	
	f_c	(MHz)	2.76			2.75	2.74	
	Dim of A_{aprt}	X (cm)				4.61	4.61	
		Y (cm)				1.10	1.10	
Other Information	PD	(μsec)	0.54					
	PRF	(Hz)	4767.00					
	$p_r@PII_{max}$	(MPa)	3.43					
	$d_{eq}@PII_{max}$	(cm)					0.80	
	Focal Length	FL_x (cm)				0.22		
		FL_y (cm)				0.18		
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	113.34					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	2.0		1.5		2.0	
	Depth	(cm)	3.70		3.70		3.70	
	Scanning width	%	100		100		100	
	Freq	MHz	5.0		5.0		5.0	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: _L7-V_
Operating Mode:B_

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}≤1$	$A_{aprt}>1$		
Global Maximum Index Value			0.72	0.54				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.80					
	W_o	(mW)		74.27				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.34					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	6.27	6.26				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(µsec)	0.27					
	PRF	(Hz)	2876.00					
	$p_r@PII_{max}$	(MPa)	2.99					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.25				
		FL_y (cm)		0.31				
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	43.90					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	2.0	2.0				
	Depth	(cm)	4.93	4.93				
	Scanning width	%	100	100				
	Freq	MHz	5.0	5.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.51	0.70				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.09					
	W_o	(mW)		369.36				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	6.25					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	2.88	2.87				
	Dim of A_{aprt}	X (cm)		4.61				
		Y (cm)		1.10				
Other Information	PD	(μsec)	1.34					
	PRF	(Hz)	6010.00					
	$p_r@PII_{max}$	(MPa)	2.02					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.21				
		FL_y (cm)		0.28				
	$I_{PA.3}@$ MI_{max}	(W/cm²)	35.32					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	6.0	8.0				
	Depth	(cm)	11.82	9.36				
	Scanning width	%	100	100				
	Freq	MHz	3.0/3.0	3.0/3.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\leq1$	$A_{aprt}>1$		
Global Maximum Index Value			0.62		1.61		1.01	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.56					
	W_o	(mW)			53.75		16.01	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					6.51	
	$z@PII_{.3max}$	(cm)	1.71					
	$d_{eq}(z_{sp})$	(cm)					0.67	
	f_c	(MHz)	6.34		6.29		2.85	
	Dim of A_{aprt}	X (cm)			2.05		4.61	
		Y (cm)			0.45		1.10	
Other Information	PD	(μsec)	1.32					
	PRF	(Hz)	9664.00					
	$p_r@PII_{max}$	(MPa)	1.64					
	$d_{eq}@PII_{max}$	(cm)					0.67	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.33			
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	129.68					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	8		2.5		10.0	
	Depth	(cm)	9.36		3.70		11.82	
	Scanning width	%	100		100		100	
	Freq	MHz	3.0/3.0		5.0/6.5		3.0/3.0	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.62		1.22		1.53	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.55					
	W_o	(mW)			41.26		16.52	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				9.59		
	z_1	(cm)				4.20		
	z_{bp}	(cm)				3.81		
	z_{sp}	(cm)					2.10	
	$z@PII_{.3max}$	(cm)	1.53					
	$d_{eq}(z_{sp})$	(cm)					0.78	
	f_c	(MHz)	6.22		6.21		6.19	
	Dim of A_{aprt}	X (cm)			2.05		2.05	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.20					
	PRF	(Hz)	2871.00					
	$p_r@PII_{max}$	(MPa)	2.15					
	$d_{eq}@PII_{max}$	(cm)					0.86	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.35			
	$I_{PA.3}@MI_{max}$	(W/cm^2)	158.54					
Operating Control Conditions	Mode	NA	B+M			B+M	B+M	
	Focus	(cm)	7.0			6.0	6.0	
	Depth	(cm)	8.13			6.89	6.89	
	Scanning width	%	100			100	100	
	Freq	MHz	3.0			3.0	3.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L12-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.64	0.23				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.56					
	W_o	(mW)		33.39				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.90					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	5.91	5.93				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.35				
Other Information	PD	(μsec)	0.23					
	PRF	(Hz)	5323.00					
	$p_r@PII_{max}$	(MPa)	2.29					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.30				
		FL_y (cm)		0.23				
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	84.68					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	2.5	2.5				
	Depth	(cm)	4.93	4.93				
	Scanning width	%	100	100				
	Freq	MHz	7.0	7.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L12-V

Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.44	0.64				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.02					
	W_o	(mW)		103.00				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.70					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	5.33	5.35				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.35				
Other Information	PD	(μsec)	0.86					
	PRF	(Hz)	7887.00					
	$p_r@PII_{max}$	(MPa)	1.39					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.27				
		FL_y (cm)		0.33				
	$I_{PA.3}@ MI_{max}$	(W/cm²)	73.45					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	2.5	2.5				
	Depth	(cm)	9.86	8.62				
	Scanning width	%	100	100				
	Freq	MHz	7.0/7.0	7.0/7.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L12-V
Operating Mode: PW

Index Label			MI	TIS Scan	TIS non-scan $A_{aprt}\le1$	TIS non-scan $A_{aprt}>1$	TIB non-scan	TIC
Global Maximum Index Value			0.32			1.43	1.84	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.75					
	W_o	(mW)					39.53	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				13.80		
	z_1	(cm)				2.80		
	z_{bp}	(cm)				1.43		
	z_{sp}	(cm)					4.22	
	$z@PII_{.3max}$	(cm)	3.06					
	$d_{eq}(z_{sp})$	(cm)					0.86	
	f_c	(MHz)	5.43			5.43	5.44	
	Dim of A_{aprt}	X (cm)				2.05	2.05	
		Y (cm)				0.35	0.35	
Other Information	PD	(μsec)	0.83					
	PRF	(Hz)	8051.00					
	$p_r@PII_{max}$	(MPa)	1.32					
	$d_{eq}@PII_{max}$	(cm)					0.85	
	Focal Length	FL_x (cm)				0,25		
		FL_y (cm)				0.21		
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	114.46					
Operating Control Conditions	Mode	NA	PW			PW	PW	
	Focus	(cm)	2.5			2.5	2.5	
	Depth	(cm)	6.16			6.16	6.16	
	Scanning width	%	100			100	100	
	Freq	MHz	7.0/7.0			7.0/7.0	7.0/7.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L12-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.52			0.63	1.12	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.26					
	W_o	(mW)					30.96	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				9.97		
	z_1	(cm)				2.80		
	z_{bp}	(cm)				1.43		
	z_{sp}	(cm)					4.54	
	$z@PII_{.3max}$	(cm)	1.85					
	$d_{eq}(z_{sp})$	(cm)					0.67	
	f_c	(MHz)	5.85			5.84	5.86	
	Dim of A_{aprt}	X (cm)				2.05	2.05	
		Y (cm)				0.35	0.35	
Other Information	PD	(μsec)	0.22					
	PRF	(Hz)	5322.00					
	$p_r@PII_{max}$	(MPa)	1.83					
	$d_{eq}@PII_{max}$	(cm)					0.64	
	Focal Length	FL_x (cm)				0.24		
		FL_y (cm)				0.17		
	$I_{PA.3}@ MI_{max}$	(W/cm²)	171.13					
Operating Control Conditions	Mode	NA	M			M	M	
	Focus	(cm)	2.5			2.5	2.0	
	Depth	(cm)	4.93			4.93	6.20	
	Scanning width	%	100			100	100	
	Freq	MHz	7.0			7.0	7.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M5-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			1.56	1.77				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	2.09					
	W_o	(mW)		1058.72				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.95					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	1.8	1.78				
	Dim of A_{aprt}	X (cm)		1.69				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.95					
	PRF	(Hz)	3058.9					
	$p_r@PII_{max}$	(MPa)	2.36					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.26				
		FL_y (cm)		0.18				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	185.92					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	9.0	9.0				
	Depth	(cm)	9.86	9.86				
	Scanning width	%	100	100				
	Freq	MHz	2.0	2.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M5-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.56	0.68				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.74					
	W_o	(mW)		385.10				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.89					
	$d_{eq}(z_{sp})$	(cm)	.					
	f_c	(MHz)	1.75	1.88				
	Dim of A_{aprt}	X (cm)		1.69				
		Y (cm)		0.45				
Other Information	PD	(μsec)	1.2					
	PRF	(Hz)	5422					
	$p_r@PII_{max}$	(MPa)	0.83					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.32				
		FL_y (cm)		0.25				
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	26.3					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	4.0	3.0				
	Depth	(cm)	9.86	11.09				
	Scanning width	%	100	100				
	Freq	MHz	2.0/2.0	2.0/2.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M5-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.65			0.56	2.45	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.86					
	W_o	(mW)					18.07	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				12.65		
	z_1	(cm)				2.9		
	z_{bp}	(cm)				1.48		
	z_{sp}	(cm)					4.2	
	$z@PII_{.3max}$	(cm)	2.06					
	$d_{eq}(z_{sp})$	(cm)					0.32	
	f_c	(MHz)	1.75			1.85	1.78	
	Dim of A_{aprt}	X (cm)				1.69	1.69	
		Y (cm)				0.45	0.45	
Other Information	PD	(µsec)	1.5					
	PRF	(Hz)	4722.9					
	$p_r@PII_{max}$	(MPa)	0.97					
	$d_{eq}@PII_{max}$	(cm)					0.35	
	Focal Length	FL_x (cm)				0.27		
		FL_y (cm)				0.33		
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	35.45					
Operating Control Conditions	Mode	NA	PW			PW	PW	
	Focus	(cm)	1.0			5.0	5.0	
	Depth	(cm)	7.39			8.62	7.39	
	Scanning width	%	100			100	100	
	Freq	MHz	2.0/2.0			2.0/2.0	2.0/2.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M5-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.89			0.65	2.44	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.22					
	W_o	(mW)					15.69	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				10.83		
	z_1	(cm)				2.85		
	z_{bp}	(cm)				1.48		
	z_{sp}	(cm)					2.92	
	$z@PII_{.3max}$	(cm)	1.88					
	$d_{eq}(z_{sp})$	(cm)					0.44	
	f_c	(MHz)	1.89			1.89	1.88	
	Dim of A_{aprt}	X (cm)				1.69	1.69	
		Y (cm)				0.45	0.45	
Other Information	PD	(µsec)	0.45					
	PRF	(Hz)	5233.6					
	$p_r@PII_{max}$	(MPa)	1.38					
	$d_{eq}@PII_{max}$	(cm)					0.32	
	Focal Length	FL_x (cm)				0.33		
		FL_y (cm)				0.38		
	$I_{PA.3}@MI_{max}$	(W/cm²)	88.67					
Operating Control Conditions	Mode	NA	M			M	M	
	Focus	(cm)	5.0			5.0	6.0	
	Depth	(cm)	8.62			8.62	7.39	
	Scanning width	%	100			100	100	
	Freq	MHz	2.0			2.0	2.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transcducer Model: MC6-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.74	1.25				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.79					
	W_o	(mW)		108.93				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	z@$PII_{.3max}$	(cm)	2.70					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	5.84	5.88				
	Dim of A_{aprt}	X (cm)		1.22				
		Y (cm)		0.90				
Other Information	PD	(μsec)	0.26					
	PRF	(Hz)	5927.00					
	p_r@PII_{max}	(MPa)	3.08					
	d_{eq}@PII_{max}	(cm)						
	Focal Length	FL_x (cm)		0.32				
		FL_y (cm)		0.30				
	$I_{PA.3}$@ MI_{max}	(W/cm^2)	84.27					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	2.5	2.0				
	Depth	(cm)	5.69	6.92				
	Scanning width	%	100	100				
	Freq	MHz	4.0	4.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: MC6-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.72	1.13				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.65					
	W_o	(mW)		110.50				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.80					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	5.27	5.24				
	Dim of A_{aprt}	X (cm)		1.22				
		Y (cm)		0.90				
Other Information	PD	(μsec)	0.72					
	PRF	(Hz)	6024.00					
	$p_r@PII_{max}$	(MPa)	2.29					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.23				
		FL_y (cm)		0.34				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	96.68					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	2.5	1.0				
	Depth	(cm)	11.85	3.22				
	Scanning width	%	100	100				
	Freq	MHz	4.0/5.3	4.0/5.3				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: MC6-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \le 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.65			1.42	1.24	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.50					
	W_o	(mW)					10.74	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)				5.52		
	z_1	(cm)				1.80		
	z_{bp}	(cm)				1.77		
	z_{sp}	(cm)					1.83	
	$z@PII_{.3max}$	(cm)	2.64					
	$d_{eq}(z_{sp})$	(cm)					0.70	
	f_c	(MHz)	5.31			5.34	5.36	
	Dim of A_{aprt}	X (cm)				1.22	1.22	
		Y (cm)				0.90	0.90	
Other Information	PD	(μsec)	0.50					
	PRF	(Hz)	5924.00					
	$p_r@PII_{max}$	(MPa)	2.43					
	$d_{eq}@PII_{max}$	(cm)					0.73	
	Focal Length	FL_x (cm)				0.31		
		FL_y (cm)				0.25		
	$I_{PA.3}@\ MI_{max}$	(W/cm^2)	187.85					
Operating Control Conditions	Mode	NA	PW			PW	PW	
	Focus	(cm)	2.5			3.5	3.5	
	Depth	(cm)	3.22			4.46	4.46	
	Scanning width	%	100			100	100	
	Freq	MHz	4.0/5.3			4.0/5.3	4.0/5.3	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: MC6-V
Operating Mode: B+M

Index Label			MI	TIS Scan	TIS non-scan $A_{aprt}≤1$	TIS non-scan $A_{aprt}>1$	TIB non-scan	TIC
Global Maximum Index Value			0.60			1.24	1.85	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.33					
	W_o	(mW)					15.61	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				8.42		
	z_1	(cm)				1.80		
	z_{bp}	(cm)				1.77		
	z_{sp}	(cm)					1.90	
	$z@PII_{.3max}$	(cm)	3.61					
	$d_{eq}(z_{sp})$	(cm)					0.79	
	f_c	(MHz)	4.92			4.95	4.96	
	Dim of A_{aprt}	X (cm)				1.22	1.22	
		Y (cm)				0.90	0.90	
Other Information	PD	(μsec)	0.28					
	PRF	(Hz)	11236.00					
	$p_r@PII_{max}$	(MPa)	2.46					
	$d_{eq}@PII_{max}$	(cm)					0.65	
	Focal Length	FL_x (cm)				0.26		
		FL_y (cm)				0.31		
	$I_{PA.3}@MI_{max}$	(W/cm²)	181.21					
Operating Control Conditions	Mode	NA	M			M	M	
	Focus	(cm)	4.0			2.0	3.5	
	Depth	(cm)	10.62			4.46	8.15	
	Scanning width	%	100			100	100	
	Freq	MHz	4.0			4.0	4.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: _P2-V_
Operating Mode:B_

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			1.00	1.13				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.33					
	W_o	(mW)		258.87				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	4.54					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	1.78	1.76				
	Dim of A_{aprt}	X (cm)		1.92				
		Y (cm)		1.40				
Other Information	PD	(μsec)	0.95					
	PRF	(Hz)	3057.00					
	$p_r@PII_{max}$	(MPa)	1.76					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		2.25				
		FL_y (cm)		2.19				
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	89.26					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	9.0	4.0				
	Depth	(cm)	9.86	13.55				
	Scanning width	%	100	100				
	Freq	MHz	2.0	2.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P2-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.63	0.87				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.84					
	W_o	(mW)		191.69				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	4.50					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	1.77	1.83				
	Dim of A_{aprt}	X (cm)		1.92				
		Y (cm)		1.40				
Other Information	PD	(μsec)	1.25					
	PRF	(Hz)	5425.00					
	$p_r@PII_{max}$	(MPa)	1.10					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		1.29				
		FL_y (cm)		1.35				
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	24.56					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	4.0	3.0				
	Depth	(cm)	9.86	11.09				
	Scanning width	%	100	100				
	Freq	MHz	2.0/2.0	2.0/2.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P2-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\leq1$	$A_{aprt}>1$		
Global Maximum Index Value			0.46			0.64	0.91	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.61					
	W_o	(mW)					6.75	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				4.73		
	z_1	(cm)				2.90		
	z_{bp}	(cm)				2.77		
	z_{sp}	(cm)					4.25	
	$z@PII_{.3max}$	(cm)	5.63					
	$d_{eq}(z_{sp})$	(cm)					0.34	
	f_c	(MHz)	1.78			1.81	1.78	
	Dim of A_{aprt}	X (cm)				1.92	1.92	
		Y (cm)				1.40	1.40	
Other Information	PD	(µsec)	1.51					
	PRF	(Hz)	4734.00					
	$p_r@PII_{max}$	(MPa)	0.87					
	$d_{eq}@PII_{max}$	(cm)					0.33	
	Focal Length	FL_x (cm)				1.24		
		FL_y (cm)				1.27		
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	133.74					
Operating Control Conditions	Mode	NA	PW			PW	PW	
	Focus	(cm)	1.0			5.0	5.0	
	Depth	(cm)	7.39			8.62	7.39	
	Scanning width	%	100			100	100	
	Freq	MHz	2.0/2.0			2.0/2.0	2.0/2.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P2-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.91			0.72	1.04	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.24					
	W_o	(mW)					9.75	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				6.73		
	z_1	(cm)				2.90		
	z_{bp}	(cm)				2.77		
	z_{sp}	(cm)					5.92	
	$z@PII_{.3max}$	(cm)	2.51					
	$d_{eq}(z_{sp})$	(cm)					0.46	
	f_c	(MHz)	1.86			1.87	1.85	
	Dim of A_{aprt}	X (cm)				1.92	1.92	
		Y (cm)				1.40	1.40	
Other Information	PD	(μsec)	0.46					
	PRF	(Hz)	5233.00					
	$p_r@PII_{max}$	(MPa)	1.46					
	$d_{eq}@PII_{max}$	(cm)					0.34	
	Focal Length	FL_x (cm)				1.42		
		FL_y (cm)				1.37		
	$I_{PA.3}@MI_{max}$	(W/cm²)	128.67					
Operating Control Conditions	Mode	NA	M			M	M	
	Focus	(cm)	5.0			5.0	6.0	
	Depth	(cm)	8.62			8.62	7.39	
	Scanning width	%	100			100	100	
	Freq	MHz	2.0			2.0	2.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P2-V
Operating Mode: CW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \le 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.39			0.81	1.52	0.66
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.60					
	W_o	(mW)					19.57	14.27
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				11.35		
	z_1	(cm)				3.40		
	z_{bp}	(cm)				2.77		
	z_{sp}	(cm)					6.70	
	$z@PII_{.3max}$	(cm)	6.54					
	$d_{eq}(z_{sp})$	(cm)					0.80	
	f_c	(MHz)	2.39			2.42	2.32	2.33
	Dim of A_{aprt}	X (cm)				1.92	1.92	1.92
		Y (cm)				1.40	1.40	1.40
Other Information	PD	(μsec)	20.05					
	PRF	(Hz)	0.00					
	$p_r@PII_{max}$	(MPa)	1.03					
	$d_{eq}@PII_{max}$	(cm)					0.77	
	Focal Length	FL_x (cm)				1.44		1.36
		FL_y (cm)				1.45		1.39
	$I_{PA.3}@MI_{max}$	(W/cm^2)	44.25					
Operating Control Conditions	Mode	NA	CW			CW	CW	CW
	Focus	(cm)	4.0			5.0	4.0	4.0
	Depth	(cm)	6.16			8.62	7.39	7.39
	Scanning width	%	100			100	100	100
	Freq	MHz	2.0			2.0	2.0	2.0
	Power	(%)	100			100	100	100

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P2-V
Operating Mode: CFM-M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.88			0.52	0.76	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.33					
	W_o	(mW)					8.67	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				5.10		
	z_1	(cm)				3.40		
	z_{bp}	(cm)				2.77		
	z_{sp}	(cm)					6.10	
	$z@PII_{.3max}$	(cm)	6.10					
	$d_{eq}(z_{sp})$	(cm)					3.08	
	f_c	(MHz)	2.30			2.34	2.26	
	Dim of A_{aprt}	X (cm)				1.92	1.92	
		Y (cm)				1.40	1.40	
Other Information	PD	(μsec)	0.74					
	PRF	(Hz)	220.00					
	$p_r@PII_{max}$	(MPa)	2.17					
	$d_{eq}@PII_{max}$	(cm)					3.01	
	Focal Length	FL_x (cm)				1.25		
		FL_y (cm)				1.22		
	$I_{PA.3}@MI_{max}$	(W/cm^2)	79.64					
Operating Control Conditions	Mode	NA	CFM-M			CFM-M	CFM-M	
	Focus	(cm)	5.0			5.0	5.0	
	Depth	(cm)	6.16			8.62	8.62	
	Scanning width	%	100			100	100	
	Freq	MHz	2.0			2.0	2.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P5-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\le1$	$A_{aprt}>1$		
Global Maximum Index Value			0.87	1.44				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.70					
	W_o	(mW)		67.11				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.23					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	3.82	3.83				
	Dim of A_{aprt}	X (cm)		0.85				
		Y (cm)		0.90				
Other Information	PD	(μsec)	0.46					
	PRF	(Hz)	4211.00					
	$p_r@PII_{max}$	(MPa)	2.28					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.26				
		FL_y (cm)		0.32				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	98.24					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	5.0	7.5				
	Depth	(cm)	23.32	9.86				
	Scanning width	%	100	100				
	Freq	MHz	6.4	6.4				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P5-V
Operating Mode: B+C

Index Label			MI	TIS Scan	TIS non-scan A_{aprt}≤1	TIS non-scan A_{aprt}>1	TIB non-scan	TIC
Global Maximum Index Value			0.54	0.84				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.09					
	W_o	(mW)		37.21				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.33					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	4.05	4.03				
	Dim of A_{aprt}	X (cm)		0.85				
		Y (cm)		0.90				
Other Information	PD	(μsec)	0.95					
	PRF	(Hz)	6995.00					
	$p_r@PII_{max}$	(MPa)	1.51					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.30				
		FL_y (cm)		0.21				
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	65.61					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	6.0	7.0				
	Depth	(cm)	19.71	11.09				
	Scanning width	%	100	100				
	Freq	MHz	6.4/4.0	6.4/4.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P5-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.40		0.71		0.94	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.08					
	W_o	(mW)			20.29		10.47	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.83	
	$z@PII_{.3max}$	(cm)	2.05					
	$d_{eq}(z_{sp})$	(cm)					0.21	
	f_c	(MHz)	7.34		7.35		7.35	
	Dim of A_{aprt}	X (cm)			0.84		0.83	
		Y (cm)			0.90		0.90	
Other Information	PD	(μsec)	2.01					
	PRF	(Hz)	6983.00					
	$p_r@PII_{max}$	(MPa)	1.82					
	$d_{eq}@PII_{max}$	(cm)					0.22	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.28			
	$I_{PA.3}@MI_{max}$	(W/cm²)	119.34					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	7.0		5.0		5.0	
	Depth	(cm)	7.39		11.09		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4/6.4		6.4/6.4		6.4/6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P5-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}≤1$	$A_{aprt}>1$		
Global Maximum Index Value			0.82		1.13		1.32	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.61					
	W_o	(mW)			61.48		9.88	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					2.01	
	$z@PII_{.3max}$	(cm)	2.14					
	$d_{eq}(z_{sp})$	(cm)					0.33	
	f_c	(MHz)	3.84		3.86		3.83	
	Dim of A_{aprt}	X (cm)			0.82		0.84	
		Y (cm)			0.90		0.90	
Other Information	PD	(μsec)	0.46					
	PRF	(Hz)	5824.00					
	$p_r@PII_{max}$	(MPa)	2.13					
	$d_{eq}@PII_{max}$	(cm)					0.32	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.35			
	$I_{PA.3}@MI_{max}$	(W/cm²)	147.26					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	5.0		5.0		6.0	
	Depth	(cm)	11.09		11.09		8.62	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4		6.4		6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P5-V
Operating Mode: CW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\le1$	$A_{aprt}>1$		
Global Maximum Index Value			0.44		0.93		1.07	0.92
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.83					
	W_o	(mW)			54.25		13.09	37.73
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					4.10	
	$z@PII_{.3max}$	(cm)	4.03					
	$d_{eq}(z_{sp})$	(cm)					0.57	
	f_c	(MHz)	3.59		3.60		3.61	3.55
	Dim of A_{aprt}	X (cm)			0.83		0.83	0.83
		Y (cm)			0.90		0.90	0.90
Other Information	PD	(μsec)	18.93					
	PRF	(Hz)	0.00					
	$p_r@PII_{max}$	(MPa)	1.37					
	$d_{eq}@PII_{max}$	(cm)					0.64	
	Focal Length	FL_x (cm)			0.26			0.21
		FL_y (cm)			0.24			0.24
	$I_{PA.3}@MI_{max}$	(W/cm²)	26.75					
Operating Control Conditions	Mode	NA	CW		CW		CW	CW
	Focus	(cm)	5.0		7.0		6.0	6.0
	Depth	(cm)	6.16		8.62		7.39	7.39
	Scanning width	%	100		100		100	100
	Freq	MHz	6.4		6.4		6.4	6.4
	Power	(%)	100		100		100	100

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: P5-V
Operating Mode: CFM-M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.52		0.37		0.93	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.98					
	W_o	(mW)			22.01		9.17	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					3.31	
	$z@PII_{.3max}$	(cm)	3.32					
	$d_{eq}(z_{sp})$	(cm)					0.91	
	f_c	(MHz)	3.52		3.53		3.53	
	Dim of A_{aprt}	X (cm)			0.83		0.82	
		Y (cm)			0.90		0.90	
Other Information	PD	(μsec)	0.92					
	PRF	(Hz)	220.00					
	$p_r@PII_{max}$	(MPa)	1.46					
	$d_{eq}@PII_{max}$	(cm)					0.58	
	Focal Length	FL_x (cm)			0.37			
		FL_y (cm)			0.58			
	$I_{PA.3}@MI_{max}$	(W/cm^2)	55.47					
Operating Control Conditions	Mode	NA	CFM-M		CFM-M		CFM-M	
	Focus	(cm)	5.0		5.0		6.0	
	Depth	(cm)	6.16		8.62		8.62	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4		6.4		6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: MC3-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \leq 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.63	1.32				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.16					
	W_o	(mW)		292.20				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	5.01					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	3.37	3.40				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		1.10				
Other Information	PD	(µsec)	0.63					
	PRF	(Hz)	3856.00					
	$p_r@PII_{max}$	(MPa)	2.07					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.20				
		FL_y (cm)		0.25				
	$I_{PA.3}@MI_{max}$	(W/cm²)	55.73					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	5.0	7.0				
	Depth	(cm)	8.84	10.70				
	Scanning width	%	100	100				
	Freq	MHz	3.5	3.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: MC3-V
Operating Mode: B+C

Index Label			MI	TIS Scan	TIS non-scan $A_{aprt} \le 1$	TIS non-scan $A_{aprt} > 1$	TIB non-scan	TIC
Global Maximum Index Value			0.43	0.68				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.72					
	W_o	(mW)		180.85				
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	3.70					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	2.84	2.83				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		1.10				
Other Information	PD	(μsec)	0.91					
	PRF	(Hz)	5948.00					
	$p_r@PII_{max}$	(MPa)	1.04					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.21				
		FL_y (cm)		0.21				
	$I_{PA.3}@\ MI_{max}$	(W/cm²)	94.36					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	5.0	5.0				
	Depth	(cm)	7.61	7.61				
	Scanning width	%	100	100				
	Freq	MHz	3.5/3.5	3.5/3.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: MC3-V
Operating Mode: PW

Index Label			MI	TIS Scan	TIS non-scan $A_{aprt}\leq1$	TIS non-scan $A_{aprt}>1$	TIB non-scan	TIC
Global Maximum Index Value			0.41			0.53	0.72	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.70					
	W_o	(mW)					6.26	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				2.92		
	z_1	(cm)				3.80		
	z_{bp}	(cm)				2.54		
	z_{sp}	(cm)					3.40	
	$z@PII_{.3max}$	(cm)	5.40					
	$d_{eq}(z_{sp})$	(cm)					1.13	
	f_c	(MHz)	2.90			2.92	2.90	
	Dim of A_{aprt}	X (cm)				2.05	2.05	
		Y (cm)				1.10	1.10	
Other Information	PD	(μsec)	0.90					
	PRF	(Hz)	3844.00					
	$p_r@PII_{max}$	(MPa)	1.20					
	$d_{eq}@PII_{max}$	(cm)					1.07	
	Focal Length	FL_x (cm)				0.22		
		FL_y (cm)				0.31		
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	110.46					
Operating Control Conditions	Mode	NA	PW			PW	PW	
	Focus	(cm)	5.0			5.0	5.0	
	Depth	(cm)	8.84			8.84	17.46	
	Scanning width	%	100			100	100	
	Freq	MHz	3.5/3.5			3.5/3.5	3.5/3.5	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: MC3-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.70			1.32	1.51	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.26					
	W_o	(mW)					14.42	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				6.11		
	z_1	(cm)				3.80		
	z_{bp}	(cm)				2.54		
	z_{sp}	(cm)					3.43	
	$z@PII_{.3max}$	(cm)	4.60					
	$d_{eq}(z_{sp})$	(cm)					0.92	
	f_c	(MHz)	3.26			3.26	3.27	
	Dim of A_{aprt}	X (cm)				2.05	2.05	
		Y (cm)				1.10	1.10	
Other Information	PD	(µsec)	0.50					
	PRF	(Hz)	7576.00					
	$p_r@PII_{max}$	(MPa)	2.12					
	$d_{eq}@PII_{max}$	(cm)					0.89	
	Focal Length	FL_x (cm)				0.34		
		FL_y (cm)				0.26		
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	162.33					
Operating Control Conditions	Mode	NA	M			M	M	
	Focus	(cm)	5.0			5.0	5.0	
	Depth	(cm)	6.37			6.37	6.37	
	Scanning width	%	100			100	100	
	Freq	MHz	3.5			3.5	3.5	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L18-V
Operating Mode: B

Index Label			**MI**	**TIS** Scan	**TIS** non-scan $A_{aprt}\leq1$	**TIS** non-scan $A_{aprt}>1$	**TIB** non-scan	**TIC**
Global Maximum Index Value			0.73	0.34				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.78					
	W_o	(mW)		15.36				
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.97					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	5.97	5.95				
	Dim of A_{aprt}	X (cm)		0.64				
		Y (cm)		0.15				
Other Information	PD	(µsec)	0.32					
	PRF	(Hz)	5684.00					
	$p_r@PII_{max}$	(MPa)	2.68					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.34				
		FL_y (cm)		0.28				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	87.69					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	4.5	4.5				
	Depth	(cm)	4.93	4.93				
	Scanning width	%	100	100				
	Freq	MHz	7.0	7.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L18-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.56	0.75				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.30					
	W_o	(mW)		37.40				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.78					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	5.41	5.39				
	Dim of A_{aprt}	X (cm)		0.64				
		Y (cm)		0.15				
Other Information	PD	(μsec)	0.81					
	PRF	(Hz)	8122.00					
	$p_r@PII_{max}$	(MPa)	1.82					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.31				
		FL_y (cm)		0.36				
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	77.67					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	4.5	4.5				
	Depth	(cm)	9.86	8.62				
	Scanning width	%	100	100				
	Freq	MHz	7.0/7.0	7.0/7.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L18-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.45			1.31	1.78	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.23					
	W_o	(mW)					21.76	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)				7.72		
	z_1	(cm)				3.80		
	z_{bp}	(cm)				3.20		
	z_{sp}	(cm)					5.10	
	$z@PII_{.3max}$	(cm)	4.20					
	$d_{eq}(z_{sp})$	(cm)					0.86	
	f_c	(MHz)	3.94			3.94	3.95	
	Dim of A_{aprt}	X (cm)				2.56	2.56	
		Y (cm)				1.40	1.40	
Other Information	PD	(μsec)	0.54					
	PRF	(Hz)	4645.00					
	$p_r@PII_{max}$	(MPa)	2.18					
	$d_{eq}@PII_{max}$	(cm)					0.74	
	Focal Length	FL_x (cm)				0.33		
		FL_y (cm)				0.27		
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	102.32					
Operating Control Conditions	Mode	NA	M			M	M	
	Focus	(cm)	7.0			4.0	5.0	
	Depth	(cm)	8.13			5.56	6.89	
	Scanning width	%	100			100	100	
	Freq	MHz	4.0			4.0	4.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L18-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.63			0.72	1.16	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.52					
	W_o	(mW)					30.66	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)				9.95		
	z_1	(cm)				2.80		
	z_{bp}	(cm)				0.52		
	z_{sp}	(cm)					4.46	
	$z@PII_{.3max}$	(cm)	1.85					
	$d_{eq}(z_{sp})$	(cm)					0.67	
	f_c	(MHz)	5.81			5.82	5.82	
	Dim of A_{aprt}	X (cm)				0.64	0.64	
		Y (cm)				0.15	0.15	
Other Information	PD	(μsec)	0.25					
	PRF	(Hz)	5322.00					
	$p_r@PII_{max}$	(MPa)	2.20					
	$d_{eq}@PII_{max}$	(cm)					0.68	
	Focal Length	FL_x (cm)				0.24		
		FL_y (cm)				0.17		
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	177.21					
Operating Control Conditions	Mode	NA	M			M	M	
	Focus	(cm)	4.5			4.5	4.0	
	Depth	(cm)	4.93			4.93	6.20	
	Scanning width	%	100			100	100	
	Freq	MHz	7.0			7.0	7.0	
	Power	(%)	100			100	100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.71	0.59				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.96					
	W_o	(mW)		38.16				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.15					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	7.86	7.88				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.25					
	PRF	(Hz)	2845.13					
	$p_r@PII_{max}$	(MPa)	3.30					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.25				
		FL_y (cm)		0.33				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	32.56					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	2.5	3.0				
	Depth	(cm)	4.93	4.93				
	Scanning width	%	100	100				
	Freq	MHz	8.0	8.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M-V

Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\le 1$	$A_{aprt}>1$		
Global Maximum Index Value			0.58	0.78				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.57					
	W_o	(mW)		53.62				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.68					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	6.89	6.91				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.78					
	PRF	(Hz)	19998.79					
	$p_r@PII_{max}$	(MPa)	1.86					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.26				
		FL_y (cm)		0.34				
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	84.56					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	2.0	1.5				
	Depth	(cm)	4.93	3.70				
	Scanning width	%	100	100				
	Freq	MHz	8.0/6.5	8.0/6.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}≤1$	$A_{aprt}>1$		
Global Maximum Index Value			0.48		1.11		0.81	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.31					
	W_o	(mW)			34.12		39.12	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.76	
	$z@PII_{.3max}$	(cm)	1.67					
	$d_{eq}(z_{sp})$	(cm)					0.45	
	f_c	(MHz)	6.85		6.86		6.86	
	Dim of A_{aprt}	X (cm)			4.10		4.10	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.65					
	PRF	(Hz)	19998.78					
	$p_r@PII_{max}$	(MPa)	2.23					
	$d_{eq}@PII_{max}$	(cm)					0.47	
	Focal Length	FL_x (cm)			0.26			
		FL_y (cm)			0.22			
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	241.20					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	3.5		3.5		3.5	
	Depth	(cm)	7.39		7.39		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	8.0/6.5		8.0/6.5		8.0/6.5	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This probe is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L8M-V
Operating Mode: B+M

Index Label			**MI**	**TIS**			**TIB**	**TIC**
				Scan	**non-scan**		**non-scan**	
					A_{aprt}≤1	**A_{aprt}>1**		
Global Maximum Index Value			0.78		0.91		0.59	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	2.24					
	W_o	(mW)			24.25		24.50	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.85	
	$z@PII_{.3max}$	(cm)	1.93					
	$d_{eq}(z_{sp})$	(cm)					0.89	
	f_c	(MHz)	7.82		7.83		7.85	
	Dim of A_{aprt}	X (cm)			4.10		4.10	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.25					
	PRF	(Hz)	2846.41					
	$p_r@PII_{max}$	(MPa)	2.75					
	$d_{eq}@PII_{max}$	(cm)					0.96	
	Focal Length	FL_x (cm)			0.22			
		FL_y (cm)			0.26			
	$I_{PA.3}@MI_{max}$	(W/cm²)	245.12					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	2.0		2.0		2.0	
	Depth	(cm)	11.09		4.93		4.93	
	Scanning width	%	100		100		100	
	Freq	MHz	8.0		8.0		8.0	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7SVA-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.91	0.59				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	2.64					
	W_o	(mW)		32.56				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.65					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	8.59	8.61				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.45					
	PRF	(Hz)	3256.11					
	$p_r@PII_{max}$	(MPa)	4.43					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.24				
		FL_y (cm)		0.36				
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	64.55					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	2.0	2.0				
	Depth	(cm)	4.93	4.93				
	Scanning width	%	100	100				
	Freq	MHz	9.0	9.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7SVA-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \le 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.48	0.91				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.30					
	W_o	(mW)		48.52				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.68					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	6.78	6.80				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.85					
	PRF	(Hz)	19998.54					
	$p_r@PII_{max}$	(MPa)	2.05					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.26				
		FL_y (cm)		0.37				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	95.26					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	2.5	1.0				
	Depth	(cm)	4.93	3.70				
	Scanning width	%	100	100				
	Freq	MHz	9.0/6.5	9.0/6.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7SVA-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.68		1.08		1.01	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.83					
	W_o	(mW)			33.25		48.56	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.90	
	z@$PII_{.3max}$	(cm)	1.86					
	$d_{eq}(z_{sp})$	(cm)					0.46	
	f_c	(MHz)	6.81		6.83		6.85	
	Dim of A_{aprt}	X (cm)			4.10		4.10	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.59					
	PRF	(Hz)	19998.01					
	p_r@PII_{max}	(MPa)	2.26					
	d_{eq}@PII_{max}	(cm)					0.46	
	Focal Length	FL_x (cm)			0.25			
		FL_y (cm)			0.33			
	$I_{PA.3}$@ MI_{max}	(W/cm^2)	182.30					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	4.0		2.5		2.5	
	Depth	(cm)	7.39		3.70		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	9.0/6.5		9.0/6.5		9.0/6.5	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7SVA-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.91		1.08		0.78	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	2.65					
	W_o	(mW)			28.68		38.66	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.86	
	$z@PII_{.3max}$	(cm)	1.72					
	$d_{eq}(z_{sp})$	(cm)					0.92	
	f_c	(MHz)	8.67		8.68		8.69	
	Dim of A_{aprt}	X (cm)			4.10		4.10	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.25					
	PRF	(Hz)	3015.01					
	$p_r@PII_{max}$	(MPa)	3.05					
	$d_{eq}@PII_{max}$	(cm)					0.95	
	Focal Length	FL_x (cm)			0.24			
		FL_y (cm)			0.28			
	$I_{PA.3}@MI_{max}$	(W/cm^2)	215.63					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	2.0		1.5		2.0	
	Depth	(cm)	3.70		3.70		3.70	
	Scanning width	%	100		100		100	
	Freq	MHz	9.0		9.0		9.0	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This probe is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7V-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.67	0.62				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.96					
	W_o	(mW)		58.49				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.63					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	7.84	7.56				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.22					
	PRF	(Hz)	3431.35					
	$p_r@PII_{max}$	(MPa)	3.40					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.25				
		FL_y (cm)		0.34				
	$I_{PA.3}@ MI_{max}$	(W/cm²)	65.21					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	3.0	2.5				
	Depth	(cm)	13.55	3.70				
	Scanning width	%	100	100				
	Freq	MHz	7.5	7.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7V-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\leq1$	$A_{aprt}>1$		
Global Maximum Index Value			0.48	1.21				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.35					
	W_o	(mW)		102.59				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	3.11					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	7.29	7.45				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.81					
	PRF	(Hz)	19998.25					
	$p_r@PII_{max}$	(MPa)	1.98					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.23				
		FL_y (cm)		0.35				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	93.50					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	3.0	2.0				
	Depth	(cm)	12.32	6.16				
	Scanning width	%	100	100				
	Freq	MHz	7.5/7.5	7.5/7.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7V-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\le1$	$A_{aprt}>1$		
Global Maximum Index Value			0.58		1.38		0.89	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.63					
	W_o	(mW)			40.54		42.42	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					2.44	
	$z@PII_{.3max}$	(cm)	3.31					
	$d_{eq}(z_{sp})$	(cm)					0.45	
	f_c	(MHz)	7.38		7.41		7.41	
	Dim of A_{aprt}	X (cm)			4.10		4.10	
		Y (cm)			0.45		0.45	
Other Information	PD	(µsec)	0.58					
	PRF	(Hz)	19998.25					
	$p_r@PII_{max}$	(MPa)	1.59					
	$d_{eq}@PII_{max}$	(cm)					0.46	
	Focal Length	FL_x (cm)			0.26			
		FL_y (cm)			0.30			
	$I_{PA.3}@MI_{max}$	(W/cm²)	198.58					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	2.5		3.5		2.5	
	Depth	(cm)	7.39		7.39		3.70	
	Scanning width	%	100		100		100	
	Freq	MHz	7.5/7.5		7.5/7.5		7.5/7.5	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This probe is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L7V-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.85		1.11		0.78	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	2.45					
	W_o	(mW)			31.09		34.20	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.84	
	$z@PII_{.3max}$	(cm)	1.69					
	$d_{eq}(z_{sp})$	(cm)					0.87	
	f_c	(MHz)	7.41		7.43		7.41	
	Dim of A_{aprt}	X (cm)			4.10		4.10	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.27					
	PRF	(Hz)	3320.42					
	$p_r@PII_{max}$	(MPa)	2.86					
	$d_{eq}@PII_{max}$	(cm)					0.90	
	Focal Length	FL_x (cm)			0.21			
		FL_y (cm)			0.31			
	$I_{PA.3}@MI_{max}$	(W/cm^2)	213.20					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	3.0		3.0		2.0	
	Depth	(cm)	12.32		12.32		4.93	
	Scanning width	%	100		100		100	
	Freq	MHz	7.5		7.5		7.5	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This probe is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: R7-V
Operating Mode:B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \leqslant 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.70	0.56				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.74					
	W_o	(mW)		78.20				
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.90					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	6.15	6.16				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.21					
	PRF	(Hz)	2865.00					
	$p_r@PII_{max}$	(MPa)	2.60					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		2.32				
		FL_y (cm)		2.18				
	$I_{PA.3}@\ MI_{max}$	(W/cm^2)	78.29					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	3.0	3.0				
	Depth	(cm)	4.93	4.93				
	Scanning width	%	100	100				
	Freq	MHz	5.0	5.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: R7-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \leq 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.52	0.70				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.31					
	W_o	(mW)		94.82				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.60					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	6.34	6.35				
	Dim of A_{aprt}	X (cm)		2.05				
		Y (cm)		0.45				
Other Information	PD	(μsec)	0.77					
	PRF	(Hz)	6855.00					
	$p_r@PII_{max}$	(MPa)	1.86					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		1.46				
		FL_y (cm)		1.55				
	$I_{PA.3}@ MI_{max}$	(W/cm²)	88.75					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	2.0	2.5				
	Depth	(cm)	4.93	3.70				
	Scanning width	%	100	100				
	Freq	MHz	5.0/6.5	5.0/6.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: R7-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \leq 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.61		2.04		1.87	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.54					
	W_o	(mW)			67.78		16.64	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.61	
	$z@PII_{.3max}$	(cm)	1.70					
	$d_{eq}(z_{sp})$	(cm)					0.45	
	f_c	(MHz)	6.34		6.32		6.33	
	Dim of A_{aprt}	X (cm)			2.05		2.05	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.63					
	PRF	(Hz)	2795.00					
	$p_r@PII_{max}$	(MPa)	2.23					
	$d_{eq}@PII_{max}$	(cm)					0.45	
	Focal Length	FL_x (cm)			1.25			
		FL_y (cm)			1.32			
	$I_{PA.3}@ MI_{max}$	(W/cm²)	106.34					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	2.5		2.5		3.0	
	Depth	(cm)	7.39		7.39		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	5.0/6.5		5.0/6.5		5.0/6.5	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: R7-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \leq 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.81		1.70		1.52	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.99					
	W_o	(mW)			58.72		14.23	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.80	
	$z@PII_{.3max}$	(cm)	2.60					
	$d_{eq}(z_{sp})$	(cm)					0.95	
	f_c	(MHz)	6.06		6.08		6.07	
	Dim of A_{aprt}	X (cm)			2.05		2.05	
		Y (cm)			0.45		0.45	
Other Information	PD	(μsec)	0.23					
	PRF	(Hz)	2655.00					
	$p_r@PII_{max}$	(MPa)	3.44					
	$d_{eq}@PII_{max}$	(cm)					0.89	
	Focal Length	FL_x (cm)			1.25			
		FL_y (cm)			1.31			
	$I_{PA.3}@ MI_{max}$	(W/cm²)	134.24					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	2.0		2.0		2.0	
	Depth	(cm)	7.39		3.70		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	5.0		5.0		5.0	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S3-7-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.87	1.44				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.70					
	W_o	(mW)		67.11				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.23					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	3.82	3.83				
	Dim of A_{aprt}	X (cm)		0.85				
		Y (cm)		0.90				
Other Information	PD	(μsec)	0.46					
	PRF	(Hz)	4211.00					
	$p_r@PII_{max}$	(MPa)	2.28					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.26				
		FL_y (cm)		0.32				
	$I_{PA.3}@ MI_{max}$	(W/cm²)	98.24					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	5.0	7.5				
	Depth	(cm)	23.32	9.86				
	Scanning width	%	100	100				
	Freq	MHz	6.4	6.4				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S3-7-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.54	0.84				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.09					
	W_o	(mW)		37.21				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.33					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	4.05	4.03				
	Dim of A_{aprt}	X (cm)		0.85				
		Y (cm)		0.90				
Other Information	PD	(μsec)	0.95					
	PRF	(Hz)	6995.00					
	$p_r@PII_{max}$	(MPa)	1.51					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.30				
		FL_y (cm)		0.21				
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	65.61					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	6.0	7.0				
	Depth	(cm)	19.71	11.09				
	Scanning width	%	100	100				
	Freq	MHz	6.4/4.0	6.4/4.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S3-7-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.40		0.71		0.94	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.08					
	W_o	(mW)			20.29		10.47	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.83	
	$z@PII_{.3max}$	(cm)	2.05					
	$d_{eq}(z_{sp})$	(cm)					0.21	
	f_c	(MHz)	7.34		7.35		7.35	
	Dim of A_{aprt}	X (cm)			0.84		0.83	
		Y (cm)			0.90		0.90	
Other Information	PD	(μsec)	2.01					
	PRF	(Hz)	6983.00					
	$p_r@PII_{max}$	(MPa)	1.82					
	$d_{eq}@PII_{max}$	(cm)					0.22	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.28			
	$I_{PA.3}@MI_{max}$	(W/cm^2)	119.34					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	7.0		5.0		5.0	
	Depth	(cm)	7.39		11.09		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4/6.4		6.4/6.4		6.4/6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S3-7-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.82		1.13		1.32	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.61					
	W_o	(mW)			61.48		9.88	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					2.01	
	$z@PII_{.3max}$	(cm)	2.14					
	$d_{eq}(z_{sp})$	(cm)					0.33	
	f_c	(MHz)	3.84		3.86		3.83	
	Dim of A_{aprt}	X (cm)			0.82		0.84	
		Y (cm)			0.90		0.90	
Other Information	PD	(µsec)	0.46					
	PRF	(Hz)	5824.00					
	$p_r@PII_{max}$	(MPa)	2.13					
	$d_{eq}@PII_{max}$	(cm)					0.32	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.35			
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	147.26					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	5.0		5.0		6.0	
	Depth	(cm)	11.09		11.09		8.62	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4		6.4		6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S3-7-V
Operating Mode: CW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.44		0.93		1.07	0.92
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.83					
	W_o	(mW)			54.25		13.09	37.73
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					4.10	
	$z@PII_{.3max}$	(cm)	4.03					
	$d_{eq}(z_{sp})$	(cm)					0.57	
	f_c	(MHz)	3.59		3.60		3.61	3.55
	Dim of A_{aprt}	X (cm)			0.83		0.83	0.83
		Y (cm)			0.90		0.90	0.90
Other Information	PD	(µsec)	18.93					
	PRF	(Hz)	0.00					
	$p_r@PII_{max}$	(MPa)	1.37					
	$d_{eq}@PII_{max}$	(cm)					0.64	
	Focal Length	FL_x (cm)			0.26			0.21
		FL_y (cm)			0.24			0.24
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	26.75					
Operating Control Conditions	Mode	NA	CW		CW		CW	CW
	Focus	(cm)	5.0		7.0		6.0	6.0
	Depth	(cm)	6.16		8.62		7.39	7.39
	Scanning width	%	100		100		100	100
	Freq	MHz	6.4		6.4		6.4	6.4
	Power	(%)	100		100		100	100

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S3-7-V
Operating Mode: CFM-M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.52		0.37		0.93	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.98					
	W_o	(mW)			22.01		9.17	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					3.31	
	$z@PII_{.3max}$	(cm)	3.32					
	$d_{eq}(z_{sp})$	(cm)					0.91	
	f_c	(MHz)	3.52		3.53		3.53	
	Dim of A_{aprt}	X (cm)			0.83		0.82	
		Y (cm)			0.90		0.90	
Other Information	PD	(µsec)	0.92					
	PRF	(Hz)	220.00					
	$p_r@PII_{max}$	(MPa)	1.46					
	$d_{eq}@PII_{max}$	(cm)					0.58	
	Focal Length	FL_x (cm)			0.37			
		FL_y (cm)			0.58			
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	55.47					
Operating Control Conditions	Mode	NA	CFM-M		CFM-M		CFM-M	
	Focus	(cm)	5.0		5.0		6.0	
	Depth	(cm)	6.16		8.62		8.62	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4		6.4		6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S4-10-V
Operating Mode: B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.87	1.44				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.70					
	W_o	(mW)		67.11				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.23					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	3.82	3.83				
	Dim of A_{aprt}	X (cm)		0.85				
		Y (cm)		0.90				
Other Information	PD	(µsec)	0.46					
	PRF	(Hz)	4211.00					
	$p_r@PII_{max}$	(MPa)	2.28					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.26				
		FL_y (cm)		0.32				
	$I_{PA.3}@$ MI_{max}	(W/cm²)	98.24					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	5.0	7.5				
	Depth	(cm)	23.32	9.86				
	Scanning width	%	100	100				
	Freq	MHz	6.4	6.4				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S4-10-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.54	0.84				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.09					
	W_o	(mW)		37.21				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	2.33					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	4.05	4.03				
	Dim of A_{aprt}	X (cm)		0.85				
		Y (cm)		0.90				
Other Information	PD	(μsec)	0.95					
	PRF	(Hz)	6995.00					
	$p_r@PII_{max}$	(MPa)	1.51					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.30				
		FL_y (cm)		0.21				
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	65.61					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	6.0	7.0				
	Depth	(cm)	19.71	11.09				
	Scanning width	%	100	100				
	Freq	MHz	6.4/4.0	6.4/4.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S4-10-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \leq 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.40		0.71		0.94	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.08					
	W_o	(mW)			20.29		10.47	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.83	
	$z@PII_{.3max}$	(cm)	2.05					
	$d_{eq}(z_{sp})$	(cm)					0.21	
	f_c	(MHz)	7.34		7.35		7.35	
	Dim of A_{aprt}	X (cm)			0.84		0.83	
		Y (cm)			0.90		0.90	
Other Information	PD	(μsec)	2.01					
	PRF	(Hz)	6983.00					
	$p_r@PII_{max}$	(MPa)	1.82					
	$d_{eq}@PII_{max}$	(cm)					0.22	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.28			
	$I_{PA.3}@MI_{max}$	(W/cm^2)	119.34					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	7.0		5.0		5.0	
	Depth	(cm)	7.39		11.09		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4/6.4		6.4/6.4		6.4/6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S4-10-V
Operating Mode: B+M

Index Label			MI	TIS Scan	TIS non-scan $A_{aprt}\le1$	TIS non-scan $A_{aprt}>1$	TIB non-scan	TIC
Global Maximum Index Value			0.82		1.13		1.32	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.61					
	W_o	(mW)			61.48		9.88	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					2.01	
	$z@PII_{.3max}$	(cm)	2.14					
	$d_{eq}(z_{sp})$	(cm)					0.33	
	f_c	(MHz)	3.84		3.86		3.83	
	Dim of A_{aprt}	X (cm)			0.82		0.84	
		Y (cm)			0.90		0.90	
Other Information	PD	(μsec)	0.46					
	PRF	(Hz)	5824.00					
	$p_r@PII_{max}$	(MPa)	2.13					
	$d_{eq}@PII_{max}$	(cm)					0.32	
	Focal Length	FL_x (cm)			0.23			
		FL_y (cm)			0.35			
	$I_{PA.3}@MI_{max}$	(W/cm^2)	147.26					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	5.0		5.0		6.0	
	Depth	(cm)	11.09		11.09		8.62	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4		6.4		6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S4-10-V
Operating Mode: CW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.44		0.93		1.07	0.92
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.83					
	W_o	(mW)			54.25		13.09	37.73
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					4.10	
	$z@PII_{.3max}$	(cm)	4.03					
	$d_{eq}(z_{sp})$	(cm)					0.57	
	f_c	(MHz)	3.59		3.60		3.61	3.55
	Dim of A_{aprt}	X (cm)			0.83		0.83	0.83
		Y (cm)			0.90		0.90	0.90
Other Information	PD	(μsec)	18.93					
	PRF	(Hz)	0.00					
	$p_r@PII_{max}$	(MPa)	1.37					
	$d_{eq}@PII_{max}$	(cm)					0.64	
	Focal Length	FL_x (cm)			0.26			0.21
		FL_y (cm)			0.24			0.24
	$I_{PA.3}@ MI_{max}$	(W/cm^2)	26.75					
Operating Control Conditions	Mode	NA	CW		CW		CW	CW
	Focus	(cm)	5.0		7.0		6.0	6.0
	Depth	(cm)	6.16		8.62		7.39	7.39
	Scanning width	%	100		100		100	100
	Freq	MHz	6.4		6.4		6.4	6.4
	Power	(%)	100		100		100	100

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: S4-10-V
Operating Mode: CFM-M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.52		0.37		0.93	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	0.98					
	W_o	(mW)			22.01		9.17	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					3.31	
	$z@PII_{.3max}$	(cm)	3.32					
	$d_{eq}(z_{sp})$	(cm)					0.91	
	f_c	(MHz)	3.52		3.53		3.53	
	Dim of A_{aprt}	X (cm)			0.83		0.82	
		Y (cm)			0.90		0.90	
Other Information	PD	(µsec)	0.92					
	PRF	(Hz)	220.00					
	$p_r@PII_{max}$	(MPa)	1.46					
	$d_{eq}@PII_{max}$	(cm)					0.58	
	Focal Length	FL_x (cm)			0.37			
		FL_y (cm)			0.58			
	$I_{PA.3}@ MI_{max}$	(W/cm²)	55.47					
Operating Control Conditions	Mode	NA	CFM-M		CFM-M		CFM-M	
	Focus	(cm)	5.0		5.0		6.0	
	Depth	(cm)	6.16		8.62		8.62	
	Scanning width	%	100		100		100	
	Freq	MHz	6.4		6.4		6.4	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: C3-V
Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	**Below surface**	**At surface**	**Below surface**	
Maximum index value			0.62	0.97		0.97		–
Index component value				0.97	0.97	0.88	0.97	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.04					
	P	mW		510.36		510.36		–
	P_{1x1}	mW		73.84		73.84		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	6.35					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	2.80	2.76		2.76		–
Other Information	prr	Hz	–					
	srr	Hz	75.41					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	75.58					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	89.88					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	6.00	7.00		7.00		–
	Depth	cm	20.45	20.45		20.45		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.0	3.0		3.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: C3-V

Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.64	0.73		0.73		–
Index component value				0.73	0.73	0.66	0.73	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.09					
	P	mW		369.36		369.36		–
	P_{1x1}	mW		53.44		53.44		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	6.23					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	2.88	2.87		2.87		–
Other Information	prr	Hz	–					
	srr	Hz	46.95					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	35.20					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	53.44					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	6.00	8.00		8.00		–
	Depth	cm	11.82	9.36		9.36		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.0/3.0	3.0/3.0		3.0/3.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: C3-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	**Below surface**	**At surface**	**Below surface**	
Maximum index value			0.62	1.73		1.01		–
Index component value				1.55	1.73	0.89	1.01	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.05					
	P	mW		16.01		16.01		–
	P_{1x1}	mW		2.32		2.32		
	Z_s	cm			4.20			
	Z_b	cm					6.51	
	Z_{MI}	cm	4.46					
	$z_{pii,\alpha}$	cm	4.50					
	f_{awf}	MHz	2.87	2.86		2.85		–
Other Information	prr	Hz	9664.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	129.68					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	129.76					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	148.75					
	p_r at z_{pii}	*Mpa*	1.64					
Operating control conditions	Focus	cm	8.00	7.00		10.00		–
	Depth	cm	9.36	8.13		11.82		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.0/3.0	3.0/3.0		3.0/3.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: C3-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			1.22	1.93		1.41		–
Index component value				1.88	1.93	1.34	1.41	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.03					
	P	mW		21.23		21.23		–
	P_{1x1}	mW		3.07		3.07		
	Z_s	cm			4.20			
	Z_b	cm					6.50	
	Z_{MI}	cm	5.48					
	$z_{pii,\alpha}$	cm	5.53					
	f_{awf}	MHz	2.76	2.75		2.74		–
Other Information	prr	Hz	4767.00					
	srr	Hz	37.24					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	113.34					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	113.28					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	133.22					
	p_r at z_{pii}	*Mpa*	3.43					
Operating control conditions	Focus	cm	2.00	1.50		2.00		–
	Depth	cm	3.70	3.70		3.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	5.0	5.0		5.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7-V
Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.72	0.54		0.54		–
Index component value				0.54	0.54	0.44	0.54	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.80					
	P	mW		74.27		74.27		–
	P_{1x1}	mW		18.13		18.13		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.23					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	6.27	6.26		6.26		–
Other Information	prr	Hz	–					
	srr	Hz	22.47					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	43.89					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	62.66					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.00	2.00		2.00		–
	Depth	cm	4.93	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	5.0	5.0		5.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7-V

Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.51	0.70		0.70		–
Index component value				0.70	0.70	0.66	0.70	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.09					
	P	mW		369.36		369.36		–
	P_{1x1}	mW		90.18		90.18		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	6.22					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	2.88	2.87		2.87		–
Other Information	prr	Hz	–					
	srr	Hz	46.95					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	91.35					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	100.66					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	6.00	8.00		8.00		–
	Depth	cm	11.82	9.36		9.36		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.0/3.0	3.0/3.0		3.0/3.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.62	1.61		1.01		–
Index component value				1.54	1.61	0.88	1.01	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.56					
	P	mW		53.75		16.01		–
	P_{1x1}	mW		13.12		3.91		
	Z_s	cm			5.33			
	Z_b	cm					6.51	
	Z_{MI}	cm	1.66					
	$z_{pii,\alpha}$	cm	1.71					
	f_{awf}	MHz	6.34	6.29		2.85		–
Other Information	prr	Hz	9664.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	129.68					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	118.80					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	134.52					
	p_r at z_{pii}	*Mpa*	1.64					
Operating control conditions	Focus	cm	8.00	2.50		10.00		–
	Depth	cm	9.36	3.70		11.82		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.0/3.0	3.0/3.0		3.0/3.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.60	1.22		1.53		–
Index component value				1.18	1.22	1.33	1.53	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.55					
	P	mW		41.26		16.52		–
	P_{1x1}	mW		10.07		4.03		
	Z_s	cm			4.20			
	Z_b	cm					2.10	
	Z_{MI}	cm	1.45					
	$z_{pii,\alpha}$	cm	1.53					
	f_{awf}	MHz	6.22	6.21		6.19		–
Other Information	prr	Hz	2871.00					
	srr	Hz	22.43					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	158.54					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	157.76					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	174.66					
	p_r at z_{pii}	*Mpa*	2.15					
Operating control conditions	Focus	cm	7.00	6.00		6.00		–
	Depth	cm	8.13	6.89		6.89		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.0	3.0		3.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12-V
Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.64	0.23		0.23		–
Index component value				0.23	0.23	0.19	0.23	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.56					
	P	mW		33.39		33.39		–
	P_{1x1}	mW		8.15		8.15		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.88					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	5.91	5.93		5.93		–
Other Information	prr	Hz	–					
	srr	Hz	41.59					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	84.54					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	105.36					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.50	2.50		2.50		–
	Depth	cm	4.93	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0	7.0		7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.44	0.64		0.64		–
Index component value				0.64	0.64	0.60	0.64	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.02					
	P	mW		103.00		103.00		–
	P_{1x1}	mW		25.15		25.15		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.66					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	5.33	5.35		5.35		–
Other Information	prr	Hz	–					
	srr	Hz	61.62					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	72.54					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	90.35					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.50	2.50		2.50		–
	Depth	cm	9.86	8.62		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0/7.0	7.0/7.0		7.0/7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.32	1.43		1.84		–
Index component value				1.39	1.43	1.73	1.84	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.75					
	P	mW		39.53		39.53		–
	P_{1x1}	mW		9.65		9.65		
	Z_s	cm			2.80			
	Z_b	cm					4.22	
	Z_{MI}	cm	3.03					
	$z_{pii,\alpha}$	cm	3.06					
	f_{awf}	MHz	5.43	5.43		5.44		–
Other Information	prr	Hz	8051.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	114.46					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	113.68					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	134.55					
	p_r at z_{pii}	*Mpa*	1.32					
Operating control conditions	Focus	cm	2.50	2.50		2.50		–
	Depth	cm	6.16	6.16		6.16		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0/7.0	7.0/7.0		7.0/7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.52	0.63		1.12		–
Index component value				0.49	0.63	1.09	1.12	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.26					
	P	mW		30.96		30.96		–
	P_{1x1}	mW		7.56		7.56		
	Z_s	cm			2.80			
	Z_b	cm					4.54	
	Z_{MI}	cm	1.78					
	$z_{pii,\alpha}$	cm	1.85					
	f_{awf}	MHz	5.85	5.84		5.86		–
Other Information	prr	Hz	5322.00					
	srr	Hz	41.58					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	171.13					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	169.65					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	188.33					
	p_r at z_{pii}	*Mpa*	1.83					
Operating control conditions	Focus	cm	2.50	2.50		2.00		–
	Depth	cm	4.93	4.93		6.20		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0	7.0		7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L8M5-V
Operating Mode: B

Index label			**MI**	**TIS**		**TIB**		**TIC**
				At surface	**Below surface**	**At surface**	**Below surface**	
Maximum index value			1.56	1.77		1.77		–
Index component value				1.77	1.77	1.55	1.77	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.09					
	P	mW		1058.72		1058.72		–
	P_{1x1}	mW		208.87		208.87		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.90					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.80	1.78		1.78		–
Other Information	prr	Hz	–					
	srr	Hz	23.90					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	45.62					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	64.66					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	9.00	9.00		9.00		–
	Depth	cm	9.86	9.86		9.86		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L8M5-V

Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.54	0.68		0.68		–
Index component value				0.68	0.68	0.64	0.68	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.74					
	P	mW		385.10		385.10		–
	P_{1x1}	mW		75.97		75.97		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.77					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.75	1.88		1.88		–
Other Information	prr	Hz	–					
	srr	Hz	42.36					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	91.38					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	110.36					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	4.00	3.00		3.00		–
	Depth	cm	9.86	11.09		11.09		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0/2.0	2.0/2.0		2.0/2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L8M5-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.65	0.56		2.45		–
Index component value				0.45	0.56	2.42	2.45	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.86					
	P	mW		18.07		18.07		–
	P_{1x1}	mW		3.56		3.56		
	Z_s	cm			2.90			
	Z_b	cm					4.20	
	Z_{MI}	cm	1.99					
	$z_{pii,\alpha}$	cm	2.06					
	f_{awf}	MHz	1.75	1.85		1.78		–
Other Information	prr	Hz	4722.90					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	35.45					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	118.65					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	140.23					
	p_r at z_{pii}	*Mpa*	0.97					
Operating control conditions	Focus	cm	1.00	5.00		5.00		–
	Depth	cm	7.39	8.62		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0/2.0	2.0/2.0		2.0/2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L8M5-V

Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.89	0.65		2.44		–
Index component value				0.59	0.65	2.41	2.44	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.22					
	P	mW		15.69		15.69		–
	P_{1x1}	mW		3.10		3.10		
	Z_s	cm			2.85			
	Z_b	cm					2.92	
	Z_{MI}	cm	1.85					
	$z_{pii,\alpha}$	cm	1.88					
	f_{awf}	MHz	1.89	1.89		1.88		–
Other Information	prr	Hz	5233.60					
	srr	Hz	40.89					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	88.67					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	158.09					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	175.64					
	p_r at z_{pii}	*Mpa*	1.38					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	8.62	8.62		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: MC6-V

Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.74	1.25		1.25		–
Index component value				1.25	1.25	1.21	1.25	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.79					
	P	mW		108.93		108.93		–
	P_{1x1}	mW		44.79		44.79		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.64					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	5.84	5.88		5.88		–
Other Information	prr	Hz	–					
	srr	Hz	46.30					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	83.81					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	101.26					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.50	2.00		2.00		–
	Depth	cm	5.69	6.92		6.92		–
	Scanning width	%	100	100		100		–
	Freq	MHz	4.0	4.0		4.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: MC6-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.72	1.13		1.13		–
Index component value				1.13	1.13	1.09	1.13	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.65					
	P	mW		110.50		110.50		–
	P_{1x1}	mW		45.44		45.44		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.74					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	5.27	5.24		5.24		–
Other Information	prr	Hz	–					
	srr	Hz	47.06					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	94.80					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	116.25					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.50	1.00		1.00		–
	Depth	cm	11.85	3.22		3.22		–
	Scanning width	%	100	100		100		–
	Freq	MHz	4.0/5.3	4.0/5.3		4.0/5.3		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model:MC6-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.65	1.42		1.24		–
Index component value				1.35	1.42	1.15	1.24	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.50					
	P	mW		10.74		10.74		–
	P_{1x1}	mW		4.42		4.42		
	Z_s	cm			1.80			
	Z_b	cm					1.83	
	Z_{MI}	cm	2.55					
	$z_{pii,\alpha}$	cm	2.64					
	f_{awf}	MHz	5.31	5.34		5.36		–
Other Information	prr	Hz	5924.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	187.85					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	138.40					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	160.32					
	p_r at z_{pii}	*Mpa*	2.43					
Operating control conditions	Focus	cm	2.50	3.50		3.50		–
	Depth	cm	3.22	4.46		4.46		–
	Scanning width	%	100	100		100		–
	Freq	MHz	4.0/5.3	4.0/5.3		4.0/5.3		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: MC6-V

Operating Mode: B+M

Index label			**MI**	**TIS**		**TIB**		**TIC**
				At surface	**Below surface**	**At surface**	**Below surface**	
Maximum index value			0.60	1.24		1.85		–
Index component value				1.19	1.24	1.78	1.85	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.33					
	P	mW		15.61		15.61		–
	P_{1x1}	mW		6.42		6.42		
	Z_s	cm			1.80			
	Z_b	cm					1.90	
	Z_{MI}	cm	3.58					
	$z_{pii,\alpha}$	cm	3.61					
	f_{awf}	MHz	4.92	4.95		4.96		–
Other Information	prr	Hz	11236.00					
	srr	Hz	87.78					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	181.21					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	128.76					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	146.53					
	p_r at z_{pii}	*Mpa*	2.46					
Operating control conditions	Focus	cm	4.00	2.00		3.50		–
	Depth	cm	10.62	4.46		8.15		–
	Scanning width	%	100	100		100		–
	Freq	MHz	4.0	4.0		4.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P2-V
Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			1.00	1.13		1.13		–
Index component value				1.13	1.13	1.09	1.13	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.33					
	P	mW		258.87		258.87		–
	P_{1x1}	mW		134.83		134.83		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	4.48					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.78	1.76		1.76		–
Other Information	prr	Hz	–					
	srr	Hz	23.88					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	98.49					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	115.62					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	9.00	4.00		4.00		
	Depth	cm	9.86	13.55		13.55		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P2-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.63	0.87		0.87		–
Index component value				0.87	0.87	0.78	0.87	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.84					
	P	mW		191.69		191.69		–
	P_{1x1}	mW		99.84		99.84		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	4.42					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.77	1.83		1.83		–
Other Information	prr	Hz	–					
	srr	Hz	42.38					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	57.39					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	75.34					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	4.00	3.00		3.00		–
	Depth	cm	9.86	11.09		11.09		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0/2.0	2.0/2.0		2.0/2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P2-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.46	0.64		0.91		–
Index component value				0.58	0.64	0.84	0.91	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.61					
	P	mW		6.75		6.75		–
	P_{1x1}	mW		3.52		3.52		
	Z_s	cm			2.90			
	Z_b	cm					4.25	
	Z_{MI}	cm	5.55					
	$z_{pii,\alpha}$	cm	5.63					
	f_{awf}	MHz	1.78	1.81		1.78		–
Other Information	prr	Hz	4734.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	133.74					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	150.36					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	168.65					
	p_r at z_{pii}	*Mpa*	0.87					
Operating control conditions	Focus	cm	1.00	5.00		5.00		–
	Depth	cm	7.39	8.62		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0/2.0	2.0/2.0		2.0/2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P2-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.91	0.72		1.04		–
Index component value				0.68	0.72	0.99	1.04	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.24					
	P	mW		9.75		9.75		–
	P_{1x1}	mW		5.08		5.08		
	Z_s	cm			2.90			
	Z_b	cm					5.92	
	Z_{MI}	cm	2.47					
	$z_{pii,\alpha}$	cm	2.51					
	f_{awf}	MHz	1.86	1.87		1.85		–
Other Information	prr	Hz	5233.00					
	srr	Hz	40.88					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	128.67					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	126.33					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	145.62					
	p_r at z_{pii}	*Mpa*	1.46					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	8.62	8.62		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P2-V

Operating Mode: CW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.39	0.81		1.52		0.66
Index component value				0.74	0.81	1.45	1.52	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.60					
	P	mW		19.57		19.57		14.27
	P_{1x1}	mW		10.19		10.19		
	Z_s	cm			3.40			
	Z_b	cm					6.70	
	Z_{MI}	cm	6.48					
	$z_{pii,\alpha}$	cm	6.54					
	f_{awf}	MHz	2.39	2.42		2.32		2.33
Other Information	prr	Hz	0.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	44.25					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	43.26					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	62.31					
	p_r at z_{pii}	*Mpa*	1.03					
Operating control conditions	Focus	cm	4.00	5.00		4.00		4.00
	Depth	cm	6.16	8.62		7.39		7.39
	Scanning width	%	100	100		100		100
	Freq	MHz	2.0	2.0		2.0		2.0
	Power	%	100	100		100		100

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P2-V

Operating Mode: CFM-M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.88	0.52		0.76		–
Index component value				0.48	0.52	0.71	0.76	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.33					
	P	mW		8.67		8.67		–
	P_{1x1}	mW		4.52		4.52		
	Z_s	cm			3.40			
	Z_b	cm					6.10	
	Z_{MI}	cm	5.98					
	$z_{pii,\alpha}$	cm	6.10					
	f_{awf}	MHz	2.30	2.34		2.26		–
Other Information	prr	Hz	220.00					
	srr	Hz	1.72					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	79.64					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	79.52					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	100.32					
	p_r at z_{pii}	*Mpa*	2.17					
Operating control conditions	Focus	cm	5.00	5.00		5.00		–
	Depth	cm	6.16	8.62		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P5-V
Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.87	1.44		1.44		–
Index component value				1.44	1.44	1.35	1.44	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.70					
	P	mW		67.11		67.11		–
	P_{1x1}	mW		80.66		80.66		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.19					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	3.82	3.83		3.83		–
Other Information	prr	Hz	–					
	srr	Hz	32.90					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	88.20					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	105.32					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	5.00	7.50		7.50		–
	Depth	cm	23.32	9.86		9.86		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4	6.4		6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P5-V
Operating Mode: B+C

<table>
<tr><th colspan="3" rowspan="2">Index label</th><th>MI</th><th colspan="2">TIS</th><th colspan="2">TIB</th><th>TIC</th></tr>
<tr><th></th><th>At surface</th><th>Below surface</th><th>At surface</th><th>Below surface</th><th></th></tr>
<tr><td colspan="3">Maximum index value</td><td>0.54</td><td colspan="2">0.84</td><td colspan="2">0.84</td><td>–</td></tr>
<tr><td colspan="3">Index component value</td><td></td><td>0.84</td><td>0.84</td><td>0.81</td><td>0.84</td><td></td></tr>
<tr><td rowspan="8">Acoustic Parameters</td><td>$p_{r,\alpha}$ at Z_{MI}</td><td>Mpa</td><td>1.09</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>P</td><td>mW</td><td></td><td colspan="2">37.21</td><td colspan="2">37.21</td><td>–</td></tr>
<tr><td>P_{1x1}</td><td>mW</td><td></td><td colspan="2">44.72</td><td colspan="2">44.72</td><td></td></tr>
<tr><td>Z_s</td><td>cm</td><td></td><td></td><td>–</td><td></td><td></td><td></td></tr>
<tr><td>Z_b</td><td>cm</td><td></td><td></td><td></td><td></td><td>–</td><td></td></tr>
<tr><td>Z_{MI}</td><td>cm</td><td>2.25</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>$z_{pii,\alpha}$</td><td>cm</td><td>–</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>f_{awf}</td><td>MHz</td><td>4.05</td><td colspan="2">4.03</td><td colspan="2">4.03</td><td>–</td></tr>
<tr><td rowspan="7">Other Information</td><td>prr</td><td>Hz</td><td>–</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>srr</td><td>Hz</td><td>54.65</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="2">n_{pps}</td><td>1</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>$I_{pa,\alpha}$ at $z_{pii,\alpha}$</td><td>W/cm^2</td><td>–</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$</td><td>mW/cm^2</td><td>65.43</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>I_{spta} at z_{pii} or z_{sii}</td><td>mW/cm^2</td><td>88.64</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>p_r at z_{pii}</td><td>Mpa</td><td>–</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="5">Operating control conditions</td><td>Focus</td><td>cm</td><td>6.00</td><td colspan="2">7.00</td><td colspan="2">7.00</td><td>–</td></tr>
<tr><td>Depth</td><td>cm</td><td>19.71</td><td colspan="2">11.09</td><td colspan="2">11.09</td><td>–</td></tr>
<tr><td>Scanning width</td><td>%</td><td>100</td><td colspan="2">100</td><td colspan="2">100</td><td>–</td></tr>
<tr><td>Freq</td><td>MHz</td><td>6.4/4.0</td><td colspan="2">6.4/4.0</td><td colspan="2">6.4/4.0</td><td>–</td></tr>
<tr><td>Power</td><td>%</td><td>100</td><td colspan="2">100</td><td colspan="2">100</td><td>–</td></tr>
<tr><td colspan="9">NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.</td></tr>
</table>

Transducer Model: P5-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.40	0.71		0.94		–
Index component value				0.64	0.71	0.88	0.94	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.08					
	P	mW		20.29		10.47		–
	P_{1x1}	mW		24.39		12.58		
	Z_s	cm			1.78			
	Z_b	cm					1.83	
	Z_{MI}	cm	1.98					
	$z_{pii,\alpha}$	cm	2.05					
	f_{awf}	MHz	7.34	7.35		7.35		–
Other Information	prr	Hz	6983.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	119.34					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	119.17					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	140.23					
	p_r at z_{pii}	*Mpa*	1.82					
Operating control conditions	Focus	cm	7.00	5.00		5.00		–
	Depth	cm	7.39	11.09		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4/6.4	6.4/6.4		6.4/6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P5-V

Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.82	1.13		1.32		–
Index component value				1.05	1.13	1.28	1.32	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.61					
	P	mW		61.48		9.88		–
	P_{1x1}	mW		73.89		11.88		
	Z_s	cm			1.98			
	Z_b	cm					2.01	
	Z_{MI}	cm	2.09					
	$z_{pii,\alpha}$	cm	2.14					
	f_{awf}	MHz	3.84	3.86		3.83		–
Other Information	prr	Hz	5824.00					
	srr	Hz	45.50					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	147.26					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	147.24					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	165.23					
	p_r at z_{pii}	*Mpa*	2.13					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	11.09	11.09		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4	6.4		6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P5-V
Operating Mode: CW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.44	0.93		1.07		0.92
Index component value				0.84	0.93	1.01	1.07	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.83					
	P	mW		54.25		13.09		37.73
	P_{1x1}	mW		65.20		15.73		
	Z_s	cm			3.20			
	Z_b	cm					4.10	
	Z_{MI}	cm	3.98					
	$z_{pii,\alpha}$	cm	4.03					
	f_{awf}	MHz	3.59	3.6		3.61		3.55
Other Information	prr	Hz	0.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	26.75					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	35.22					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	53.23					
	p_r at z_{pii}	*Mpa*	1.37					
Operating control conditions	Focus	cm	5.00	7.00		6.00		6.00
	Depth	cm	6.16	8.62		7.39		7.39
	Scanning width	%	100	100		100		100
	Freq	MHz	6.4	6.4		6.4		6.4
	Power	%	100	100		100		100

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P5-V

Operating Mode: CFM-M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.52	0.37		0.93		–
Index component value				0.28	0.37	0.88	0.93	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.98					
	P	mW		22.01		9.17		–
	P_{1x1}	mW		26.45		11.02		
	Z_s	cm			3.15			
	Z_b	cm					3.31	
	Z_{MI}	cm	3.25					
	$z_{pii,\alpha}$	cm	3.32					
	f_{awf}	MHz	3.52	3.53		3.53		–
Other Information	prr	Hz	220.00					
	srr	Hz	1.72					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	55.47					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	55.49					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	73.23					
	p_r at z_{pii}	*Mpa*	1.46					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	6.16	8.62		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4	6.4		6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model:MC3-V

Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.63	1.32		1.32		–
Index component value				1.32	1.32	1.25	1.32	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.16					
	P	mW		292.20		292.20		–
	P_{1x1}	mW		97.40		97.40		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	4.90					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	3.37	3.40		3.40		–
Other Information	prr	Hz	–					
	srr	Hz	30.13					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	58.67					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	75.31					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	5.00	7.00		7.00		–
	Depth	cm	8.84	10.70		10.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.5	3.5		3.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: MC3-V

Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.43	0.68		0.68		–
Index component value				0.68	0.68	0.65	0.68	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.72					
	P	mW		180.85		180.85		–
	P_{1x1}	mW		60.28		60.28		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	3.55					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	2.84	2.83		2.83		–
Other Information	prr	Hz	–					
	srr	Hz	46.47					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	98.45					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	120.35					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	5.00	5.00		5.00		–
	Depth	cm	7.61	7.61		7.61		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.5/3.5	3.5/3.5		3.5/3.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model:MC3-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.41	0.53		0.72		–
Index component value				0.44	0.53	0.56	0.72	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.70					
	P	mW		6.26		6.26		–
	P_{1x1}	mW		2.09		2.09		
	Z_s	cm			3.80			
	Z_b	cm					3.40	
	Z_{MI}	cm	5.30					
	$z_{pii,\alpha}$	cm	5.40					
	f_{awf}	MHz	2.90	2.92		2.90		–
Other Information	prr	Hz	3844.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	110.46					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	110.14					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	128.25					
	p_r at z_{pii}	*Mpa*	1.20					
Operating control conditions	Focus	cm	5.00	5.00		5.00		–
	Depth	cm	8.84	8.84		17.46		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.5/3.5	3.5/3.5		3.5/3.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: MC3-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.70	1.32		1.51		–
Index component value				1.24	1.32	1.44	1.51	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.26					
	P	mW		14.42		14.42		–
	P_{1x1}	mW		4.81		4.81		
	Z_s	cm			3.80			
	Z_b	cm					3.43	
	Z_{MI}	cm	4.40					
	$z_{pii,\alpha}$	cm	4.60					
	f_{awf}	MHz	3.26	3.26		3.27		–
Other Information	prr	Hz	7576.00					
	srr	Hz	59.19					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	162.33					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	126.38					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	155.26					
	p_r at z_{pii}	*Mpa*	2.12					
Operating control conditions	Focus	cm	5.00	5.00		5.00		–
	Depth	cm	6.37	6.37		6.37		–
	Scanning width	%	100	100		100		–
	Freq	MHz	3.5	3.5		3.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model:L18-V

Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.73	0.34		0.34		–
Index component value				0.34	0.34	0.22	0.34	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.78					
	P	mW		15.36		15.36		–
	P_{1x1}	mW		7.68		7.68		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.88					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	5.97	5.95		5.95		–
Other Information	prr	Hz	–					
	srr	Hz	44.41					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	98.19					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	116.22					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	4.50	4.50		4.50		–
	Depth	cm	4.93	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0	7.0		7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L18-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.56	0.75		0.75		–
Index component value				0.75	0.75	0.65	0.75	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.30					
	P	mW		37.40		37.40		–
	P_{1x1}	mW		18.70		18.70		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.75					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	5.41	5.39		5.39		–
Other Information	prr	Hz	–					
	srr	Hz	63.45					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	75.45					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	99.35					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	4.50	4.50		4.50		–
	Depth	cm	9.86	8.62		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0/7.0	7.0/7.0		7.0/7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model:L18-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.45	1.31		1.78		–
Index component value				1.22	1.31	1.65	1.78	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.23					
	P	mW		21.76		21.76		–
	P_{1x1}	mW		10.88		10.88		
	Z_s	cm			3.80			
	Z_b	cm					5.10	
	Z_{MI}	cm	3.94					
	$z_{pii,\alpha}$	cm	4.20					
	f_{awf}	MHz	3.94	3.94		3.95		–
Other Information	prr	Hz	4645.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	102.32					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	116.34					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	135.33					
	p_r at z_{pii}	*Mpa*	2.18					
Operating control conditions	Focus	cm	7.00	4.00		5.00		–
	Depth	cm	8.13	5.56		6.89		–
	Scanning width	%	100	100		100		–
	Freq	MHz	4.0	4.0		4.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L18-V

Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.63	0.72		1.16		–
Index component value				0.65	0.72	1.05	1.16	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.52					
	P	mW		30.66		30.66		–
	P_{1x1}	mW		15.33		15.33		
	Z_s	cm			2.80			
	Z_b	cm					4.46	
	Z_{MI}	cm	1.44					
	$z_{pii,\alpha}$	cm	1.85					
	f_{awf}	MHz	5.81	5.82		5.82		–
Other Information	prr	Hz	5322.00					
	srr	Hz	41.58					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	177.21					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	158.57					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	180.65					
	p_r at z_{pii}	*Mpa*	2.20					
Operating control conditions	Focus	cm	4.50	4.50		4.00		–
	Depth	cm	4.93	4.93		6.20		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0	7.0		7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L8M-V

Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.71	0.59		0.59		–
Index component value				0.59	0.59	0.44	0.59	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.96					
	P	mW		38.16		38.16		–
	P_{1x1}	mW		20.12		20.12		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.15					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	7.86	7.88		7.88		–
Other Information	prr	Hz	–					
	srr	Hz	22.23					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	15.22					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	48.91					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.50	3.00		3.00		–
	Depth	cm	4.93	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	8.0	8.0		8.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended fortranscranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths zpii and zpii,α apply to NON-SCANNING MODES, while the depths zsii and zsii,α apply to SCANNING MODES.

Transducer Model: L8M-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.58	0.78		0.78		–
Index component value				0.78	0.78	0.65	0.78	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.57					
	P	mW		53.62		53.62		–
	P_{1x1}	mW		26.64		26.64		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.68					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	6.89	6.91		6.91		–
Other Information	prr	Hz	–					
	srr	Hz	156.49					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	20.01					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	44.51					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.00	1.50		1.50		–
	Depth	cm	4.93	3.70		3.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	8.0/6.5	8.0/6.5		8.0/6.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended fortranscranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L8M-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.48	1.11		0.81		–
Index component value				1.05	1.11	0.77	0.81	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.31					
	P	mW		34.12		39.12		–
	P_{1x1}	mW		20.11		22.14		
	Z_s	cm			1.68			
	Z_b	cm					1.76	
	Z_{MI}	cm	1.67					
	$z_{pii,\alpha}$	cm	1.67					
	f_{awf}	MHz	6.85	6.86		6.86		–
Other Information	prr	Hz	19998.78					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	241.20					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	120.35					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	138.54					
	p_r at z_{pii}	*Mpa*	2.23					
Operating control conditions	Focus	cm	3.50	3.50		3.50		–
	Depth	cm	7.39	7.39		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	8.0/6.5	8.0/6.5		8.0/6.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended fortranscranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L8M-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.78	0.91		0.59		–
Index component value				0.88	0.91	0.48	0.59	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.24					
	P	mW		24.25		24.50		–
	P_{1x1}	mW		12.88		13.54		
	Z_s	cm			1.81			
	Z_b	cm					1.85	
	Z_{MI}	cm	1.93					
	$z_{pii,\alpha}$	cm	1.93					
	f_{awf}	MHz	7.82	7.83		7.85		–
Other Information	prr	Hz	2846.41					
	srr	Hz	22.24					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	245.12					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	150.54					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	427.00					
	p_r at z_{pii}	*Mpa*	2.75					
Operating control conditions	Focus	cm	2.00	2.00		2.00		–
	Depth	cm	11.09	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	8.0	8.0		8.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended fortranscranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7SVA-V

Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.91	0.59		0.59		–
Index component value				0.59	0.59	0.48	0.59	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.64					
	P	mW		32.56		32.56		–
	P_{1x1}	mW		18.84		18.84		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.65					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	8.59	8.61		8.61		–
Other Information	prr	Hz	–					
	srr	Hz	25.44					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	10.02					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	48.28					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.00	2.00		2.00		–
	Depth	cm	4.93	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	9.0	9.0		9.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7SVA-V

Operating Mode: B+C

Index label			**MI**	**TIS**		**TIB**		**TIC**
				At surface	**Below surface**	**At surface**	**Below surface**	
Maximum index value			0.48	0.91		0.91		–
Index component value				0.91	0.91	0.88	0.91	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.30					
	P	mW		48.52		48.52		–
	P_{1x1}	mW		25.54		25.54		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.68					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	6.78	6.80		6.80		–
Other Information	prr	Hz	–					
	srr	Hz	156.24					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	20.21					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	44.49					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.50	1.00		1.00		–
	Depth	cm	4.93	3.70		3.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	9.0/6.5	9.0/6.5		9.0/6.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended fortranscranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7SVA-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.68	1.08		1.01		–
Index component value				1.05	1.08	0.99	1.01	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.83					
	P	mW		33.25		48.56		–
	P_{1x1}	mW		18.85		25.52		
	Z_s	cm			1.90			
	Z_b	cm					1.90	
	Z_{MI}	cm	1.86					
	$z_{pii,\alpha}$	cm	1.86					
	f_{awf}	MHz	6.81	6.83		6.85		–
Other Information	prr	Hz	19998.01					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	182.30					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	181.24					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	434.76					
	p_r at z_{pii}	*Mpa*	2.26					
Operating control conditions	Focus	cm	4.00	2.50		2.50		–
	Depth	cm	7.39	3.70		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	9.0/6.5	9.0/6.5		9.0/6.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7SVA-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.91	1.08		0.78		–
Index component value				0.99	1.08	0.71	0.78	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.65					
	P	mW		28.68		38.66		–
	P_{1x1}	mW		18.54		20.22		
	Z_s	cm			1.86			
	Z_b	cm					1.86	
	Z_{MI}	cm	1.72					
	$z_{pii,\alpha}$	cm	1.72					
	f_{awf}	MHz	8.67	8.68		8.69		–
Other Information	prr	Hz	3015.01					
	srr	Hz	23.55					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	215.63					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	181.24					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	434.76					
	p_r at z_{pii}	*Mpa*	3.05					
Operating control conditions	Focus	cm	2.00	1.50		2.00		–
	Depth	cm	3.70	3.70		3.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	9.0	9.0		9.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model:L7V-V
Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.67	0.62		0.62		–
Index component value				0.62	0.62	0.58	0.62	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.96					
	P	mW		58.49		58.49		–
	P_{1x1}	mW		30.21		30.21		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.63					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	7.84	7.56		7.56		–
Other Information	prr	Hz	–					
	srr	Hz	26.81					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	12.25					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	26.65					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	3.00	2.50		2.50		–
	Depth	cm	13.55	3.70		3.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.5	7.5		7.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7V-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.48	1.21		1.21		–
Index component value				1.21	1.21	1.19	1.21	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.35					
	P	mW		102.59		102.59		–
	P_{1x1}	mW		55.58		55.58		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	3.11					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	7.29	7.45		7.45		–
Other Information	prr	Hz	–					
	srr	Hz	156.68					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	25.54					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	41.25					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	3.00	2.00		2.00		–
	Depth	cm	12.32	6.16		6.16		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.5/7.5	7.5/7.5		7.5/7.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7V-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.58	1.38		0.89		–
Index component value				1.22	1.38	0.79	0.89	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.63					
	P	mW		40.54		42.42		–
	P_{1x1}	mW		22.25		23.46		
	Z_s	cm			2.38			
	Z_b	cm					2.44	
	Z_{MI}	cm	3.31					
	$z_{pii,\alpha}$	cm	3.31					
	f_{awf}	MHz	7.38	7.41		7.41		–
Other Information	prr	Hz	19998.25					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	198.58					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	110.25					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	384.45					
	p_r at z_{pii}	*Mpa*	1.59					
Operating control conditions	Focus	cm	2.50	3.50		2.50		–
	Depth	cm	7.39	7.39		3.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.5/7.5	7.5/7.5		7.5/7.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L7V-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.85	1.11		0.78		–
Index component value				1.09	1.11	0.69	0.78	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.45					
	P	mW		31.09		34.20		–
	P_{1x1}	mW		18.87		20.22		
	Z_s	cm			1.78			
	Z_b	cm					1.84	
	Z_{MI}	cm	1.69					
	$z_{pii,\alpha}$	cm	1.69					
	f_{awf}	MHz	7.41	7.43		7.41		–
Other Information	prr	Hz	3320.42					
	srr	Hz	28.85					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	213.20					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	189.98					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	402.24					
	p_r at z_{pii}	*Mpa*	2.86					
Operating control conditions	Focus	cm	3.00	3.00		2.00		–
	Depth	cm	12.32	12.32		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.5	7.5		7.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: R7-V

Operating Mode: B

Index label			**MI**	**TIS**		**TIB**		**TIC**
				At surface	**Below surface**	**At surface**	**Below surface**	
Maximum index value			0.70	0.56		0.56		–
Index component value				0.56	0.56	0.51	0.56	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.74					
	P	mW		78.20		78.20		–
	P_{1x1}	mW		19.09		19.09		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.84					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	6.15	6.16		6.16		–
Other Information	prr	Hz	–					
	srr	Hz	22.38					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	78.15					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	95.19					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	3.00	3.00		3.00		–
	Depth	cm	4.93	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	5.0	5.0		5.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: R7-V

Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.52	0.70		0.70		–
Index component value				0.70	0.70	0.66	0.70	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.31					
	P	mW		94.82		94.82		–
	P_{1x1}	mW		23.15		23.15		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.54					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	6.34	6.35		6.35		–
Other Information	prr	Hz	–					
	srr	Hz	53.55					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	88.45					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	105.34					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	2.00	2.50		2.50		–
	Depth	cm	4.93	3.70		3.70		–
	Scanning width	%	100	100		100		–
	Freq	MHz	5.0/6.5	5.0/6.5		5.0/6.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: R7-V

Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.61	2.04		1.87		–
Index component value				1.98	2.04	1.86	1.87	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.54					
	P	mW		67.78		16.64		–
	P_{1x1}	mW		16.55		4.06		
	Z_s	cm			1.58			
	Z_b	cm					1.61	
	Z_{MI}	cm	1.65					
	$z_{pii,\alpha}$	cm	1.70					
	f_{awf}	MHz	6.34	6.32		6.33		–
Other Information	prr	Hz	2795.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	106.34					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	120.35					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	138.54					
	p_r at z_{pii}	*Mpa*	2.23					
Operating control conditions	Focus	cm	2.50	2.50		3.00		–
	Depth	cm	7.39	7.39		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	5.0/6.5	5.0/6.5		5.0/6.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: R7-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.81	1.70		1.52		–
Index component value				1.65	1.70	1.48	1.52	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.99					
	P	mW		58.72		14.23		–
	P_{1x1}	mW		14.34		3.47		
	Z_s	cm			1.74			
	Z_b	cm					1.80	
	Z_{MI}	cm	2.54					
	$z_{pii,\alpha}$	cm	2.60					
	f_{awf}	MHz	6.06	6.08		6.07		–
Other Information	prr	Hz	2655.00					
	srr	Hz	20.74					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	134.24					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	134.48					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	155.26					
	p_r at z_{pii}	*Mpa*	3.44					
Operating control conditions	Focus	cm	2.00	2.00		2.00		–
	Depth	cm	7.39	3.70		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	5.0	5.0		5.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L10i-V
Operating Mode:B

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.84	0.52				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	2.08					
	W_o	(mW)		45.60				
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.95					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	6.14	6.13				
	Dim of A_{aprt}	X (cm)		1.28				
		Y (cm)		0.35				
Other Information	PD	(µsec)	0.22					
	PRF	(Hz)	2977.5					
	$p_r@PII_{max}$	(MPa)	3.15					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.26				
		FL_y (cm)		0.32				
	$I_{PA.3}@MI_{max}$	(W/cm^2)	78.48					
Operating Control Conditions	Mode	NA	B	B				
	Focus	(cm)	3.0	2.0				
	Depth	(cm)	4.93	6.16				
	Scanning width	%	100	100				
	Freq	MHz	7.0	7.0				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L10i-V
Operating Mode: B+C

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt}\leqslant 1$	$A_{aprt}>1$		
Global Maximum Index Value			0.53	0.79				
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.33					
	W_o	(mW)		66.78				
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)						
	$z@PII_{.3max}$	(cm)	1.82					
	$d_{eq}(z_{sp})$	(cm)						
	f_c	(MHz)	6.34	6.36				
	Dim of A_{aprt}	X (cm)		1.28				
		Y (cm)		0.35				
Other Information	PD	(μsec)	0.78					
	PRF	(Hz)	7025.4					
	$p_r@PII_{max}$	(MPa)	1.99					
	$d_{eq}@PII_{max}$	(cm)						
	Focal Length	FL_x (cm)		0.25				
		FL_y (cm)		0.34				
	$I_{PA.3}@$ MI_{max}	(W/cm^2)	74.42					
Operating Control Conditions	Mode	NA	C	C				
	Focus	(cm)	3.0	2.0				
	Depth	(cm)	4.93	4.93				
	Scanning width	%	100	100				
	Freq	MHz	7.0/8.5	7.0/8.5				
	Power	(%)	100	100				

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standard (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L10i-V
Operating Mode: PW

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					A_{aprt}≤1	A_{aprt}>1		
Global Maximum Index Value			0.63		1.19		1.87	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.58					
	W_o	(mW)			39.35		19.30	
	min of [$W_{.3}(z_1)$, $I_{TA.3}(z_1)$]	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					1.94	
	$z@PII_{.3max}$	(cm)	2.08					
	$d_{eq}(z_{sp})$	(cm)					0.86	
	f_c	(MHz)	6.3		6.35		6.36	
	Dim of A_{aprt}	X (cm)			1.28		1.28	
		Y (cm)			0.35		0.35	
Other Information	PD	(μsec)	0.59					
	PRF	(Hz)	2894.5					
	$p_r@PII_{max}$	(MPa)	2.49					
	$d_{eq}@PII_{max}$	(cm)					0.45	
	Focal Length	FL_x (cm)			0.34			
		FL_y (cm)			0.29			
	$I_{PA.3}@MI_{max}$	(W/cm²)	134.58					
Operating Control Conditions	Mode	NA	PW		PW		PW	
	Focus	(cm)	3.0		2.0		3.5	
	Depth	(cm)	7.39		3.70		7.39	
	Scanning width	%	100		100		100	
	Freq	MHz	7.0/8.5		7.0/8.5		7.0/8.5	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).
(b) This transducer is not intended for transcranial or neonatal cephalic uses.
(c) This formulation for TIS is less than that for an alternate formulation in this mode.
No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L10i-V
Operating Mode: B+M

Index Label			MI	TIS			TIB	TIC
				Scan	non-scan		non-scan	
					$A_{aprt} \leqslant 1$	$A_{aprt} > 1$		
Global Maximum Index Value			0.74		1.1		1.58	
Associated Acoustic Parameter	$p_{r.3}$	(MPa)	1.83					
	W_o	(mW)			37.38		16.35	
	min of $[W_{.3}(z_1), I_{TA.3}(z_1)]$	(mW)						
	z_1	(cm)						
	z_{bp}	(cm)						
	z_{sp}	(cm)					2.04	
	$z@PII_{.3max}$	(cm)	2.01					
	$d_{eq}(z_{sp})$	(cm)					0.88	
	f_c	(MHz)	6.11		6.18		6.07	
	Dim of A_{aprt}	X (cm)			1.28		1.28	
		Y (cm)			0.35		0.35	
Other Information	PD	(μsec)	0.21					
	PRF	(Hz)	2905.3					
	$p_r@PII_{max}$	(MPa)	2.80					
	$d_{eq}@PII_{max}$	(cm)					0.87	
	Focal Length	FL_x (cm)			0.19			
		FL_y (cm)			0.25			
	$I_{PA.3}@ MI_{max}$	(W/cm²)	153.76					
Operating Control Conditions	Mode	NA	M		M		M	
	Focus	(cm)	2.0		2.0		2.0	
	Depth	(cm)	9.86		3.70		8.62	
	Scanning width	%	100		100		100	
	Freq	MHz	7.0		7.0		7.0	
	Power	(%)	100		100		100	

Notes: (a) This index is not required for this operating mode.see section 4.1.3.1. of the Output Display Standrd (NEMA UD-3).

(b) This transducer is not intended for transcranial or neonatal cephalic uses.

(c) This formulation for TIS is less than that for an alternate formulation in this mode.

\# No data are reported for this operating condition since the global maximum index value is not reported for the reason listed.

Transducer Model: L10i-V

Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.84	0.52		0.52		–
Index component value				0.52	0.52	0.38	0.52	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.08					
	P	mW		45.60		45.60		–
	P_{1x1}	mW		17.81		17.81		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.88					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	6.14	6.13		6.13		–
Other Information	prr	Hz	–					
	srr	Hz	23.26					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	66.87					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	85.94					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	3.00	2.00		2.00		–
	Depth	cm	4.93	6.16		6.16		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0	7.0		7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L10i-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.53	0.79		0.79		–
Index component value				0.79	0.79	0.75	0.79	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.33					
	P	mW		66.78		66.78		–
	P_{1x1}	mW		26.09		26.09		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.78					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	6.34	6.36		6.36		–
Other Information	prr	Hz	–					
	srr	Hz	54.89					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	46.46					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	65.44					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	3.00	2.00		2.00		–
	Depth	cm	4.93	4.93		4.93		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0/8.5	7.0/8.5		7.0/8.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L10i-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.63	1.19		1.87		–
Index component value				1.14	1.19	1.85	1.87	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.58					
	P	mW		39.35		19.30		–
	P_{1x1}	mW		15.37		7.54		
	Z_s	cm			1.88			
	Z_b	cm					1.94	
	Z_{MI}	cm	2.04					
	$z_{pii,\alpha}$	cm	2.08					
	f_{awf}	MHz	6.30	6.35		6.36		–
Other Information	prr	Hz	2894.50					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	134.58					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	153.41					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	172.64					
	p_r at z_{pii}	*Mpa*	2.49					
Operating control conditions	Focus	cm	3.00	2.00		3.50		–
	Depth	cm	7.39	3.70		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0/8.5	7.0/8.5		7.0/8.5		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L10i-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.74	1.10		1.58		–
Index component value				1.04	1.10	1.52	1.58	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.83					
	P	mW		37.38		16.35		–
	P_{1x1}	mW		14.60		6.39		
	Z_s	cm			1.99			
	Z_b	cm					2.04	
	Z_{MI}	cm	1.95					
	$z_{pii,\alpha}$	cm	2.01					
	f_{awf}	MHz	6.11	6.18		6.07		–
Other Information	prr	Hz	2905.30					
	srr	Hz	22.70					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	153.76					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	137.29					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	155.64					
	p_r at z_{pii}	*Mpa*	2.80					
Operating control conditions	Focus	cm	2.00	2.00		2.00		–
	Depth	cm	9.86	3.70		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0	7.0		7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P3T-V
Operating Mode: B_

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			1.00	1.13		1.13		–
Index component value				1.13	1.13	1.09	1.13	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.33					
	P	mW		258.87		258.87		–
	P_{1x1}	mW		134.83		134.83		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	4.48					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.78	1.76		1.76		–
Other Information	prr	Hz	–					
	srr	Hz	23.88					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	98.49					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	115.62					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	9.00	4.00		4.00		
	Depth	cm	9.86	13.55		13.55		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P3T-V
Operating Mode: B+C_

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.63	0.87		0.87		–
Index component value				0.87	0.87	0.78	0.87	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.84					
	P	mW		191.69		191.69		–
	P_{1x1}	mW		99.84		99.84		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	4.42					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.77	1.83		1.83		–
Other Information	prr	Hz	–					
	srr	Hz	42.38					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	57.39					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	75.34					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	4.00	3.00		3.00		–
	Depth	cm	9.86	11.09		11.09		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0/2.0	2.0/2.0		2.0/2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P3T-V
Operating Mode: PW_

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.46	0.64		0.91		–
Index component value				0.58	0.64	0.84	0.91	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.61					
	P	mW		6.75		6.75		–
	P_{1x1}	mW		3.52		3.52		
	Z_s	cm			2.90			
	Z_b	cm					4.25	
	Z_{MI}	cm	5.55					
	$z_{pii,\alpha}$	cm	5.63					
	f_{awf}	MHz	1.78	1.81		1.78		–
Other Information	prr	Hz	4734.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	133.74					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	150.36					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	168.65					
	p_r at z_{pii}	*Mpa*	0.87					
Operating control conditions	Focus	cm	1.00	5.00		5.00		–
	Depth	cm	7.39	8.62		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0/2.0	2.0/2.0		2.0/2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P3T-V
Operating Mode: B+M_

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.91	0.72		1.04		–
Index component value				0.68	0.72	0.99	1.04	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.24					
	P	mW		9.75		9.75		–
	P_{1x1}	mW		5.08		5.08		
	Z_s	cm			2.90			
	Z_b	cm					5.92	
	Z_{MI}	cm	2.47					
	$z_{pii,\alpha}$	cm	2.51					
	f_{awf}	MHz	1.86	1.87		1.85		–
Other Information	prr	Hz	5233.00					
	srr	Hz	40.88					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	128.67					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	126.33					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	145.62					
	p_r at z_{pii}	*Mpa*	1.46					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	8.62	8.62		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P3T-V
Operating Mode: CW_

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.39	0.81		1.52		0.66
Index component value				0.74	0.81	1.45	1.52	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.60					
	P	mW		19.57		19.57		14.27
	P_{1x1}	mW		10.19		10.19		
	Z_s	cm			3.40			
	Z_b	cm					6.70	
	Z_{MI}	cm	6.48					
	$z_{pii,\alpha}$	cm	6.54					
	f_{awf}	MHz	2.39	2.42		2.32		2.33
Other Information	prr	Hz	0.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	44.25					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	43.26					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	62.31					
	p_r at z_{pii}	*Mpa*	1.03					
Operating control conditions	Focus	cm	4.00	5.00		4.00		4.00
	Depth	cm	6.16	8.62		7.39		7.39
	Scanning width	%	100	100		100		100
	Freq	MHz	2.0	2.0		2.0		2.0
	Power	%	100	100		100		100

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: P3T-V
Operating Mode: CFM-M_

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.88	0.52		0.76		–
Index component value				0.48	0.52	0.71	0.76	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.33					
	P	mW		8.67		8.67		–
	P_{1x1}	mW		4.52		4.52		
	Z_s	cm			3.40			
	Z_b	cm					6.10	
	Z_{MI}	cm	5.98					
	$z_{pii,\alpha}$	cm	6.10					
	f_{awf}	MHz	2.30	2.34		2.26		–
Other Information	prr	Hz	220.00					
	srr	Hz	1.72					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	79.64					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	79.52					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	100.32					
	p_r at z_{pii}	*Mpa*	2.17					
Operating control conditions	Focus	cm	5.00	5.00		5.00		–
	Depth	cm	6.16	8.62		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12b-V
Operating Mode: B

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			1.56	1.77		1.77		–
Index component value				1.77	1.77	1.55	1.77	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	2.09					
	P	mW		1058.72		1058.72		–
	P_{1x1}	mW		208.87		208.87		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.90					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.80	1.78		1.78		–
Other Information	prr	Hz	–					
	srr	Hz	23.90					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	45.62					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	64.66					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	9.00	9.00		9.00		–
	Depth	cm	9.86	9.86		9.86		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0	2.0		2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12b-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.32	1.43		1.84		–
Index component value				1.39	1.43	1.73	1.84	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.75					
	P	mW		39.53		39.53		–
	P_{1x1}	mW		9.65		9.65		
	Z_s	cm			2.80			
	Z_b	cm					4.22	
	Z_{MI}	cm	3.03					
	$z_{pii,\alpha}$	cm	3.06					
	f_{awf}	MHz	5.43	5.43		5.44		–
Other Information	prr	Hz	8051.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	114.46					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	113.68					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	134.55					
	p_r at z_{pii}	*Mpa*	1.32					
Operating control conditions	Focus	cm	2.50	2.50		2.50		–
	Depth	cm	6.16	6.16		6.16		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0/7.0	7.0/7.0		7.0/7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12b-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.52	0.63		1.12		–
Index component value				0.49	0.63	1.09	1.12	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.26					
	P	mW		30.96		30.96		–
	P_{1x1}	mW		7.56		7.56		
	Z_s	cm			2.80			
	Z_b	cm					4.54	
	Z_{MI}	cm	1.78					
	$z_{pii,\alpha}$	cm	1.85					
	f_{awf}	MHz	5.85	5.84		5.86		–
Other Information	prr	Hz	5322.00					
	srr	Hz	41.58					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	171.13					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	169.65					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	188.33					
	p_r at z_{pii}	*Mpa*	1.83					
Operating control conditions	Focus	cm	2.50	2.50		2.00		–
	Depth	cm	4.93	4.93		6.20		–
	Scanning width	%	100	100		100		–
	Freq	MHz	7.0	7.0		7.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: L12b-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.54	0.68		0.68		–
Index component value				0.68	0.68	0.64	0.68	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.74					
	P	mW		385.10		385.10		–
	P_{1x1}	mW		75.97		75.97		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	1.77					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	1.75	1.88		1.88		–
Other Information	prr	Hz	–					
	srr	Hz	42.36					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	91.38					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	110.36					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	4.00	3.00		3.00		–
	Depth	cm	9.86	11.09		11.09		–
	Scanning width	%	100	100		100		–
	Freq	MHz	2.0/2.0	2.0/2.0		2.0/2.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S3-7-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.54	0.84		0.84		–
Index component value				0.84	0.84	0.81	0.84	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.09					
	P	mW		37.21		37.21		–
	P_{1x1}	mW		44.72		44.72		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.25					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	4.05	4.03		4.03		–
Other Information	prr	Hz	–					
	srr	Hz	54.65					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	65.43					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	88.64					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	6.00	7.00		7.00		–
	Depth	cm	19.71	11.09		11.09		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4/4.0	6.4/4.0		6.4/4.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S3-7-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.40	0.71		0.94		–
Index component value				0.64	0.71	0.88	0.94	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.08					
	P	mW		20.29		10.47		–
	P_{1x1}	mW		24.39		12.58		
	Z_s	cm			1.78			
	Z_b	cm					1.83	
	Z_{MI}	cm	1.98					
	$z_{pii,\alpha}$	cm	2.05					
	f_{awf}	MHz	7.34	7.35		7.35		–
Other Information	prr	Hz	6983.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	119.34					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	119.17					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	140.23					
	p_r at z_{pii}	*Mpa*	1.82					
Operating control conditions	Focus	cm	7.00	5.00		5.00		–
	Depth	cm	7.39	11.09		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4/6.4	6.4/6.4		6.4/6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S3-7-V

Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.82	1.13		1.32		–
Index component value				1.05	1.13	1.28	1.32	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.61					
	P	mW		61.48		9.88		–
	P_{1x1}	mW		73.89		11.88		
	Z_s	cm			1.98			
	Z_b	cm					2.01	
	Z_{MI}	cm	2.09					
	$z_{pii,\alpha}$	cm	2.14					
	f_{awf}	MHz	3.84	3.86		3.83		–
Other Information	prr	Hz	5824.00					
	srr	Hz	45.50					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	147.26					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	147.24					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	165.23					
	p_r at z_{pii}	*Mpa*	2.13					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	11.09	11.09		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4	6.4		6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S3-7-V
Operating Mode: CW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.44	0.93		1.07		0.92
Index component value				0.84	0.93	1.01	1.07	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.83					
	P	mW		54.25		13.09		37.73
	P_{1x1}	mW		65.20		15.73		
	Z_s	cm			3.20			
	Z_b	cm					4.10	
	Z_{MI}	cm	3.98					
	$z_{pii,\alpha}$	cm	4.03					
	f_{awf}	MHz	3.59	3.6		3.61		3.55
Other Information	prr	Hz	0.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	26.75					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	35.22					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	53.23					
	p_r at z_{pii}	*Mpa*	1.37					
Operating control conditions	Focus	cm	5.00	7.00		6.00		6.00
	Depth	cm	6.16	8.62		7.39		7.39
	Scanning width	%	100	100		100		100
	Freq	MHz	6.4	6.4		6.4		6.4
	Power	%	100	100		100		100

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S3-7-V
Operating Mode: CFM-M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.52	0.37		0.93		–
Index component value				0.28	0.37	0.88	0.93	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.98					
	P	mW		22.01		9.17		–
	P_{1x1}	mW		26.45		11.02		
	Z_s	cm			3.15			
	Z_b	cm					3.31	
	Z_{MI}	cm	3.25					
	$z_{pii,\alpha}$	cm	3.32					
	f_{awf}	MHz	3.52	3.53		3.53		–
Other Information	prr	Hz	220.00					
	srr	Hz	1.72					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	55.47					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	55.49					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	73.23					
	p_r at z_{pii}	*Mpa*	1.46					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	6.16	8.62		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4	6.4		6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S4-10-V
Operating Mode: B+C

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.54	0.84		0.84		–
Index component value				0.84	0.84	0.81	0.84	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.09					
	P	mW		37.21		37.21		–
	P_{1x1}	mW		44.72		44.72		
	Z_s	cm			–			
	Z_b	cm					–	
	Z_{MI}	cm	2.25					
	$z_{pii,\alpha}$	cm	–					
	f_{awf}	MHz	4.05	4.03		4.03		–
Other Information	prr	Hz	–					
	srr	Hz	54.65					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	–					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	65.43					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	88.64					
	p_r at z_{pii}	*Mpa*	–					
Operating control conditions	Focus	cm	6.00	7.00		7.00		–
	Depth	cm	19.71	11.09		11.09		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4/4.0	6.4/4.0		6.4/4.0		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S4-10-V
Operating Mode: PW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.40	0.71		0.94		–
Index component value				0.64	0.71	0.88	0.94	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.08					
	P	mW		20.29		10.47		–
	P_{1x1}	mW		24.39		12.58		
	Z_s	cm			1.78			
	Z_b	cm					1.83	
	Z_{MI}	cm	1.98					
	$z_{pii,\alpha}$	cm	2.05					
	f_{awf}	MHz	7.34	7.35		7.35		–
Other Information	prr	Hz	6983.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	119.34					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	119.17					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	140.23					
	p_r at z_{pii}	*Mpa*	1.82					
Operating control conditions	Focus	cm	7.00	5.00		5.00		–
	Depth	cm	7.39	11.09		7.39		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4/6.4	6.4/6.4		6.4/6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.
NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.
NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.
NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.
NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.
NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S4-10-V
Operating Mode: B+M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.82	1.13		1.32		–
Index component value				1.05	1.13	1.28	1.32	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	1.61					
	P	mW		61.48		9.88		–
	P_{1x1}	mW		73.89		11.88		
	Z_s	cm			1.98			
	Z_b	cm					2.01	
	Z_{MI}	cm	2.09					
	$z_{pii,\alpha}$	cm	2.14					
	f_{awf}	MHz	3.84	3.86		3.83		–
Other Information	prr	Hz	5824.00					
	srr	Hz	45.50					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	147.26					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	147.24					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	165.23					
	p_r at z_{pii}	*Mpa*	2.13					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	11.09	11.09		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4	6.4		6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S4-10-V
Operating Mode: CW

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.44	0.93		1.07		0.92
Index component value				0.84	0.93	1.01	1.07	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.83					
	P	mW		54.25		13.09		37.73
	P_{1x1}	mW		65.20		15.73		
	Z_s	cm			3.20			
	Z_b	cm					4.10	
	Z_{MI}	cm	3.98					
	$z_{pii,\alpha}$	cm	4.03					
	f_{awf}	MHz	3.59	3.6		3.61		3.55
Other Information	prr	Hz	0.00					
	srr	Hz	–					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm^2	26.75					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm^2	35.22					
	I_{spta} at z_{pii} or z_{sii}	mW/cm^2	53.23					
	p_r at z_{pii}	*Mpa*	1.37					
Operating control conditions	Focus	cm	5.00	7.00		6.00		6.00
	Depth	cm	6.16	8.62		7.39		7.39
	Scanning width	%	100	100		100		100
	Freq	MHz	6.4	6.4		6.4		6.4
	Power	%	100	100		100		100

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Transducer Model: S4-10-V

Operating Mode: CFM-M

Index label			MI	TIS		TIB		TIC
				At surface	Below surface	At surface	Below surface	
Maximum index value			0.52	0.37		0.93		–
Index component value				0.28	0.37	0.88	0.93	
Acoustic Parameters	$p_{r,\alpha}$ at Z_{MI}	*Mpa*	0.98					
	P	mW		22.01		9.17		–
	P_{1x1}	mW		26.45		11.02		
	Z_s	cm			3.15			
	Z_b	cm					3.31	
	Z_{MI}	cm	3.25					
	$z_{pii,\alpha}$	cm	3.32					
	f_{awf}	MHz	3.52	3.53		3.53		–
Other Information	prr	Hz	220.00					
	srr	Hz	1.72					
	n_{pps}		1					
	$I_{pa,\alpha}$ at $z_{pii,\alpha}$	W/cm²	55.47					
	$I_{spta,\alpha}$ at $z_{pii,\alpha}$ or $z_{sii,\alpha}$	mW/cm²	55.49					
	I_{spta} at z_{pii} or z_{sii}	mW/cm²	73.23					
	p_r at z_{pii}	*Mpa*	1.46					
Operating control conditions	Focus	cm	5.00	5.00		6.00		–
	Depth	cm	6.16	8.62		8.62		–
	Scanning width	%	100	100		100		–
	Freq	MHz	6.4	6.4		6.4		–
	Power	%	100	100		100		–

NOTE 1 Only one operating condition per index.

NOTE 2 Data should be entered for “at surface” and “below surface” both in the columns related to TIS or TIB.

NOTE 3 Information need not be provided regarding TIC for any TRANSDUCER ASSEMBLY not intended for transcranial or neonatal cephalic uses.

NOTE 4 If the requirements of 201.12.4.2a) are met, it is not required to enter any data in the columns related to TIS, TIB or TIC.

NOTE 5 If the requirements of 201.12.4.2b) are met, it is not required to enter any data in the column related to MI.

NOTE 6 The depths z_{pii} and $z_{pii,\alpha}$ apply to NON-SCANNING MODES, while the depths z_{sii} and $z_{sii,\alpha}$ apply to SCANNING MODES.

Display Accuracy and Acoustic Measurement Uncertainties

According to IEC/EN60601-2-37 and NEMA UD-3 2004, the display accuracy and acoustic measurement uncertainties are summarized in the table below.

Display accuracy of MI is ±20%, and TI is ±40% or <0.2, if MI, TI below 0.5.

Item	Measurement Uncertainty (Percentage, 95% Confidence Value
Center Frequency	±15%
Acoustic Power	±30%
Acoustic Intensity	±30%
Peak Rarefactional Pressure	±15%

APPENDIX C Transducer Maximum Surface Temperature

According to the requirements of the section 201.11 in the standard IEC60601-2-37:2007/AMD1:2015, the transducer surface temperature has been tested in two kinds of conditions: the transducer suspended in still air or transducer contacting human-tissue mimicking material. The calculation of the expanded uncertainty is based on the ISO Guide to the Expression of uncertainty in measurement. Three transducer samples have been tested and the confidence coefficient is at 95%, the value of t.975 is 4.30.

The measurement data were obtained under the test conditions employed at CHISON.

Transducer model	**Maximum surface temperature(℃) Contacting human-tissue mimicking material**	**Maximum surface temperature(℃) Suspending in air**	**Transducer model**	**Maximum surface temperature(℃) Contacting human-tissue mimicking material**	**Maximum surface temperature(℃) Suspending in air**
C3-V	41±1	48±1	MC3-V	41±2	48±1
L7-V	40±2	38±1	MC6-V	39±2	47±2
L12-V	41±1	46±1	L18-V	40±1	46±1
L8M-V	40±1	47±1	P5-V	39±2	48±1
L8M5-V	38±1	48±1	L7SVA-V	39±2	46±2
P2-V	39±1	48±1	L7V-V	41±1	43±1
L10i-V	38±2	47±2	R7-V	41±1	46±1
S3-7-V	41±1	42±1	L12b-V	38±1	43±1
S4-10-V	41±1	41±1	P3T-V	43±1	43±1

⚠ ***NOTE:*** ***Values following the "±"mark indicate the expanded uncertainty with a confidence lever of 95%, t.975=4.30.***

APPENDIX D GUIDANCE AND MANUFACTURER'S DECLARATION

1. Guidance and manufacturer's declaration – electromagnetic emissions		
The SonoBook VET is intended for use in the electromagnetic environment specified below. The customer or the user of the SonoBook VET should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment – guidance**
RF emissions CISPR 11	Group 1	The SonoBook VET uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The SonoBook VET is suitable for use in all establishments, including domestic stablishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

2. Guidance and manufacturer's declaration – electromagnetic immunity

The SonoBook VET is intended for use in the electromagnetic environment specified below. The customer or the user of SonoBook VET should assure that it is used in such an environment.

Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment –guidance**
Electrostatic discharge (ESD) IEC 61000-4-2 EN61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4 EN61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospitalenvironment.
Surge IEC 61000-4-5 EN61000-4-5	±1 kV line(s) to line(s) ±2 kV line(s) to earth	±1 kV line(s) to line(s) ±2 kV line(s) to earth	Mains power quality should be thatof a typical commercial or hospital environment.
interruptions and voltage variations on power supply input lines IEC61000-4-11 EN61000-4-11	<5 % *U*T (>95 % dip in *U*T) for 0,5 cycle 40 % *U*T (60 % dip in *U*T) for 5 cycles 70 % *U*T (30 % dip in *U*T) for 25 cycles <5 % *U*T (>95 % dip in *U*T) for 5 sec	<5 % *U*T (>95 % dip in *U*T) for 0,5 cycle 40 % *U*T (60 % dip in *U*T) for 5 cycles 70 % *U*T (30 % dip in *U*T) for 25 cycles <5 % *U*T (>95 % dip in *U*T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the SonoBook VET requires continued operation during power mains interruptions, it is recommended that the SonoBook VET is powered from an uninterruptible power supply.
Power frequency frequency (50/60 Hz) magnetic field IEC 61000-4-8 EN61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE *U*T is the a.c. mains voltage prior to application of the test level.

3 Guidance and manufacturer's declaration – electromagnetic immunity			
The SonoBook Series is intended for use in the electromagnetic environment specified below. The customer or the user of the SonoBook Series should assure that it is used in such an environment.			
3.1. Immunity Test	**IEC 60601 test level**	**IEC 60601 test level**	**Electromagnetic environment – guidance**
Conducted RF IEC 61000-4-6 EN61000-4-6 Radiated RF IEC 61000-4-3 EN61000-4-3	3 Vrms 150 kHz to 80 MHz 3 V/m 80 MHz to 2,5 GHz	3 Vrms 3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the SonoBook Series, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** $d = 1{,}2\ \sqrt{P}$ $d = 1{,}2\ \sqrt{P}$ 80 MHz to 800 MHz $d = 2{,}3\ \sqrt{P}$ 800 MHz to 2,5 GHz where P is the maximum output power rating o the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,a should be less than the compliance level in ea frequency range.b Interference may occur in the vicinity of equipment marked with the following symbol: 
NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorptionand reflection from structures, objects and people.			
a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the SonoBook VET is used exceeds the applicable RF compliance level above, the SonoBook VET should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the SonoBook VET. b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Recommended separation distances between portable and mobile RF communications equipment and the SonoBook Series			
The SonoBook VET is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the SonoBook VET can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the SonoBook VET as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** m		
	150 kHz to 80 MHz $d = 1{,}2\ \sqrt{P}$	80 MHz to 800 MHz $d = 1{,}2\ \sqrt{P}$	800 MHz to 2,5 GHz $d = 2{,}3\ \sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption andreflection from structures, objects and people.			

APPENDIX E Measurement Results Summary

Measurement	**Useful Range**	**Accuracy**
Distance	Full Screen	<±5%
Circumference: trace method, ellipse method	Full Screen	<±5%
Area: trace method, ellipse method	Full Screen	<±10%
Volume	Full screen	<±10%
Angle	Full screen	<±5%
Time	Full Screen	<±5%
Heart rate	Full Screen	<±5%
Velocity	Full Screen	<±10%