

## **TECHNICAL SPECIFICATIONS FOR ULTRASOUND SYSTEM FOR ANATOMY DEPARTMENT.**

**This ultrasound machine should be a state of the art with full digital technology for the applications for trans-abdominal examination**

### **1. Description of Function**

High resolution Grey scale ultrasound for trans-abdominal examination.

### **2. Operational Requirements:**

**2.1** Latest generation Electronic Phased array system with Minimum 1000 Electronic independent channels; desirable 4000 Electronic channel System should be DICOM ready and capable of being interfaced with HIS/RIS/PACS.

**2.2** Should be field up gradable to next generation system on site. All new software should be upgraded free of cost for at least 3 years .

**2.3** Frequency compounding or better technology for better resolution and penetration.

### **3. Technical Specifications**

**3.1** Phased array probe system with Minimum 1000 Electronic independent channels.

**3.2** 256 gray shades for sharp contrast resolutions.

**3.3** Probe to be supplied which should be latest generation wide band transducer.

**3.4** Harmonic Imaging- System should have Harmonics on all the probes following modes in harmonic with separate setting for:

**3.5** Trapezoidal image.

**3.6** Automated Gain control for additional level of flexibility to image quality control.

**3.7** Real time high frequency 2D for higher resolution.

**3.8** Monitor should be 15" or more, high-resolution Colour Monitor.

Tilt and Swivel monitor should be able to view in all angles and all light conditions.

**3.9** Various maps for pre and post processing.

**3.10** User defined system and application presets for multi-user department.

**3.11** Minimum 4.8 GB optical disc drive / 80 GB hard drive for image storage and retrieval.  
(Standard with system)

**3.12** Cine loop memory – than 100 frames.

**a.** High frame rate review for better clarity of play back images study in slow motion.

**b.** Quad loop with memory for pre and post images comparison of any procedure.

**c.** memory – 256 frames or more in QUAD loop

**d.** Frame grabber facility for post analysis.

**3.13** Facility for high definition digital acquisition, review and editing of complete patient studies.

**3.14** Frame rate should be 1000 FPS or more.

### **4. System Configuration Accessories, spares and consumables**

**4.1** Convex probe 2 – 5 MHz

**4.2** B/W thermal printer of latest model

**4.3** DVD/CD Recorder with DICOM media transfer

## **5. Environmental factors**

**5.1** The unit shall be capable of operating continuously in ambient temperature of 30 deg C and relative humidity of 80%.

**5.2** Pre Requisites should be clearly spelt out in terms of room requirements.

## **6. Power Supply**

**6.1** Power input to be 220-240VAC, 50Hz fitted with Indian plug .

**6.2** Resettable over current breaker shall be fitted for protection .

**6.3** Suitable Servo controlled Stabilizer/CVT .

**6.4** Online UPS of suitable rating with voltage regulation and spike protection for 30 minutes back up.

## **7. Standards, Safety and Training**

**7.1** Should be FDA or CE approved product.

**7.2** Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450 .

**7.3** The product shall comply to IEC 60601-2-37 ed1: Medical Electrical Equipment - Part 2-37: Particular Requirements for the Safety of Ultrasonic Medical Diagnostic and Monitoring Equipment

**7.4** Type of protection against electric shocks -- Class I Degree of protection against electric shocks for ultrasound probes Type "BF" For ECG electrodes Type 'CF'.

**7.5** Manufacturer/Supplier should have ISO certification for quality standards.

## **8. Documentation**

**8.1** User manual in English.

**8.2** Service manual in English.

**8.3** List of important spare parts and accessories with their part number and costing available in stock with the supplier.

## **9. Maintenance and Serviceability**

**9.1** Remote Service Network Connectivity.

**9.2** Optional Service agreement.

**9.3** Online phone Support.

**9.4** Clinical application support.