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EUB-7000 HV

A Compact and Versatile Quality Platform



Hitachi Medical Corporation, Medical Systems Operating Group, is certified as complying with the International Standard of System Quality Assurance (ISO 9001), Medical Device Special Requirements (ISO 13485) and etc.

Hitachi Medical Corporation, Medical Systems Operating Group, has been certified to ISO 14001 (Environmental Management Systems).

Specifications and physical appearance may be changed without prior notice in order to improve performance. Some features described are optional. Please read instruction manual to ensure correct operation of the equipment.





EUB-7000 HV – A Compact and Versatile Quality Platform

Hitachi Medical Systems presents the EUB-7000 HV, a versatile quality platform which delivers reliable clinical performance. This all-round system offers all mainstream applications and, through technology migration, can support premium modalities, such as the Hitachi Real-time Tissue Elastography (HI-RTE).



Hitachi Medical Systems Europe is the European headquarters of Hitachi Medical Corporation whose corporate head offices are located in Tokyo, Japan; a company renowned for technological innovation. Our broad experience and expertise in ultrasound imaging makes us a recognized leader in this field, meeting the latest design and quality standards, combined with outstanding image quality and advanced clinical applications.

EUB-7000 HV – Versatility Meets Technology

EUB-7000 HV – Advanced Product Features

The EUB-7000 HV is a reliable, compact, all-round platform which delivers high-quality images and a wealth of diagnostic information. It is designed for a wide range of clinical areas, including obstetrics, gynaecology, radiology, endoscopic ultrasound (EUS), urology, surgery, cardiology, vascular medicine, endocrinology, rheumatology and many other surgical and non-surgical applications.

The user-friendly, ergonomic design increases efficiency by optimising intuitive usage throughout all system functions. This lightweight platform, with its digital LCD display, provides mobility and excellent manoeuvrability in small spaces, without compromising performance. Optional extras, such as a handheld infrared remote control, speech recognition and picture-in-picture technology, make it the system of choice in demanding interventional or sterile environments.

Infrared Remote Control*

This lightweight handheld device provides the full range of system-control features in an easy-to-use format. Its watertight design enables thorough cleaning and, if necessary, sterilisation, for use in any circumstance.

Voice-activated Bluetooth Operation*

The Bluetooth headset enables the user to operate the EUB-7000 HV through voice-recognition controls. This mitigates the risk of potentially harmful operator positioning and improves the user's focus on the patient and procedure.



Real-time Archiving*

Image-loops can be archived in standard avi format of up to 300 seconds in length or with R-R triggering. Files can be stored to the system hard drive or directly to DVD/CD. Exported files can be played on a PC and incorporated into presentation software. Masking of patient ID at the time of transfer protects patient privacy.

*Optional



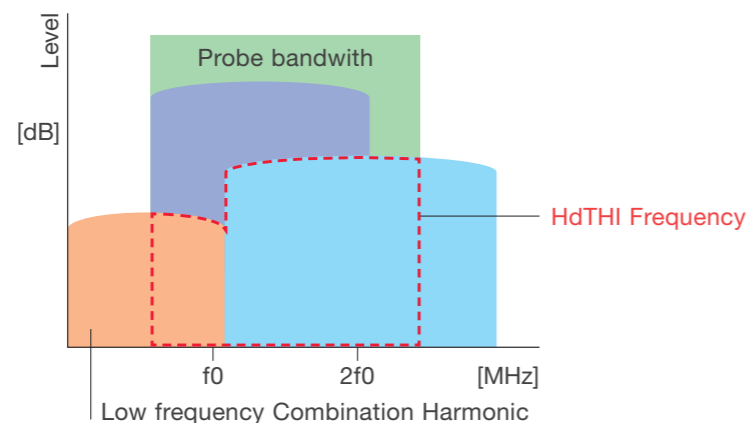
Convincing image quality with advanced technology. All clinical applications are addressed with accuracy and precision ensuring complete diagnostic confidence.

HI Rez

The HI Rez tissue adaptive filtering technique uses a fast algorithm to change the filter characteristics according to the input signal. This technique optimises the B-mode image in real-time, reducing speckle noise and providing uniformly, high contrast images.

High-Definition dynamic Tissue Harmonic Imaging (HdTHI)

Thanks to the improvement in Hitachi's broadband technology, the non-linear receive components induced by the wideband transmit pulse include low frequency sub-harmonic signals in addition to the second harmonic frequencies. Improved resolution and penetration is achieved over conventional pulse inversion technology.

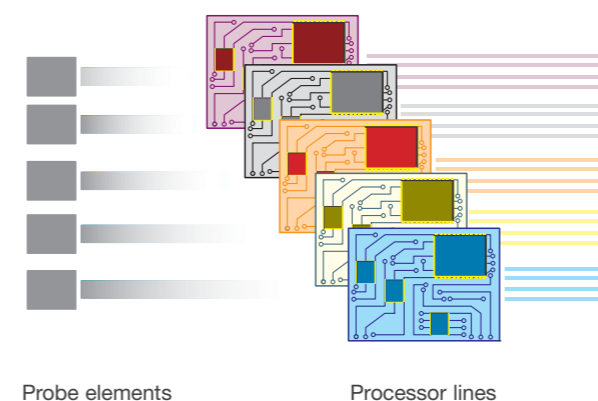


HI Zoom

By processing only the image that has been chosen by means of the ROI, the spatial resolution and frame rate of the displayed image are significantly improved. This enables the viewer to accurately and precisely identify small structures.

Parallel-pro architecture

With dual-parallel processor lines, the EUB-7000 HV offers outstanding signal processing capacity ensuring high diagnostic confidence. The Parallel-pro architecture and the dynamic beam forming technology for optimal signal acquisition, ensure that each transducer element which can be individually steered according to your needs, possesses its own dual-parallel-working signal processing channel. The end result is a larger, simultaneous aperture leading to outstanding image quality and extraordinary contrast resolution even at depth.



Hitachi's new transducers

Few advances in ultrasound imaging can be attributed to system hardware alone. Progress in transducer technology goes hand in hand with innovations in signal-processing.

Hitachi manufactures its own transducers, using the latest multilayer composite materials, with wide bandwidths. This enables multiple, selectable frequencies for native B-mode, tissue harmonics, colour and pulse wave Doppler. Ergonomic design and light-weight housing materials, along with cable flexibility and length, minimise the strain on the hand and wrist.



Recently introduced specialist transducers include the endoscopic bronchial transducer and the latest 7-Series probes, bringing expanded bandwidths for abdominal, cardiac and superficial imaging.

EUB-7000 HV – Advanced Modalities

An all-round platform with versatility to suit mainstream applications and high-level modalities.



Hitachi Real-time Tissue Elastography (HI-RTE)* – the new modality for the assessment of tissue elasticity

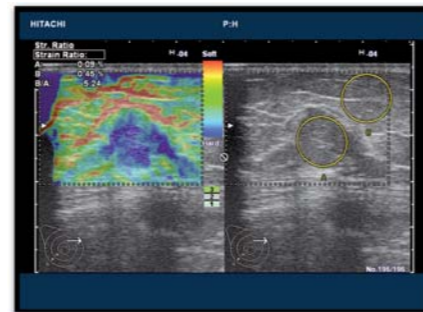
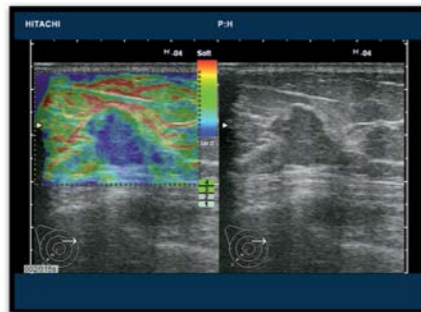
By offering additional information about the tissues' stiffness, Hitachi's proprietary technique improves the visualisation of tumours and further aids the differentiation between benign and malignant disease.

With technology migration from our premium platform range, this new diagnostic tool, now in its second generation, has been made available to even more users.

2ND generation real-time elastography includes the Strain Ratio measurement, providing an objective quantification of the strain, within a lesion compared with the normal surrounding tissues, enabling further research into tissue characterisation. HI-RTE is available for a wide variety of transducers – and its diagnostic value has been proven for many clinical applications:

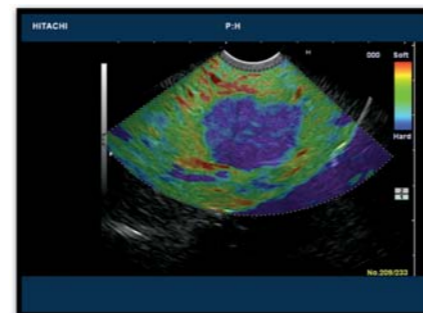
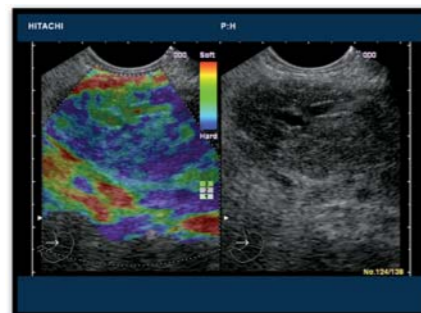
HI-RTE identifies significant stiffness within this breast mucinous carcinoma.

The strain ratio has been used here to confirm the findings. The strain within the adjacent area of fat is more than 5 times higher than that within the lesion.



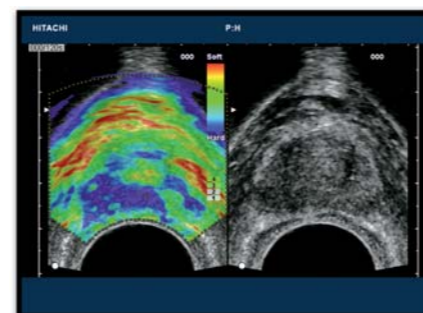
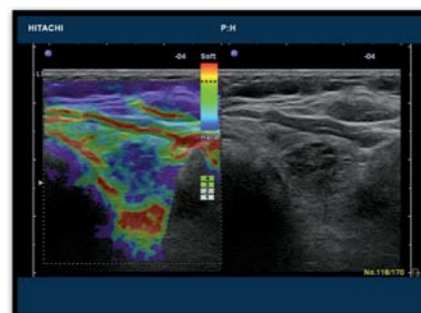
A large pancreatic cancer visualised during an endoscopic ultrasound examination.

A liver metastasis is clearly delineated by HI-RTE using the laparoscopic probe.



A thyroid nodule seen in the left lobe is shown by HI-RTE to be suspicious for malignancy.

Carcinoma seen in the peripheral gland of this prostate from apex to mid section.



*Optional

Picture-in-Picture (PiP)*

PiP display is compatible with B-mode, colour Doppler or HI-RTE imaging. Simultaneous full-, half- or small-screen display (with show/hide features) can be selected, using a remote control or footswitch option, to help to improve the efficiency of your working environment. Stills or video footage from PiP can be stored on your hard drive.



A PiP endoscopic view within the stomach, with the corresponding EUS image across the pancreas.

Let 4D* imaging help you see and understand more

4D imaging is supported on the 7000 HV platform by dedicated light weight, ergonomic transducers capable of the same level of HI VISION signal processing as our standard 2D transducers.

MPR – any plane can be viewed full screen or in a quad display with its complementary orthogonal planes for accurate linear or volume measurements, or for accurately guiding intervention.

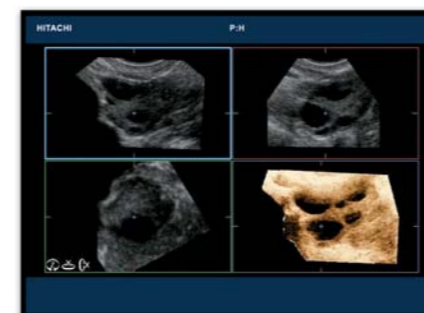
In the dual display of B-mode and real-time 3D, positioning the flexible view line, setting the 3D ROI, rotation of 3D image and choice of rendering (surface, transparency, maximum or minimum intensity projections and skeletal mode) ensure quick, real-time acquisition of volume data.

HI-DEF 3D mode and further post-processing of stored volume data (scalpel function, smoothing, shading, brightness, colourisation and rendering mode) allow optimal 3D display. Raw volume data can be saved to the internal hard drive or external storage media and easily retrieved for further manipulation. Previous parameter adjustments can be recorded with the stored data, allowing the user to return to an earlier reconstructed view.



The hand and forearm of this third trimester foetus are beautifully displayed in the surface-rendered mode.

Dual image with live B-mode for positioning the view line on the left and the resultant real-time 3D image simultaneously displayed on right.



MPR quad display shows the detail and relative locations of these ovarian follicles.

MPR display, with the skeletal rendering mode, showing the fine details of this foetal spine.

*Optional

WideView Imaging*

WideView Imaging provides real-time, high-resolution, panoramic images, allowing major organs and vessel structures to be completely and accurately visualised in their true anatomical perspective.

Cardiology Imaging

The EUB-7000 HV incorporates an extensive cardiology package for all possible qualitative and quantitative analysis, including an ECG module* and a steerable CW Doppler*.

Real-Time Omnidirectional M-Mode (ODM)*

Real-Time Omnidirectional M-Mode allows the M-Mode to be extracted from any direction and any degree in real-time.

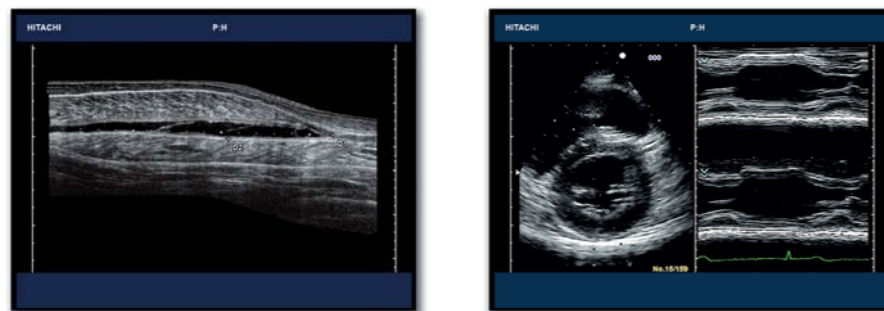
Tissue-Doppler-Imaging (TDI)

The Tissue-Doppler-Imaging (TDI) technique, for the measurement of velocity at any point in the ventricular wall during the cardiac cycle, provides information on regional wall motion dynamics with high temporal resolution. Quantitative analysis of the myocardium can be calculated with colour-encoded velocity maps and quantitative studies of regional wall movements with spectral Doppler.

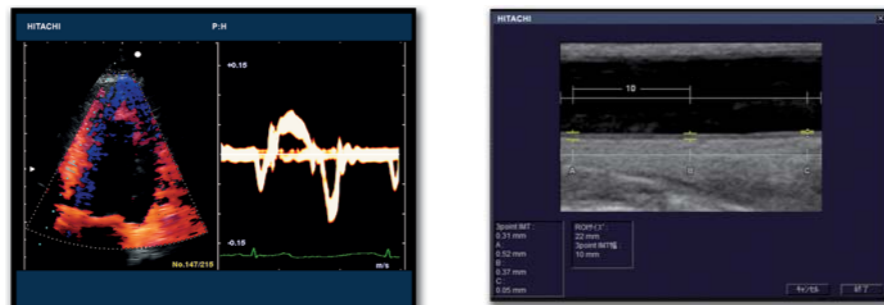
Intima-Media Thickness Measurement (IMT)*

IMT is an automatic measurement tool for the assessment of the intima-media complex of the carotid arteries. Automatic border-tracing, with manual adjustment and three-point measurement options are available.

WideView Imaging.
Real-time Omnidirectional
M-Mode (ODM).



Tissue-Doppler-Imaging (TDI).
Intima-Media
Thickness measurement.



*Optional

EUB-7000 HV – Innovative, Multidisciplinary Technologies

Efficient, effective and economical. Outstanding technologies for all applications, to take your confidence in diagnosis a step further.

Hitachi's range of applications is innovative and inspired, with more than 40 transducers, tailored to specific requirements, always providing you with the optimum solution.

With convex, linear, 360° radial array with 256 element technology wideband transducers, we offer unparalleled versatility for all applications, from radiology, obstetrics/gynaecology, and internal medicine through to superficial, and cardio-vascular. Highly specialised transducers support endoscopic, biopsy, endorectal, laparoscopic, intra-operative, and intraluminal investigations.



EUP B514
Dedicated biopsy transducer with thro' crystal needle guide

EUP B512
Small footprint biopsy transducer



EUP R54AW
Electronic radial rectal transducer with 360° field of view.

EUP U533
Linear/convex Bi-Plane transrectal transducer.



EUP CC531
Convex/convex Bi-Plane transrectal transducer.

EUP OL531
Laparoscopic transducer with sterile working channel.



EUP O53T
Intraoperative T-shape transducer.

EUP O54J
Intraoperative 'hockey stick' transducer.

Discover the unlimited possibilities of all-in-one Endoscopic Ultrasound (EUS) imaging

Over the years, Endoscopic Ultrasound (EUS) has become increasingly important. Modern endosonographic imaging is a minimally invasive technique, delivering high-resolution images and significantly contributing to therapeutic decision-making. Hitachi pioneered the development of diagnostic and interventional endoscopic ultrasound instruments and today offers a broad range of electronic radial, longitudinal and miniprobe endoscopic ultrasound transducers.

The latest technological developments in this field manifest in the new EBUS scope EB-1970 UK. It plays a vital role in the diagnosis and staging of mediastinal lymph nodes, using advanced fine-needle aspiration guidance and high-performance 'chip in the tip' endoscopic image generation for efficient and precise results.

Hitachi's imaging technologies (including HI-RTE) and other breakthrough developments (such as HI Rez, HdTHI and state-of-the-art endoscopic image processing) are used in our range of endoscopic ultrasound instruments, to maximise diagnostic confidence.



EUB-7000 HV – DICOM* Connectivity

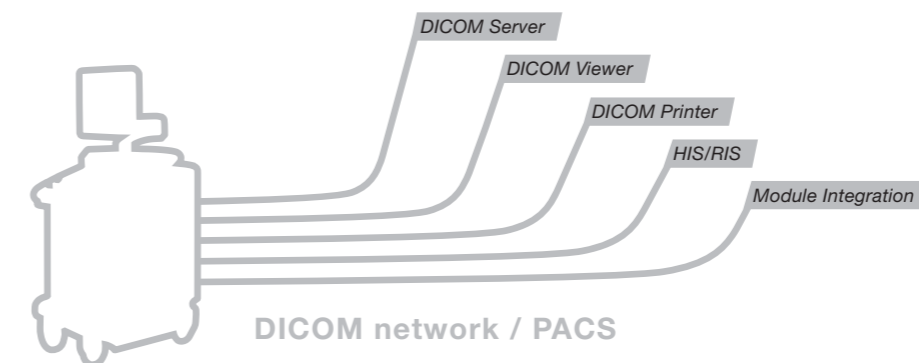
Data transfer and archiving are important in networking and connecting modules. Discover leading-edge technology in practice.

Digital Image Archive

Motion clips or stills can be stored in the system's patient-management database. A comprehensive search engine (using criteria such as name, date and keyword) is available, with image review in full-screen or multiple-image formats. Data can be transferred to an extensive choice of digital media with an option of file formats. The patient's identity can be masked at the point of transfer.

Network connectivity

Full DICOM connectivity allows you to interface with PACS and other image-management systems, providing work list, storage, query/retrieve and print options.



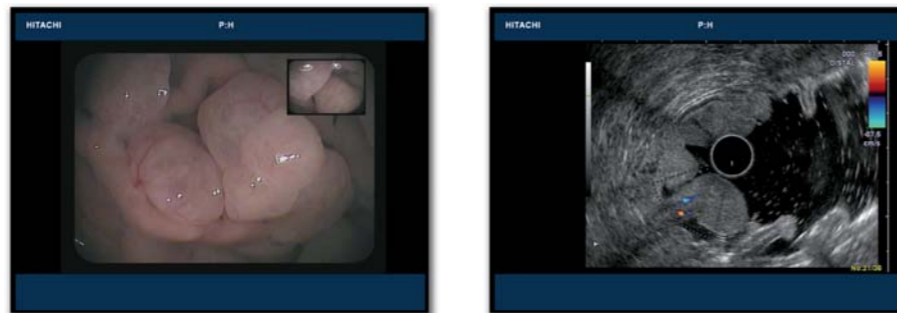
Ultrasound Image Viewer*

Hitachi offers a software solution for image management and off-line measurements. With the Ultrasound Image Viewer software and a PC, stored images can be retrieved via a network, measurements can be taken and customised reports generated. This software is easy to use, with its visual display mimicking the ultrasound system for optimal user acceptance.

*Optional

An example of the endoscopic image quality, showing the gastric wall.

Gastric polyps, as seen with the radial electronic endoscope, using colour Doppler to display the feeding vessel.



Lymph node FNA with the linear endoscope.

Mediastinal lymphadenopathy, using the linear endoscope.



Pancreas and surrounding anatomy, shown with the linear endoscope.

Pancreatic mass in Elastography using the strain ratio to measure lesion stiffness.

