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Plus representations in various
European countries.

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



Hitachi Medical Corporation Medical System
Operations Group, Kashiwa, has been
certified to ISO 14001 (Environmental Manage-
ment Systems).



The legal manufacturer of PENTAX ultra-
sound endoscopes is Hoya Corporation,
Tokyo, Japan. They are distributed by
Hitachi Medical Systems Europe Holding
AG, Zug, Switzerland and its subsidiaries in
the assigned geographical areas in Europe.

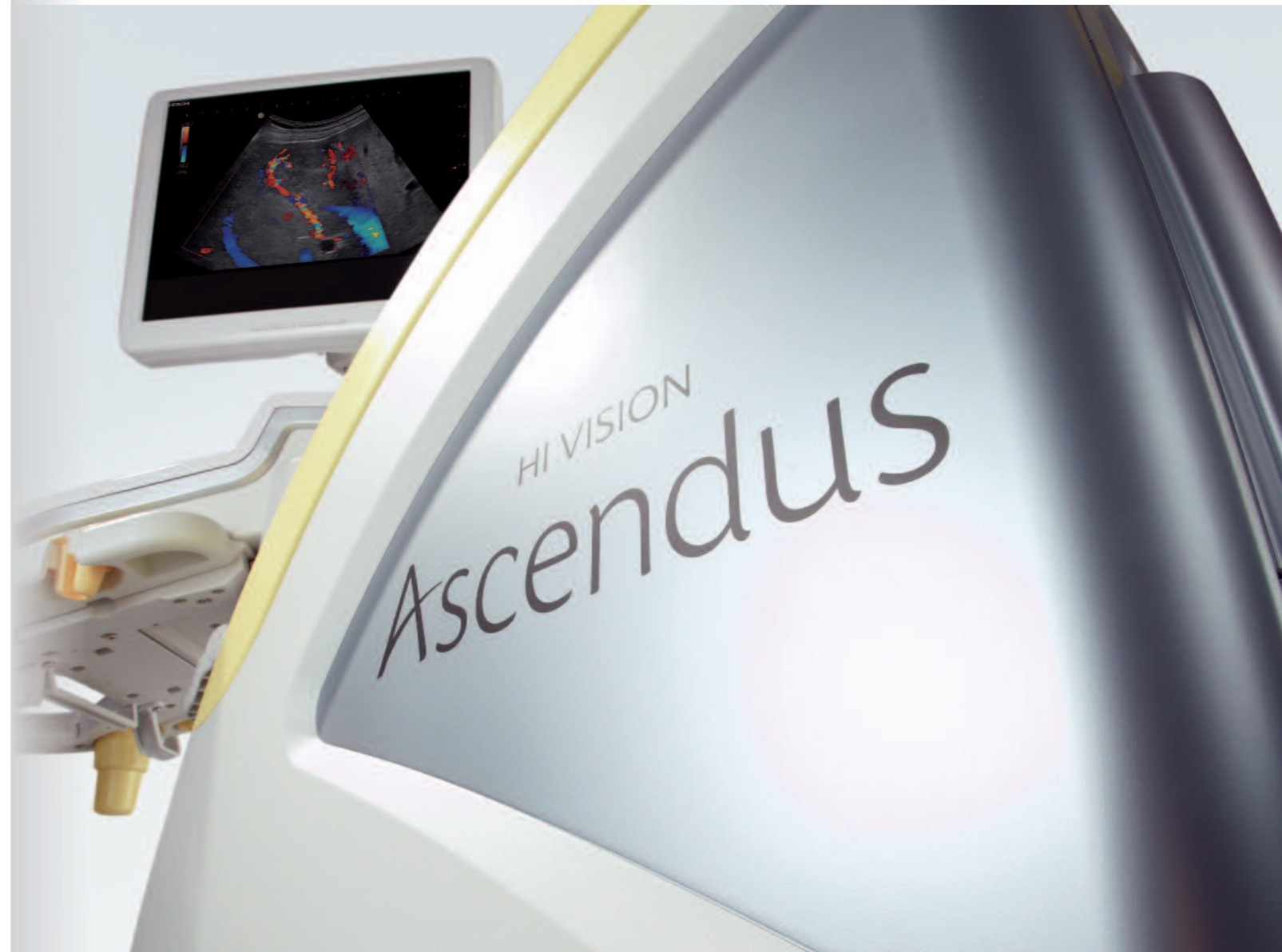
Specifications and physical appearance
may be changed without prior notice in
order to improve performance. Some
features described are optional. Please
read instruction manual to ensure correct
operation of the equipment.



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HI VISION Ascendus

A First Class ultrasound platform with
uncompromised image quality.



In a class
of its own.



HI VISION Ascendus

A First Class ultrasound platform
with uncompromised image quality

The HI VISION Ascendus is an ultrasound platform in a class of its own. Showcasing our leading edge innovative technology, the HI VISION Ascendus is the culmination of lengthy collaboration within the Hitachi Group's network of research laboratories in the development of a system offering high definition image quality across all clinical applications. No compromise in design and manufacture from us means no compromise in diagnosis for you.



Hitachi Medical Systems Europe is the European headquarters of Hitachi Medical Corporation and Hitachi Aloka Medical Ltd whose corporate head offices are located in Tokyo, Japan; two companies 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.



HI VISION Ascendus – First Class for Advanced Product Features

Realise your ambition for a first class ultrasound service – we have made no compromises in the design and manufacture of the HI VISION Ascendus to give you high definition imaging, advanced technological functionality and optimised ergonomics in one all-inclusive package.

First Class for design

Award-winning ergonomic design

- Flexible 'one-action adjustment' of the image monitor and operator console for comfortable adaptation to all practitioner and patient positions
- Streamlined contemporary shaping and a sleek elegant design give a user-friendly system that is reassuring for patients

Smart Touch Technology

- Intuitive scan parameter adjustment at your fingertips
- Flexible, pre-programmed and customisable annotation to enhance your workflow – includes options such as AutoComplete Entry (ACE) and Smart Touch display and editing functions

Hand-centred console

- Simple, uncluttered design
- Fold-away alpha numeric keyboard to reduce ergonomic strain and improve infection control



First Class for diagnostic confidence

- Broadband engine architecture (Ultra BE II) combined with Hitachi's extensive transducer range, offers signal processing speed and spatial definition in a class of its own
- Advanced technological functionality complements high definition image quality to give you a new level of diagnostic confidence
- Hitachi Real-time Tissue Elastography (HI-RTE*), pioneered by Hitachi Medical Corporation in 2003 and now a proven technology, has revolutionised the detection and visualisation of malignant disease
- Low system noise at the platform front end optimises sensitivity for low MI dynamic Contrast Harmonic Imaging (dCHI*) and is available across a wide range of abdominal and high frequency applications

Raising your aspirations – realising your ambitions!

*Optional



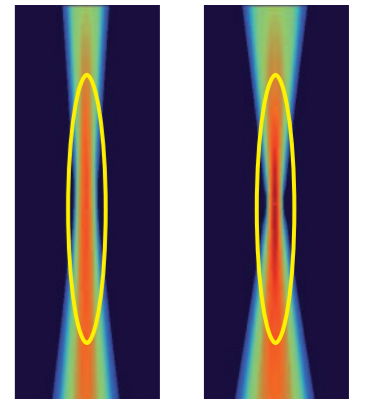


HI VISION Ascendus – First Class Signal Processing for Unrivalled Image Quality

With an evolution in signal processing speed and spatial definition from the Ultrasound Broadband Engine 2nd Generation (Ultra BE II) combined with our extensive range of high density transducers, the HI VISION Ascendus offers superlative image quality across the full range of diagnostic applications.

Confidently meeting diagnostic challenges

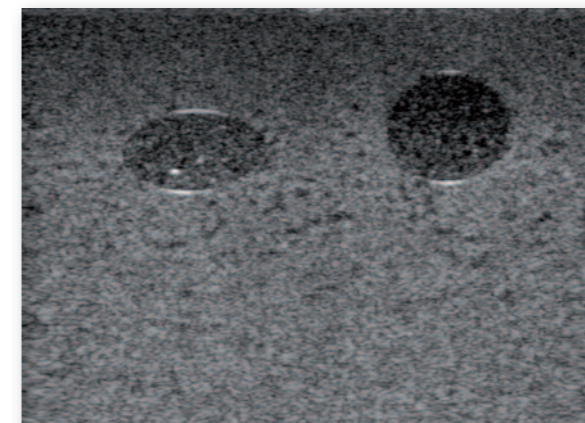
- **Ultrasound Broadband Engine 2nd Generation (Ultra BE II)**
Offers accelerated arithmetic computation so that all Hitachi's uniquely developed sophisticated signal processing algorithms can be combined to achieve first class image quality
- **Wide aperture**
Large transmit and receive apertures, increased A/D sampling and dynamic pixel-level focussing give you superb and uniform spatial resolution at all frequencies and all depths
- **Precision Wave Generator and Receiver**
New transmit and receive electronics combined with low noise amplification, further enhance signal to noise ratio and maximise system sensitivity – notice improvements in performance particularly at depth and with low MI contrast harmonics
- **Four active transducer ports**
Rapid switching during and between examinations maximizes high definition diagnostic capability and facilitates efficient workflow



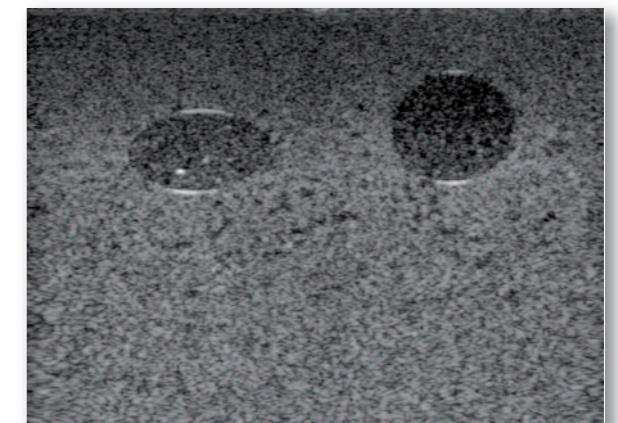
Beam pattern simulation:
a. conventional aperture
b. large aperture

Adaptive Enhance

Significant improvement of the tissue adaptive filter, HI Rez+, with the dual high speed computation capability available through Ultra BE II offers still further spatial resolution advances whilst maintaining original frame rates.



a. Without Adaptive Enhance



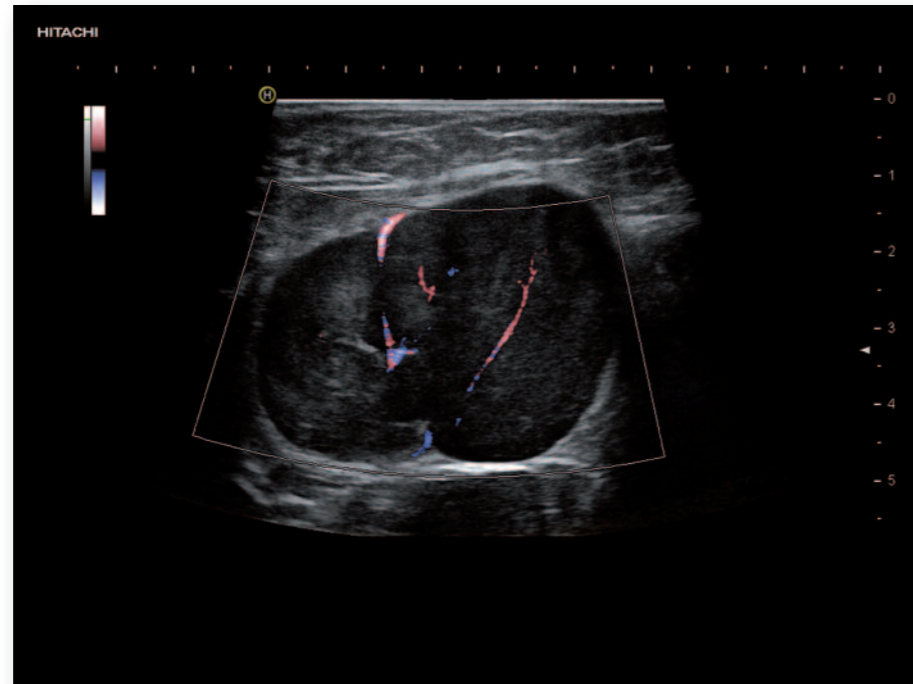
b. With Adaptive Enhance

Confidently meeting diagnostic challenges!

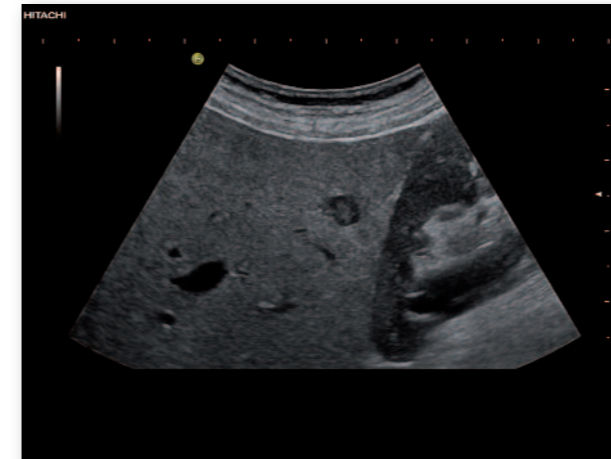
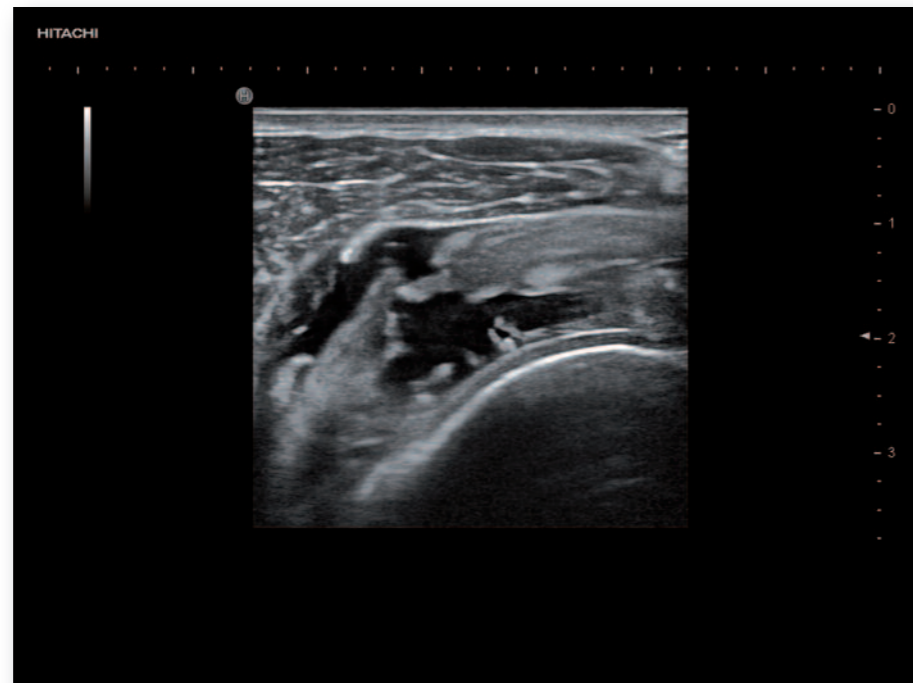
HI VISION Ascendus – First Class Imaging

Precision Wave Generator and Receiver provide a noise-free pathway for the generation of ultrasound image data offering you uncompromised image quality.

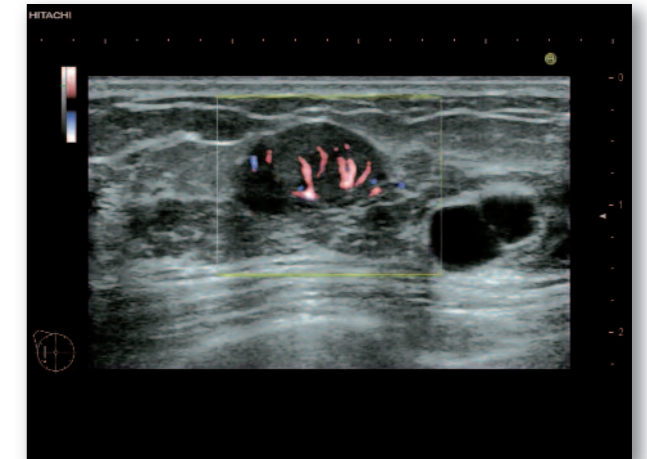
Trapezoid mode is used to display this large breast adenoma in Fine Flow mode



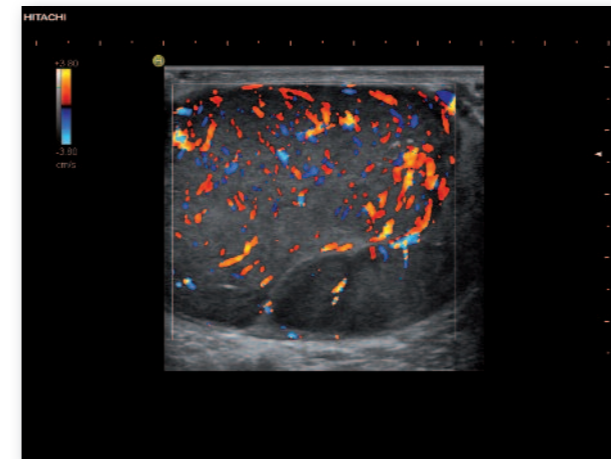
Rupture of the supraspinatus tendon in the shoulder using a high frequency imaging mode



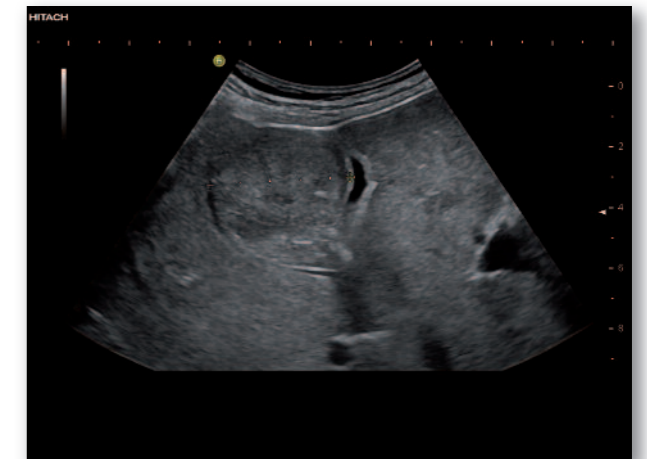
A small target metastasis is clearly differentiated in the right lobe of the liver



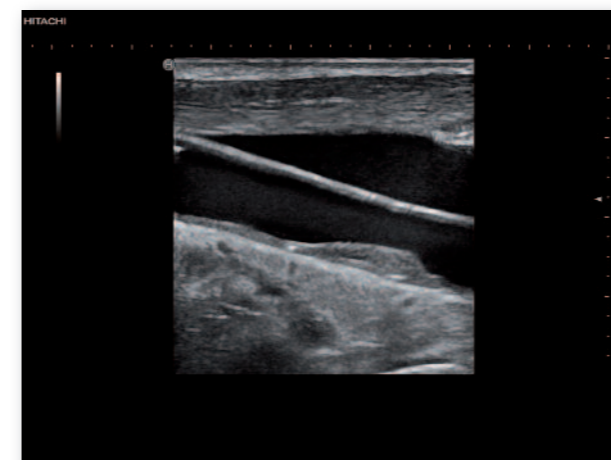
Fine Flow Doppler mode is used to show the detail of the small vessels in this breast mass



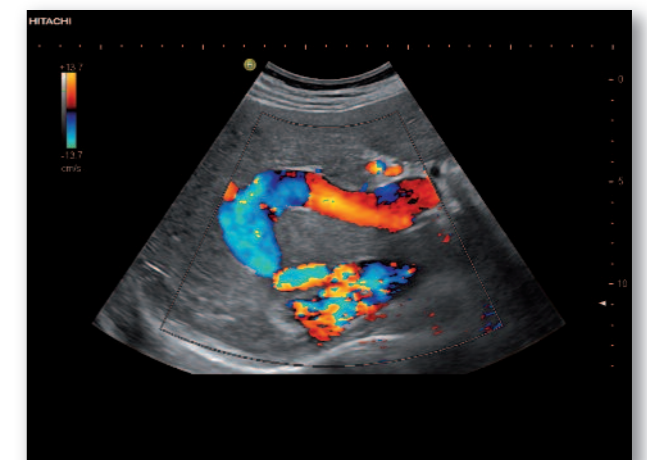
The relative hypovascularity of the testicular tumour aids in its delineation and differentiation



Superb contrast resolution improves visualisation of the liver tumour which is further delineated by the distorted path of the blood vessels



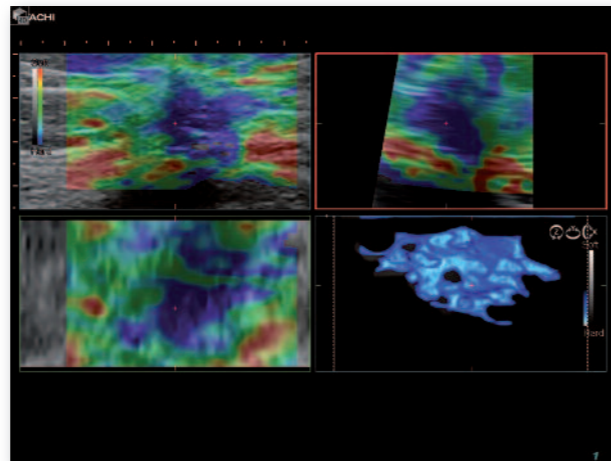
General thickening of the intima and plaque is well demonstrated in the carotid artery



Colour Doppler identifies the direction and nature of flow disturbance in this enlarged portal vein



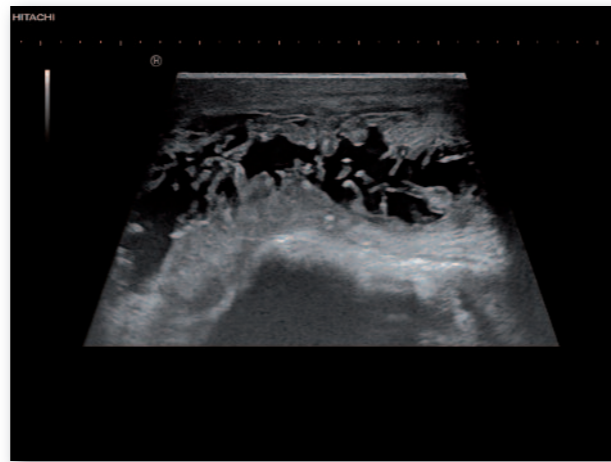
Atrophy in the testis post-infection is elegantly displayed with superb contrast resolution



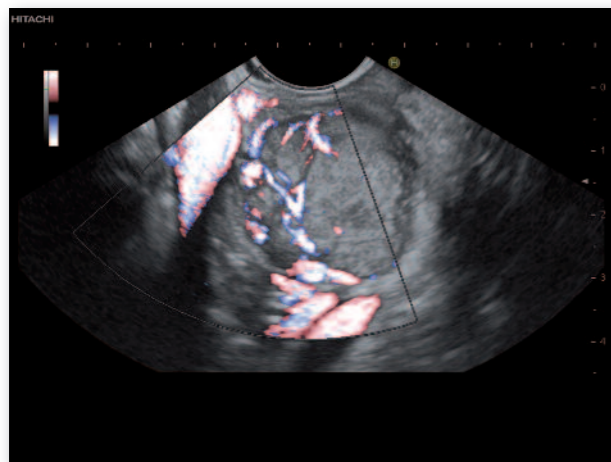
The 4D HI-RTE mode is used to demonstrate the spiculations of this breast carcinoma



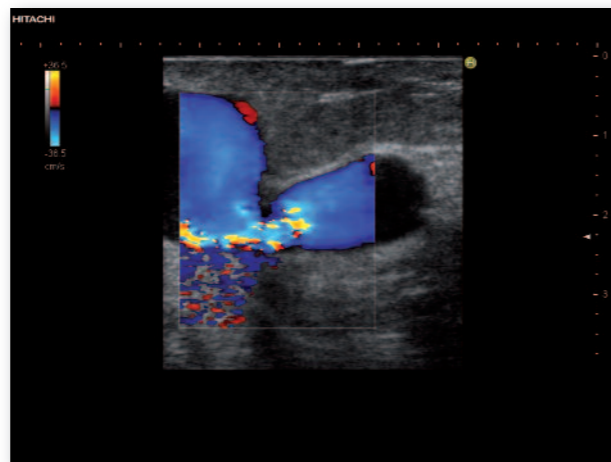
HI DEF 3D mode with surface rendering is used to display the facial features of this fetus at 32 weeks gestation



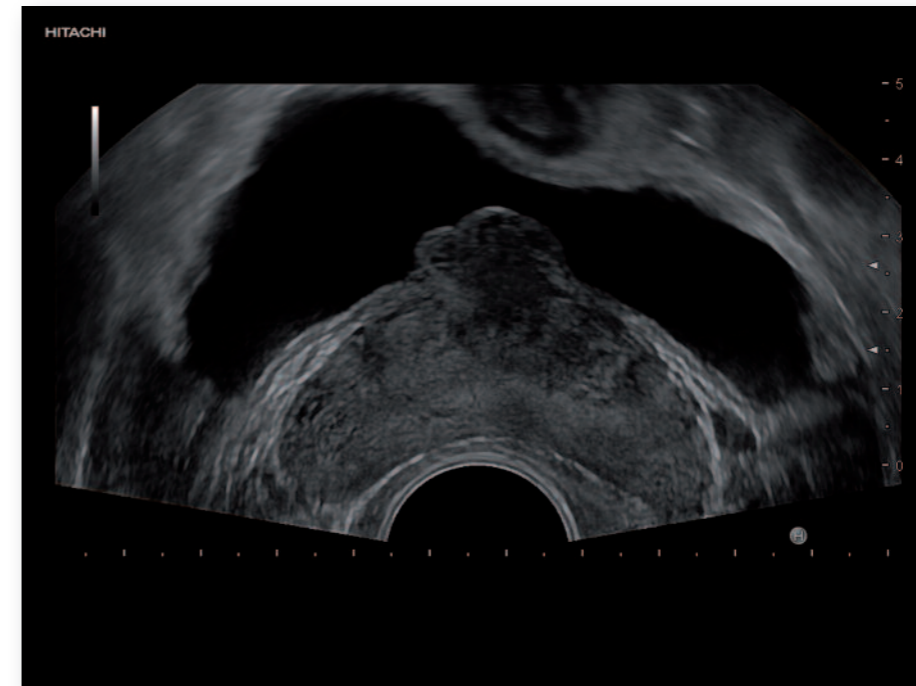
Trapezoid mode is used for optimal visualisation of this elbow hygroma



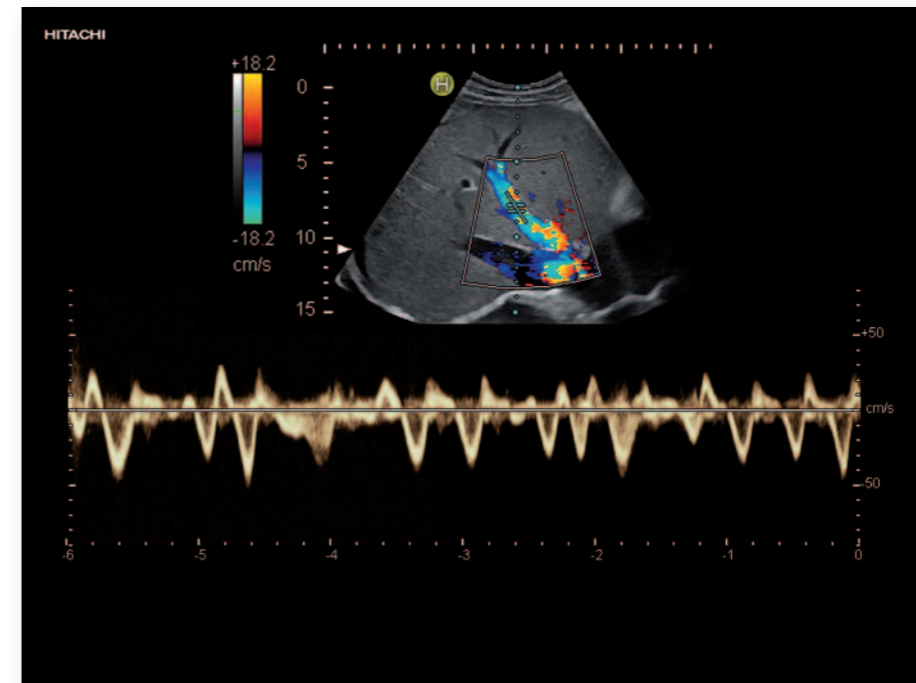
Fine Flow with the linear echo endoscope detects the vascularity in this 3 cm pancreatic mass



High velocity flow at the neck of this fistula is further emphasised by colour artefact from vibration of adjacent tissue



Extension of a prostate cancer protruding into the bladder is well demonstrated using the endfire endocavity transducer



An abnormal flow pattern in the hepatic vein is demonstrated in triplex mode in a patient with congestive heart disease

Purer, clearer signals:
purer, clearer images.

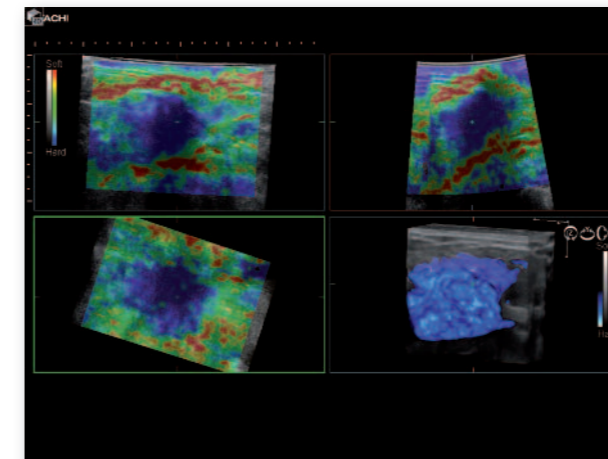


HI VISION Ascendus – First Class for Advanced Modalities

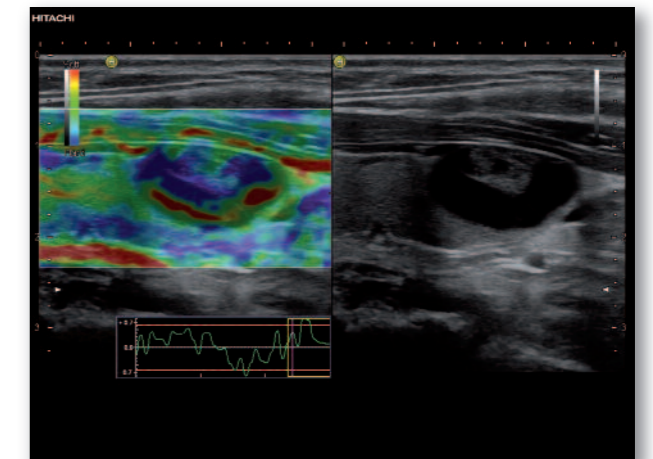
The HI VISION Ascendus supports leading edge technological innovations – 4D HI-RTE and quantitative contrast harmonic imaging upgrades take your practice beyond the daily routine.

Hitachi 4D Real-time Tissue Elastography (4D HI-RTE*) – a modern history

- In 2003: Hitachi released the world's first commercially available real-time ultrasound elastography system
- Since that time, well over 400 publications & communications in scientific meetings have validated its accuracy and reproducibility
- HI-RTE is available with more than 25 different transducers for incorporation into routine ultrasound examinations in clinical applications such as liver, breast, prostate, thyroid, pancreas, and many more
- Improved objectivity and accuracy have been achieved with strain ratio & strain histogram measurements, and by introducing a strain graph display, frame averaging and auto-selection of optimum frame in freeze mode
- In 2011, with the HI VISION Ascendus, Hitachi has reinforced its leadership in Real-time Tissue Elastography – the HI VISION Ascendus is the world's first ultrasound platform able to display 4D Real-time Tissue Elastography images*



4D HI-RTE mode permits display of this invasive ductal carcinoma of the breast in three orthogonal planes



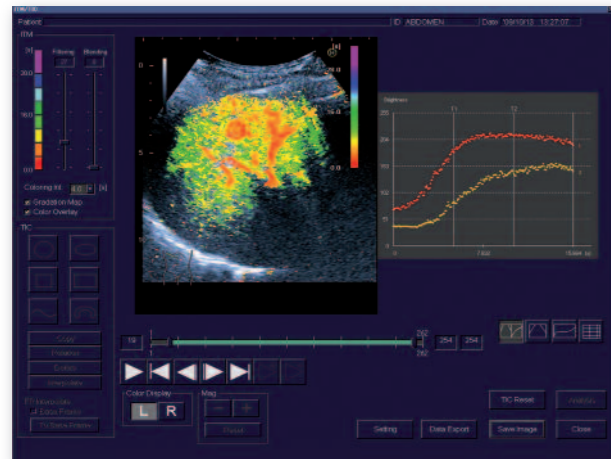
The solid component of this complex thyroid mass is well differentiated from the cystic component (shown as a BGR – three layer blue-green-red pattern)

HI-RTE – supporting diagnostic confidence.

*Optional

Contrast Harmonic Imaging* – a functional change

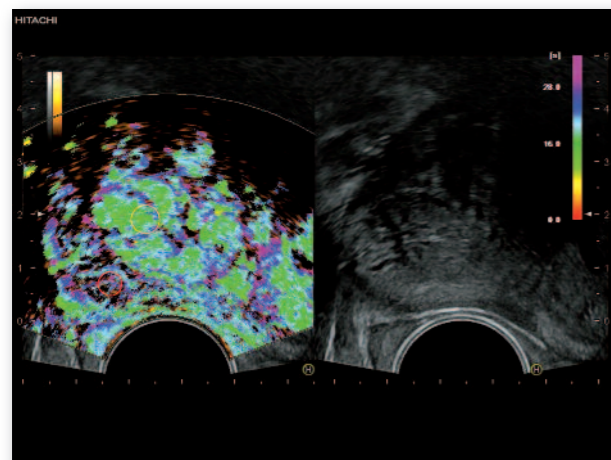
- Low MI imaging receives a S/N boost at the platform front end where precision wave transmit and receive electronics are combined with low noise amplification to give significantly improved signal sensitivity
- Choice of two contrast specific imaging modes: Wideband Pulse Inversion Contrast Harmonic Imaging (dCHI-W) to give optimal spatial resolution and Colour Wideband Pulse Inversion (CWPI) for improved contrast-to-tissue ratio
- With a wide selection of compatible transducers, the HI VISION Ascendus brings contrast harmonic imaging into a broad range of clinical domains: abdominal, cardiac, interventional/intraoperative, high frequency superficial, endocavity and endoscopic
- Time Intensity Curves (TIC) incorporating Inflow-time Mapping (ITM) can be used to measure and display signal enhancement against time after injection, offering improved tumour characterisation and potential to monitor treatment response



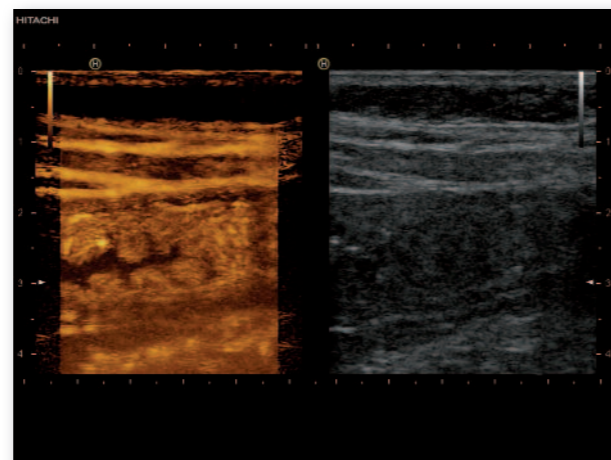
Using the Inflow-time Mapping quantification, and TIC display, the earlier arrival of the contrast agent in the small liver lesion is displayed



The angiomyolipoma extending from the lower pole of the kidney shows similar enhancement to the rest of the renal parenchyma



Here the Inflow-time Mapping quantification shows the later arrival of contrast agent in the peripheral zone of the prostate



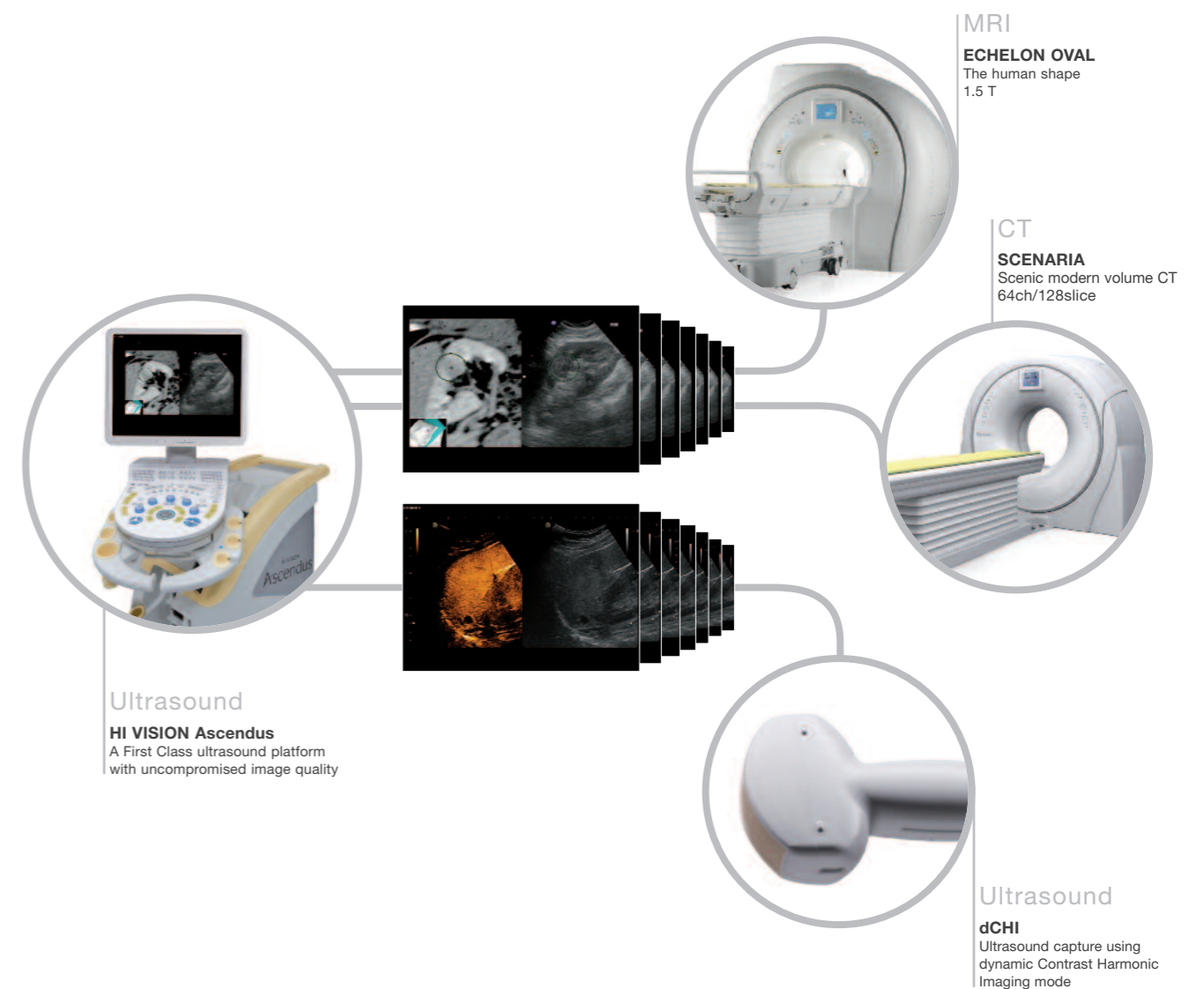
Enhancement of the inflamed bowel wall is shown with the linear transducer using the Microbubble Trace Imaging feature

*Optional

Hitachi Real-time Virtual Sonography (HI-RVS*) – intelligent fusion imaging adds another dimension to your interventional procedures

HI-RVS allows you to extend the diagnostic and therapeutic value of your ultrasound platform by merging corresponding CT, MR or contrast enhanced ultrasound (CEUS) volume data with a current real-time ultrasound examination

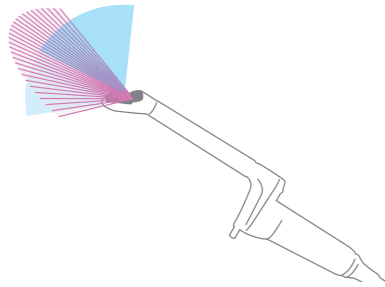
- Allows you to simultaneously navigate through previously acquired MR, CT or CEUS volume data sets or locate the real-time ultrasound scan plane through the 3D bodymark
- Offers precise, safe ultrasound-guided instrument placement for a range of diagnostic and therapeutic procedures in a cost-effective and time-efficient manner
- Permits lesion comparison integrating the advantages of multiple imaging modalities to increase diagnostic efficiency
- Real-time ultrasound display in any mode of operation including colour Doppler, elastography and CEUS
- Versatile technology for a wide range of clinical applications: abdominal, superficial structures (breast and MSK), endocavity (prostate)



*Optional

HI VISION Ascendus – First Class for Advanced Transducer Technology

Fulfil your aspirations for a versatile, comprehensive and flexible ultrasound system that delivers all-round high performance imaging for all your diagnostic needs.



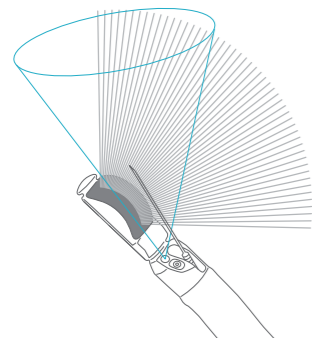
Field of view from the simultaneous Bi-Plane CC531 endocavity transducer

The HI VISION Ascendus ultrasound platform is complemented by a large selection of compatible transducers engineered with customised application-specific crystal array characteristics and architecture. This provides you with unparalleled versatility across all clinical applications from abdominal, obstetrics and gynaecology through to superficial, vascular and cardiac. In addition, a further range of highly specialized transducers support endoscopic, biopsy, endorectal, laparoscopic, intraoperative, and intraluminal investigations.

- All transducers reach new levels of wideband performance – improved sensitivity with the HI VISION Ascendus comes from its unique front end precision wave system architecture
- Ergonomic transducer design, light-weight housing materials, cable flexibility with variable lengths, minimise operator fatigue and help reduce the risk of work-related musculoskeletal disorder

HI VISION Ascendus is unique in the breadth of specialist applications that it can address:

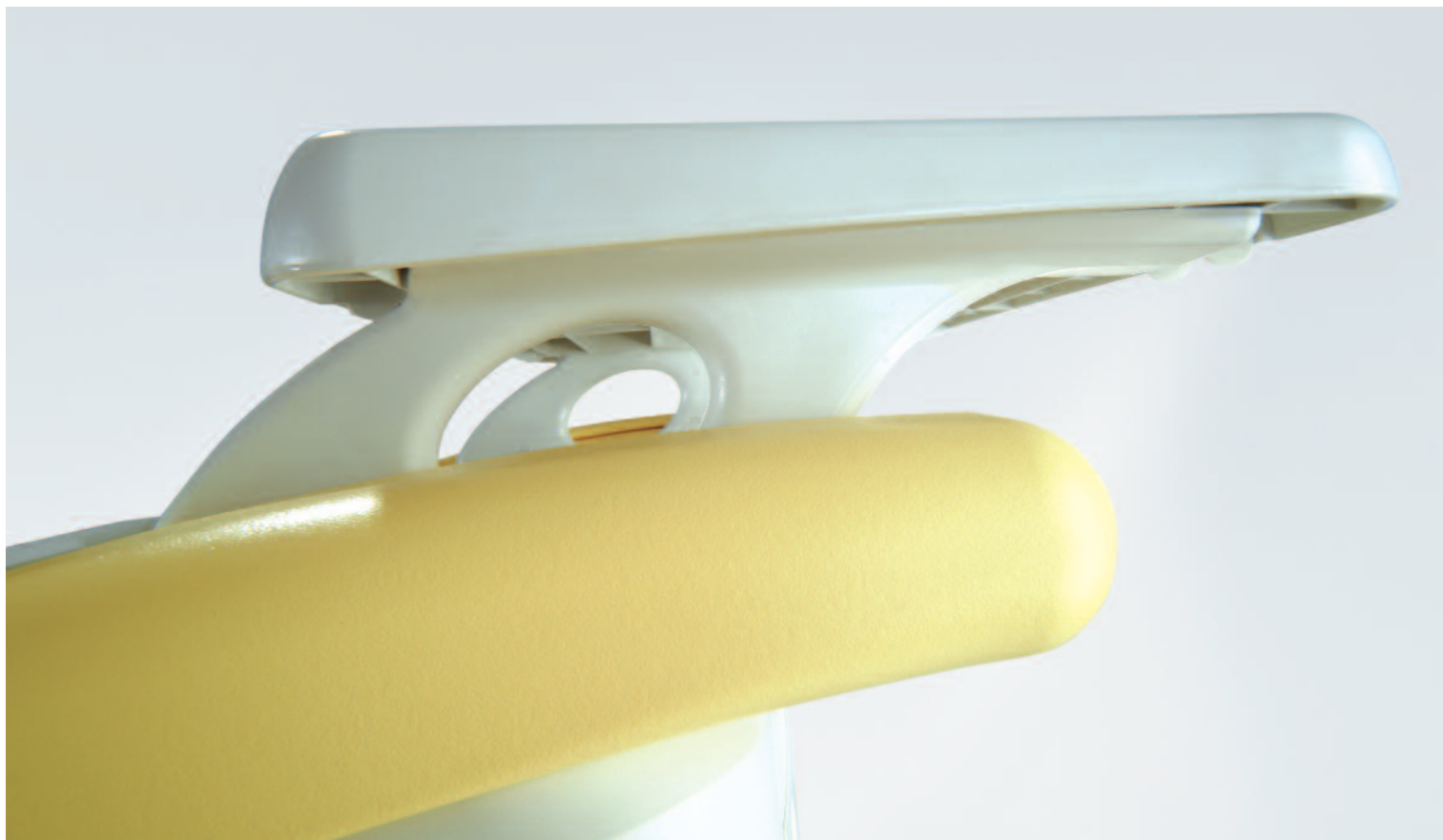
- Dedicated biopsy transducers, biopsy attachments for the majority of standard imaging transducers, and Real-time Bi-Plane imaging (RTBi) optimise the performance of safe and accurate image-guided invasive procedures
- A choice of simultaneous Bi-Plane, end-fire, dedicated brachy, cryo and laparoscopic transducers provides you with a wide range of diagnostic and therapeutic techniques for urological disease
- The 360 degree electronic radial transducer, with B-mode, Doppler, Freehand 3D and HI-RTE capability, allows comprehensive investigation of the anal sphincter and rectum
- Radial, longitudinal and bronchial endoscopes with integrated working channels cover the full range of diagnostic and therapeutic applications from oesophageal and gastric cancer staging to endoscopic FNA and cyst drainage
- 4D imaging is available in greyscale and Doppler modes with linear, endocavity and abdominal volume transducers
- Intraoperative and laparoscopic transducers underpin accurate and precise image-guided surgery



Field of view showing the relation to the forward oblique optical view of the EG3870UTK endoscope

Diversity
with compatibility.





HI VISION Ascendus – First Class for Safe and Efficient Patient Data Management

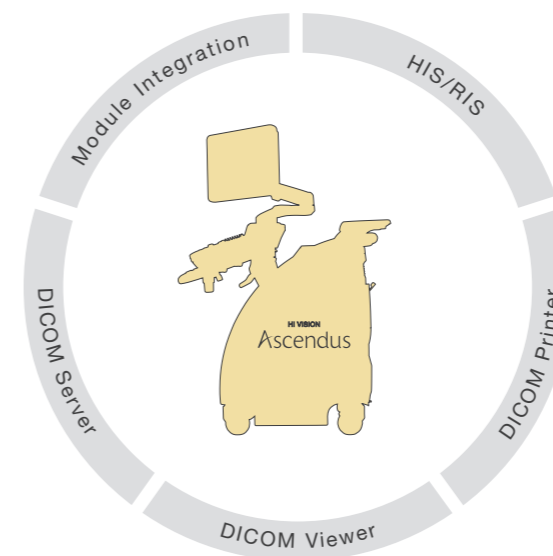
Service oriented administration software maximises patient throughput and minimises operator effort – a flexible image archive and data transfer functions with the option to mask identification details combine efficiency of operation with security of patient data.

Network Connectivity

- Full DICOM connectivity allows you to interface with PACS and other image and information management systems, providing integrated worklist, storage, query/retrieve and print functionality.
- Structured report options expedite examination completion and encourage standardised reporting practice.

Intelligent Patient Administration – gives you smart access to patient data as and when required

- At the start of each 'new patient' previous examination entries can be reviewed for corresponding records and matching patient information automatically populated into relevant data fields.
- Prospective worklist entry capability allows rapid patient identification and selection at the start of each examination and ensures accurate and consistent patient records.
- Flexible interrogation software enables you to search the image database using patient name, date of study or keywords.
- Open architecture for external transfer of data via multiple USB ports, DVD-R, DVD-RAM in DICOM, BMP, TIFF or AVI format





Our values and services

We combine high technology with the Japanese tradition of long-term thinking, a high level of consciousness for quality aspects and the subsequent understanding of service.

In building valuable, long-term relationships with our customers, we have achieved an understanding of their different needs and expectations. This has strengthened our commitment to deliver high-quality products which fulfil the requirements of each unique clinical speciality.

We provide a one-to-one service to secure first class customer satisfaction. The close working relationships among sales, applications and many other key members guarantee appropriate reactions and fast responses.

We always endeavour to 'go the extra mile'. We succeed because we welcome new ideas, products and services.

Services such as our 360° educational programme, the Hitachi Medical Systems Technology Academy, offering tailor-made, added-value services and solutions for professionals in all fields of medicine and other interested groups.

We abide by our corporate philosophy believing that we have a social responsibility to protect our environment, so that the next generation has a firm grounding on which to build a secure future.



HI VISION Ascendus

A First Class ultrasound platform with uncompromised image quality.