



Revolutionizing premium performance ultrasound

Philips iU22 xMATRIX ultrasound system

PHILIPS

sense and simplicity

Based on your vision, to meet your needs

At Philips, we strive for change that improves and simplifies the lives of patients and healthcare providers. Often, a series of innovations add up to make a real difference: Philips advances like PureWave crystal technology, SonoCT real time image compounding, and SmartExam guided workflow have made the iU22 the ultrasound system trusted by over 12,000 customers worldwide.

Occasionally, however, a single innovation elevates imaging to a new level. That's the case with xMATRIX technology – a true breakthrough that revolutionizes premium performance ultrasound.



Combine the strength of the iU22 ultrasound system with the power of xMATRIX, and you have an ultrasound system in a category of its own. The iU22 xMATRIX is an innovation that can increase clinical confidence, reduce exam time, and bring more information to the reading room.

Leading-edge, redefined architecture. Exceptional resolution. Easy-to-use volume imaging. Built on a remarkable legacy, yet unlike anything you've ever seen.

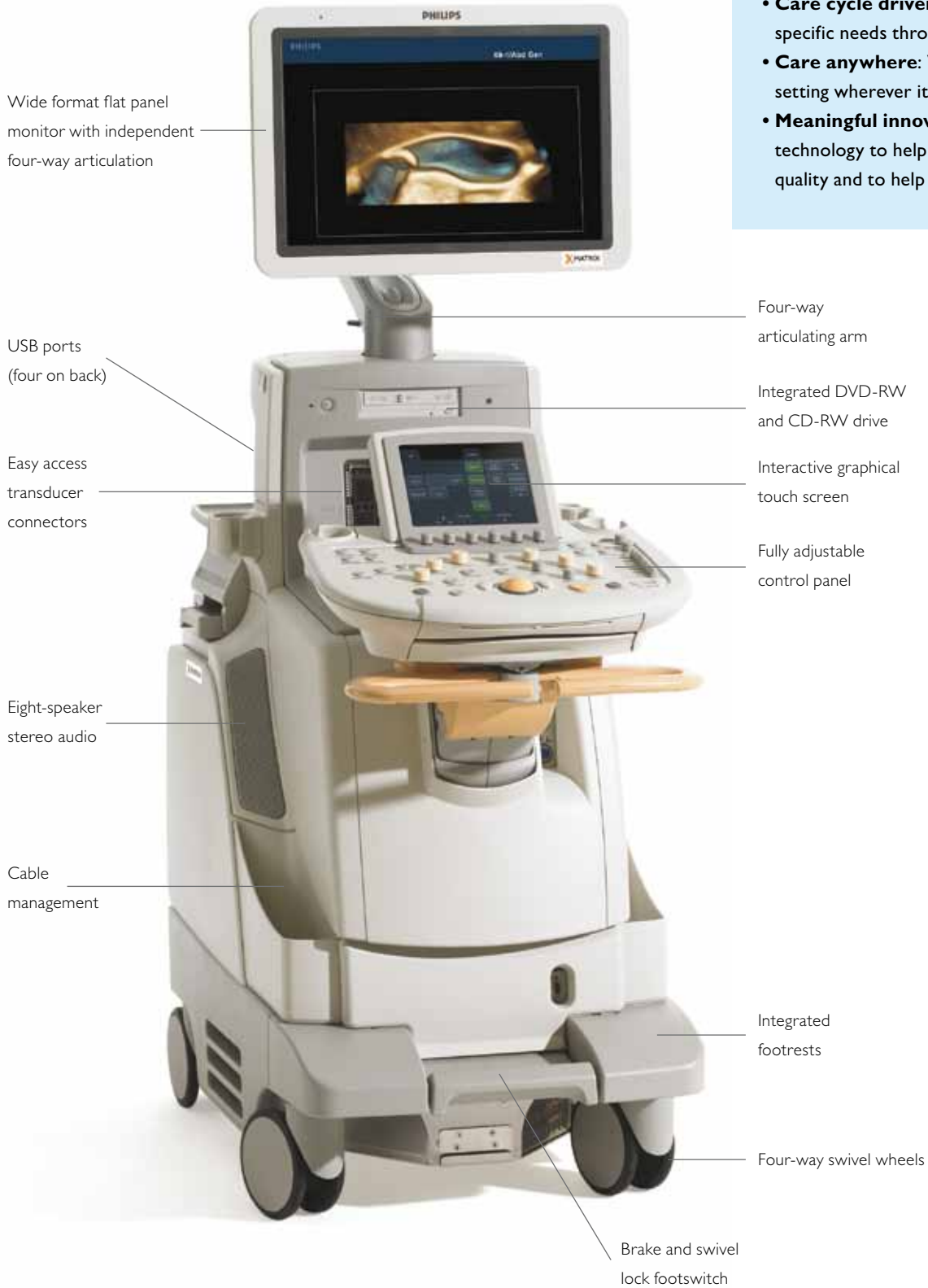
Key advantages

- Experience a new milestone in image quality – even on technically challenging patients
- View two imaging planes simultaneously, in real time
- Acquire volume data without changing transducers and disrupting workflow

Our promise to you

Philips brand promise to our customers is based on four pillars:

- **People-focused:** We listen to the needs of patients and their care providers.
- **Care cycle driven:** We focus on their specific needs throughout the care cycle.
- **Care anywhere:** We enable care in any setting wherever it occurs.
- **Meaningful innovation:** We apply technology to help improve healthcare quality and to help reduce costs.



Clinical confidence

What if we changed your idea of premium performance ultrasound resolution?

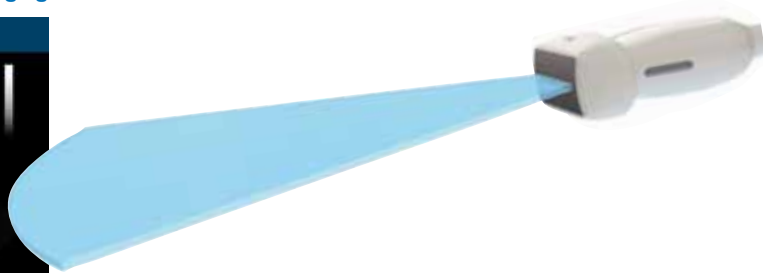
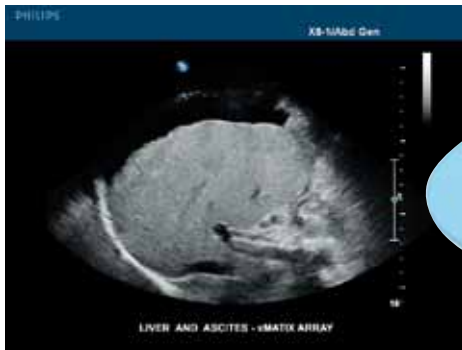


The exceptional image quality and resolution you need for confident diagnoses can now be found with the new iU22 xMATRIX ultrasound system. The X6-1 PureWave xMATRIX transducer features over 9,000 active elements, which is 35 times more elements than today's conventional transducers.

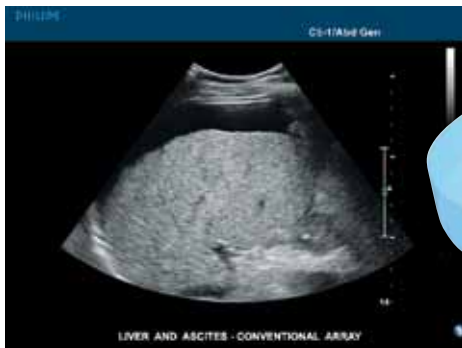
The X6-1's ultra-thin slice imaging redefines premium performance ultrasound by providing:

- Extraordinary tissue uniformity for improved textural pattern recognition
- Superb discrimination of micro-structures near, mid, and far
- Outstanding ultrasound image resolution

X6-1 xMATRIX array ultra-thin slice imaging



Conventional array image



Workflow efficiencies

What if you could acquire two images simultaneously without moving the transducer, improving imaging precision and saving time while reducing the potential for injury?



The X6-1 PureWave xMATRIX transducer features xPlane, which allows imaging in two planes without moving the transducer. You no longer have to rotate the transducer to see the second plane, or risk losing a tiny object during manual rotation. Now you have twice as much clinical data in the same amount of time, allowing you to make your diagnosis faster, with increased confidence.

Clinical trials have shown that xPlane speeds workflow, improves imaging precision, and has the potential to minimize repetitive stress injuries.



Available on the X6-1, X3-1, and X7-2 xMATRIX transducers, Live xPlane imaging supports the simultaneous display of two live imaging planes.

Removing the barriers to 3D imaging

What if we made it easy to add volume imaging to 2D exams without disrupting workflow?

A number of barriers have prevented volume imaging from being integrated into the ultrasound lab. The iU22 with xMATRIX removes those barriers.

By removing the barriers to volume imaging, the iU22 xMATRIX makes it easy to bring significant new clinical information into the ultrasound exam. In fact, in a study of 343 cases, users judged that volume imaging changed the diagnosis in an impressive 29% of cases, while in 57% of the cases it provided additional information that increased confidence.

Barrier – Obtaining volume data required changing transducers.

xMATRIX solution

The new X6-1 PureWave xMATRIX transducer provides high resolution for both 2D and 3D imaging. As a result, there is no need to change transducers to acquire volume images, so there is no disruption to the examination. In fact, workflow is improved.

Barrier – MPR images were of a lower quality than 2D images.

xMATRIX solution

The X6-1 PureWave xMATRIX transducer produces high resolution MPR images in X,Y,Z or iSlice formats.

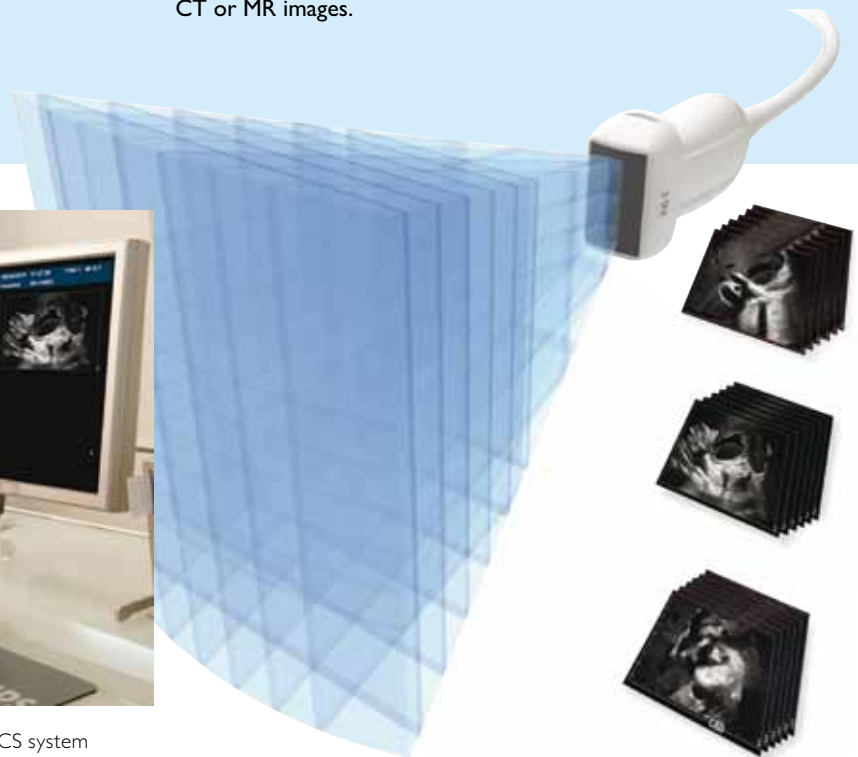
Barrier – Volume ultrasound data could not be viewed on PACS.

xMATRIX solution

For the first time ever, ultrasound volume data from any volume transducer is available on any PACS (DICOM multi-frame object standard presently required for all cineloop information). Once the volume data is acquired, the iU22 will capture the X,Y, and Z MPR cineloops at the push of a button, and send them to your PACS. You can then view these ultrasound MPR images just as you view CT or MR images.



Ultrasound volume data (X,Y,Z) is available on any PACS system accepting DICOM Multi Frame Object standards



Remarkable transducer versatility

What if one transducer could provide the ultimate versatility in clinical imaging?

The X6-1 offers all modes with one transducer – 2D, 3D/4D, Live xPlane, Live MPR, MPR, Doppler, color Doppler, and CPA – all at the touch of a button.

With xMATRIX technology, you can:

- Achieve ultra thin, 2D slices
- Use Live xPlane imaging to create two full-resolution planes simultaneously, allowing you to capture twice as much clinical information in the same amount of time
- Acquire near isovoxel resolution that reveals superb images from any plane within the volume
- Send 3D MPRs in the X, Y, and Z plane to any PACS system with MPR DICOM Export
- Present smooth, real-time 4D volume data in abdominal and obstetrical exams

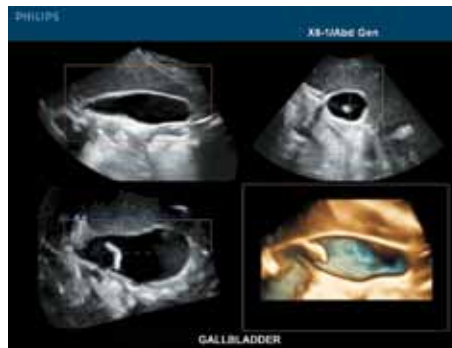
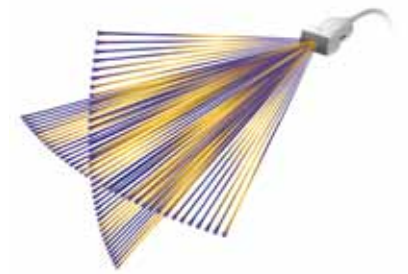
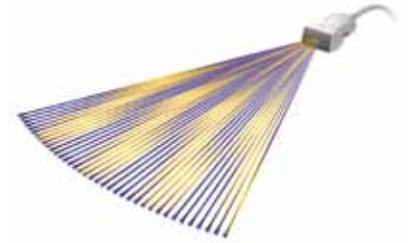
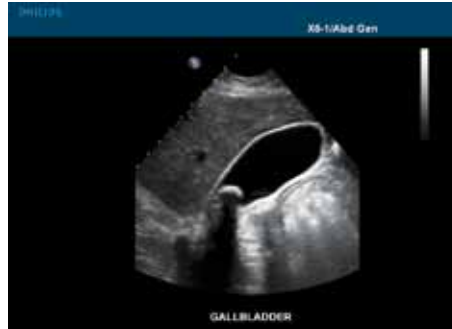
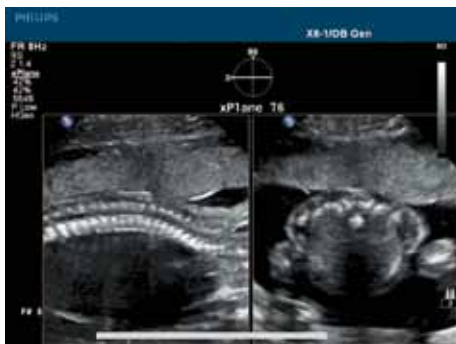
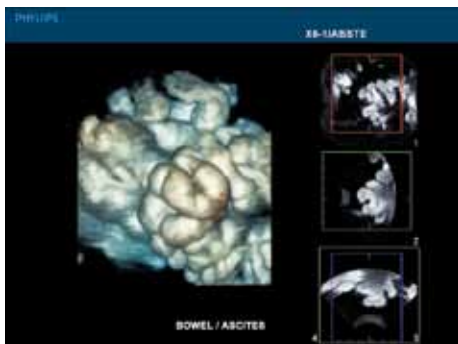
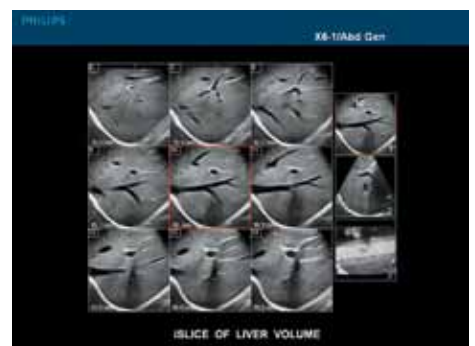
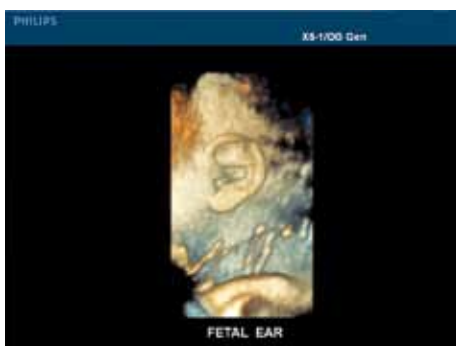
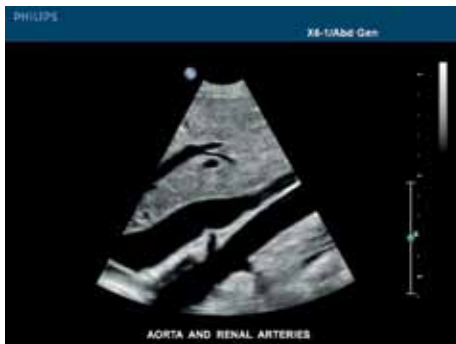
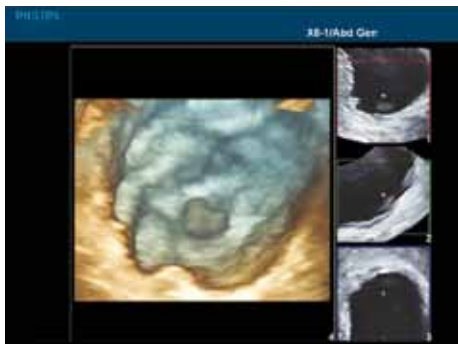
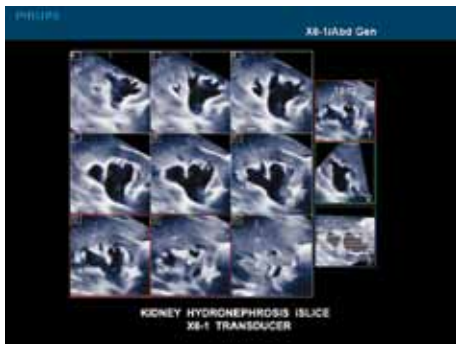
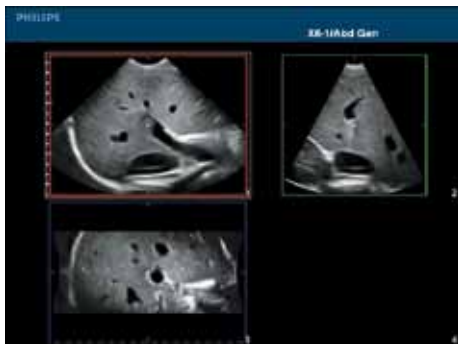


Image gallery



Smart workflow tools deliver efficiency

What if you could easily program your personal protocols for any application into your premium performance ultrasound system and never again have to type in any annotation?

To respond to your needs for greater efficiency, the iU22 xMATRIX system is redefining workflow through built-in intelligence that automates many time-sapping activities.

SmartExam guided workflow increases consistency and speed by automatically planning and processing application protocols. With SmartExam, designing a new exam type is easy. When you perform the exam the iU22 remembers every step. The required views, annotation, body markers, mode changes, and quantification are automatically recorded into your protocol as you perform the exam. Once you save your new exam type you can begin using it immediately. Because it is so quick and easy, you can design a full range of exams to meet your lab's requirements.

SmartExam Shuffle brings review consistency

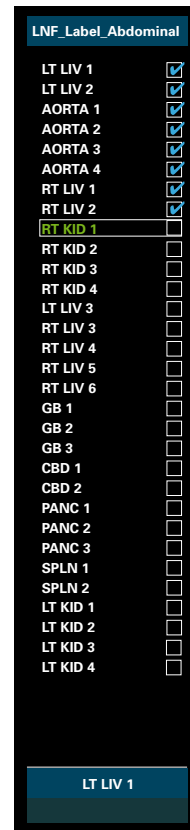
What if assigned views were transferred to your PACS in the order they were assigned, not acquired?

Now it's possible to send images to your PACS in the order they were assigned, even if it doesn't match the order in which they were acquired. This results in consistency of ultrasound image review on your PACS for all of your application protocols.



A recent study found that SmartExam

- Decreased examination time by 30-50%
- Reduced keystrokes by 300 per exam
- Improved consistency and quality of exams
- Assisted in department reimbursement and accreditation by increasing consistency



SmartExam provides key benefits

Department gains

- Consistency
- Fewer missed views
- Reduced PACS space
- Shorter exams
- More patient focus

Technically difficult patients are now less difficult

What if you could visualize tiny anatomical structures with exquisite detail on even technically challenging patients?

Those familiar with the iU22 know that it is an excellent system for imaging technically difficult patients. Now the iU22 system with PureWave technology makes it even easier, with four transducers for imaging technically challenging patients.

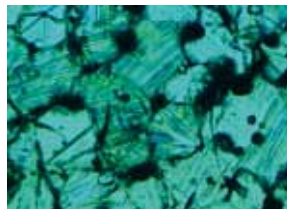
With a fully-sampled matrix phased array of 9,212 elements, the X6-1 PureWave xMATRIX transducer delivers the ultimate in clinical versatility – excellent 2D and 3D with one transducer – even on technically difficult patients.

The PureWave C5-1 transducer's size and shape facilitate access and improve comfort during scanning, and PureWave crystal technology supports superb image clarity even on difficult patients. In a six-site global study comparing 321 cases, use of the C5-1 was shown to:

- Reduce exam times by as much as 38%
- Reduce pain and fatigue from scanning in as many as 85% of the cases
- Reduce pushing required to achieve penetration of an organ or structure in as many as 93% of the cases
- Create a marked improvement in color sensitivity in as many as 86% of the cases
- Prevent a recommendation for additional studies with CT or MR due to an inadequate ultrasound study in as many as 69% of the cases

The S5-1 PureWave transducer for adult, pediatric, and congenital heart disease applications features Philips exclusive PureWave crystal technology, which is clinically proven to improve penetration in difficult-to-image patients. PureWave reduces clutter so clinicians can view fine structures in excellent detail.

The new PureWave C10-3v IVT (intravaginal transducer) is the highest frequency PureWave transducer to date, delivering exceptional detail and contrast resolution throughout the depth of field. In particular, the C10-3v is helpful for early obstetrical exams or gynecological exams, potentially alleviating the need for referral for CT or MR exams, and thus streamlining care.



Conventional

(x800)



PureWave

(x800)

PureWave crystals have virtually perfect uniformity for greater bandwidth and twice the efficiency of conventional ceramic materials. The result is excellent imaging and Doppler performance.



New C10-3v PureWave transducer is the highest frequency PureWave transducer to date with exceptional detail and contrast resolution throughout the field of view.



One-button solutions enhance ease of use

What if the operation of a premium performance ultrasound system was addressed with a few one-button controls?

Ease of use is one of the top three requirements for a premium performance ultrasound system. That is why the iU22 xMATRIX is designed to operate using a small number of one-button controls that assure that you are able to acquire excellent images with the least amount of effort.



iSCAN one-button optimization quickly and automatically adjusts system parameters in both 2D and Doppler modes based on patient and exam types. It decreases keystrokes while ensuring excellent image clarity in each exam.



iFOCUS Intelligent Focusing Technology automatically computes beam characteristics for a selected region of interest, and then provides excellent detail resolution and tissue uniformity.



iOPTIMIZE Intelligent Optimization instantly adjusts system performance for different patient sizes, flow states, and clinical requirements.

A healthier workplace

Given that surveys indicate that 80% of sonographers are scanning in pain and 20% of them will suffer a career-ending injury, the iU22 was designed with the user's health in mind. With a keyboard and monitor that can move independently, users can stay in a neutral position while scanning. The virtually flickerless flat panel monitor is easy on your eyes, while flexible transducer cables reduce tension and muscle strain.



Grow your practice with new services

What if you could correlate areas of interest between modalities and improve interventional procedure accuracy with image fusion and instrument navigation?

The iU22 provides both integrated image fusion and navigation capabilities to help you increase diagnostic confidence and offer new interventional services that improve the utilization of ultrasound.

Equipped with PercuNav image fusion and navigation technology, the iU22 enables query retrieval of CT, MR, and PET/CT volumes. This enables diagnostic radiologists to benefit from fused images that can help clarify diagnosis and the interventional radiologists to guide biopsy and ablation instruments to a region of interest when performing needle-based procedures.



The iU22 ultrasound system with integrated PercuNav image fusion and instrument navigation

- Provides improved diagnostic confidence for abdominal imaging
- Increases confidence during abdominal biopsy and ablation interventional procedures in which the lesion is difficult to visualize or near a critical structure
- Features Philips motion compensation and respiratory gating to minimize inaccuracy from patient breathing or movement, so clinicians can confidently proceed with interventions

Elastography provides new tool for breast imaging

What if you could provide a new method of detecting breast abnormalities?

Studies have shown that a combination of sonography and ultrasound elastography, a technique that enables evaluation of tissue stiffness, could potentially reduce unnecessary biopsies.*

You can add this valuable diagnostic tool to your services by using the iU22 xMATRIX's strain-based breast elastography on the L12-5 transducer, with the Advanced Breast Tissue Specific Imaging (TSI) preset.

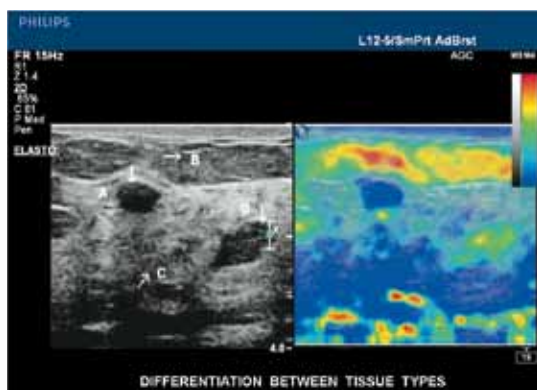
Philips elastography solution generates an elastogram from internal patient movement, and then provides distance and area measurements, size comparison to validate the size and location of the lesion on the elastogram, and anechoic imaging that enhances the cystic structures on the elastogram.



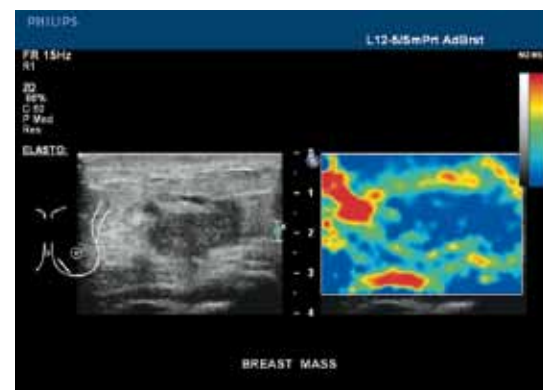
Breast elastography looks at mechanical properties of tissues (relative stiffness).



Stiffness is defined only for tissue. Fluid structures show characteristic noise patterns in elastography that may be used as key identifying markers



Note the distinct differences in tissue stiffness relative to the other areas of this image. Dark blue depicts the stiffest areas in this image.



Color elasto map showing the gradations of stiffness relative to the surrounding tissues in this mass with suspicious characteristics.

* Tan SM, et. al. Improving B mode ultrasound evaluation of breast lesions with real-time ultrasound elastography – A clinical approach. *The Breast* (2007), doi:10.1016/j.breast.2007.10.015

* Hui Zhi, MD, Bing Ou, MD, Bao-Ming Luo, MD, Xia Feng, MD, Yan-Ling Wen, MD, Hai-Yun Yang, MD. Comparison of Ultrasound Elastography, Mammography, and Sonography in the Diagnosis of Solid Breast Lesions. *J Ultrasound Med* 2007; 26:807–815.

Support that enhances productivity

What if Philips experts could remotely diagnose and fix a problem on your ultrasound system before you were even aware of the problem?

Philips support services are designed to maximize uptime. Our Remote Services connectivity allows for many advanced service features, including virtual on-site visits for both clinical and technical support to provide faster resolution to issues and questions, remote clinical education, and remote log file transfer to minimize downtime by allowing faster diagnosis of problems by call center personnel.

Remote services

Remote desktop

“Over the shoulder” system monitoring for faster technical and clinical troubleshooting and training options

iSSL technology

An easy and secure connection to Philips remote services using your existing internet connection

Online support request

Enter a support request right from your ultrasound system for faster, more convenient responses

Utilization reports

System and exam data analysis to help you manage ultrasound utilization and productivity in your practice

Pro-active monitoring

Continuous performance monitoring and alerts to help avoid system downtime

Award-winning service

Whether you encounter Philips personnel through remote services or at your site, you can be assured of our commitment to your satisfaction. In fact, for 17 years IMV Limited, a prestigious independent healthcare research company, has rated Philips number one out of thousands of customers surveyed in its ServiceTrak Imaging-All Systems report for customer service satisfaction.



Innovative financing solutions

Philips Medical Capital delivers financial solutions to help you place a new iU22 xMATRIX system in your facility or practice. Our financial experts understand your unique financial needs and provide flexible solutions that optimize asset utilization, reduce costs, and increase financial flexibility.

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