GE Medical Systems
Ultrasound

VOLUSON 730 EXPERT

The Diamond Breakthrough

imagination at work

4D

Dimensional
Diagnostic
Dedication
Digital

VOLUSON 730 EXPERT
Revolutionary technology, revolutionary performance

RealTime 4D imaging is the next generation of performance in clinical ultrasound. GE Medical Systems is leading the way in women's healthcare with the VOLUSON 730 EXPERT system which addresses the need for better diagnostic information delivered with greater speed and accuracy.

Collaborating with clinicians around the world, a series of advanced applications have been developed to make the VOLUSON 730 EXPERT the system of choice. In addition to the next generation of 4D technology, the Diamond Breakthrough introduces new clinical applications and migrated technology from the LOGIQ platform. This versatile system delivers a wide array of image optimization, reporting and archiving capabilities with the accuracy of digital processing.

- Dimensional technology
- Diagnostic advantages
- Dedication and support
- Digital solutions

Breakthrough after breakthrough, year after year

With three decades of ultrasound experience, GE understands the importance of making investments and conducting research that yield a continuous stream of new capabilities. This evolution has taken the VOLUSON from static black and white 3D ultrasound in the 1980's to RealTime color 4D in the 21st century and beyond.

Dimensional
RealTime 4D imaging

The VOLUSON 730 EXPERT with RealTime 4D helps clinicians overcome the most challenging diagnostic hurdles by allowing continuous scanning with simultaneous visualization in three planes.

The terminology of 3D and 4D ultrasound:

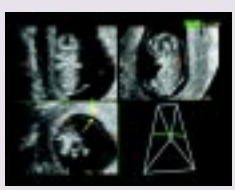
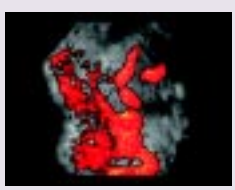
2D – Traditional ultrasound views that provide cross sectional scans or "cuts" through anatomy

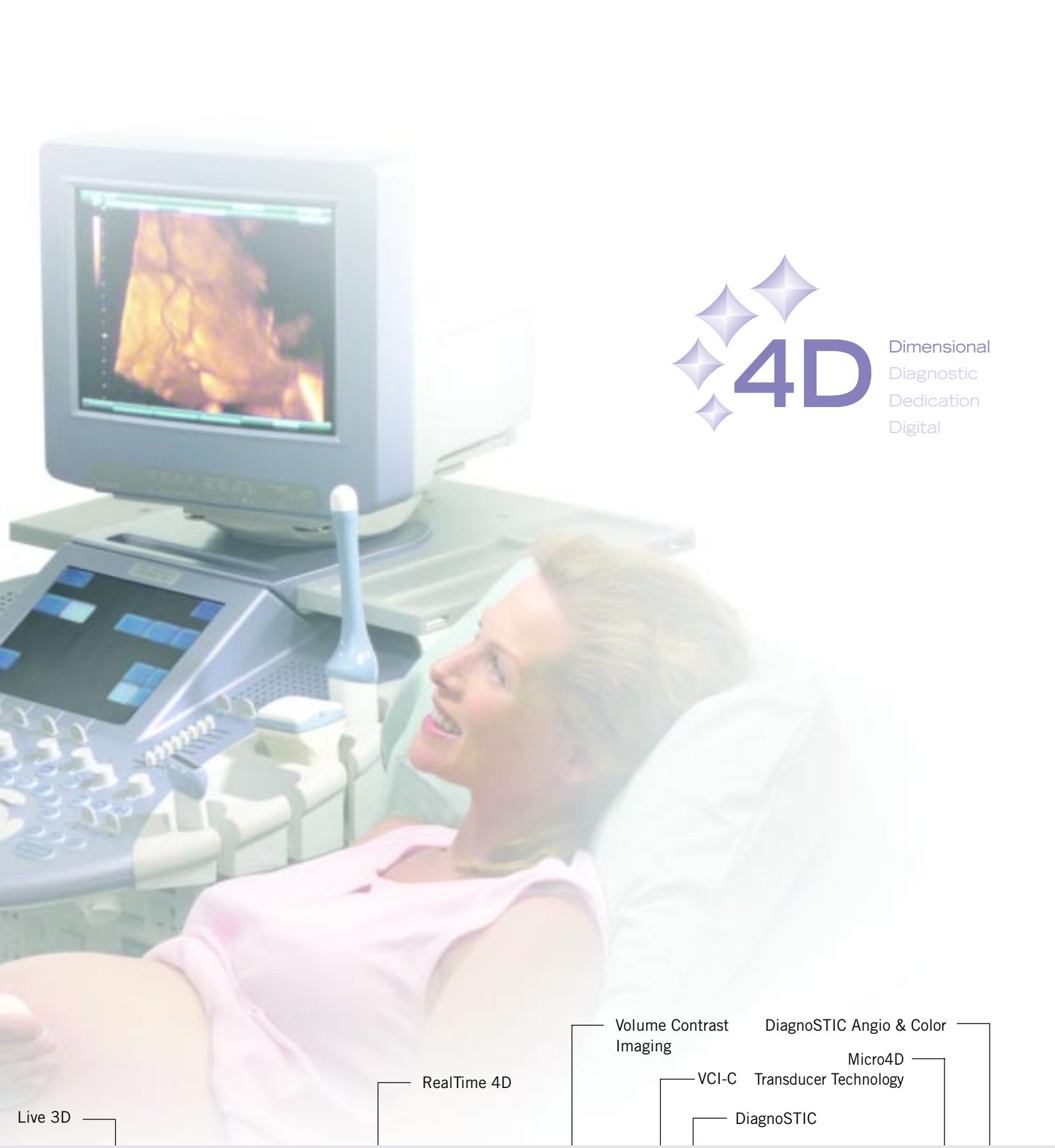
Static 3D – Acquiring parallel 2D scans and processing the 3D volume of echo information for presentation on 2D displays

Live 3D – Using a dedicated 3D transducer that "sweeps" and displays anatomy as you scan up to 4 volumes per second

RealTime 4D – Obtained via exclusive GE transducer technology through continuous, high volume acquisition and parallel calculation of 3D rendered images.

Technology timeline of 3D/4D ultrasound

1990		1995
Static 3D	Multiplanar imaging	VOCAL 3D/4D US School
		
Image acquisition time: 20 min	2-3 sec	4 vol/sec



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Live 3D

RealTime 4D

Volume Contrast Imaging

VCI-C

DiagnoSTIC

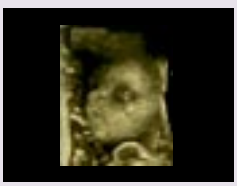
Transducer Technology

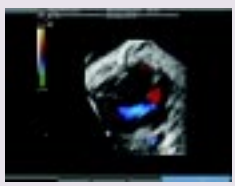
Micro4D

DiagnoSTIC Angio & Color

2000

2003





16 vol/sec

25 vol/sec

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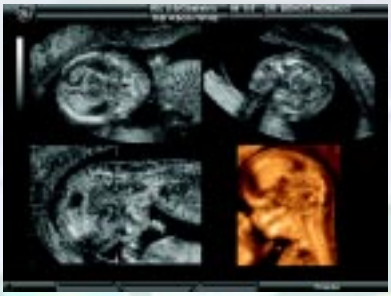
Diagnostic
Clinical relevance

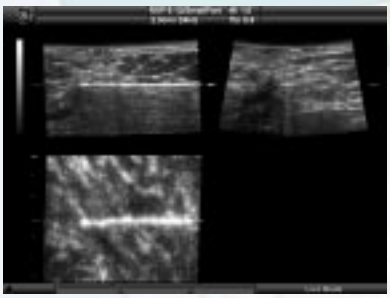
The VOLUSON 730 EXPERT's unique 3D and 4D capabilities meet the needs of clinicians and patients alike with a range of relevant capabilities across the application spectrum.



Obstetrics – Providing a solution to the analysis of the fetal heart, facial anomalies, lung volume, brain cavity, circulation, spinal defects, limb measurements & visualization and placental anomalies using tools such as **DiagnoSTIC™** (Spatial Temporal Image Correlation), multiplanar views and 3D/4D rendering

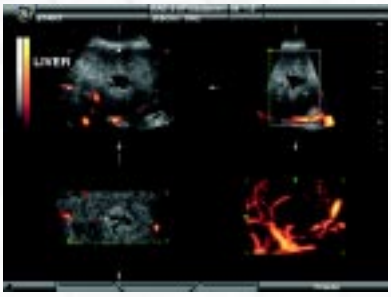
Gynecology – Automatic acquisition and multiplanar analysis facilitate sonohysterography while multiplanar imaging enables evaluation of the shape of uterine cavity

Breast – RealTime 4D increases confidence of breast biopsy through visualization of needle placement

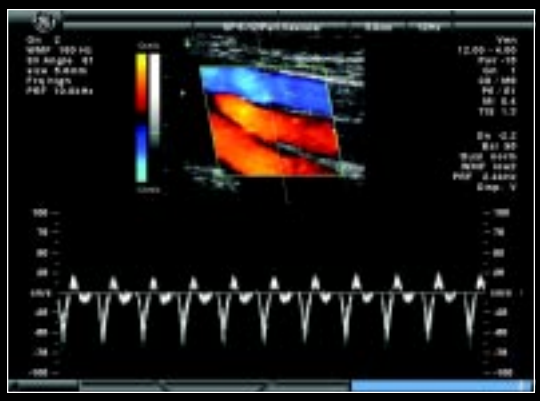


Small parts – VOCAL, Volume Calculation, provides accurate measurements of small structures

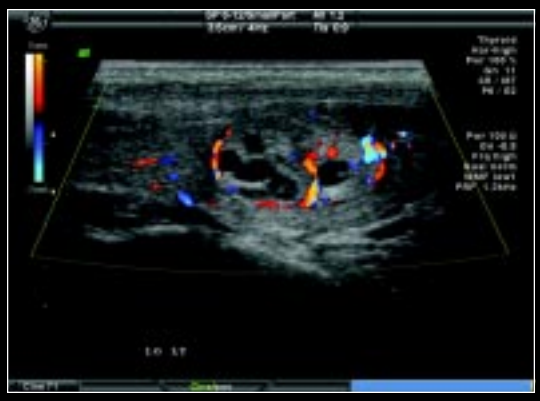
Musculoskeletal – Compound Resolution Imaging (CRI) and Volume Contrast Imaging (VCI) C Plane enhance visualization and provide for assessment of such common injuries as shoulder and knee muscle tears



Abdominal – 3D and 4D color provide for quick assessment of anatomy and evaluation of masses



Superficial Femoral Artery



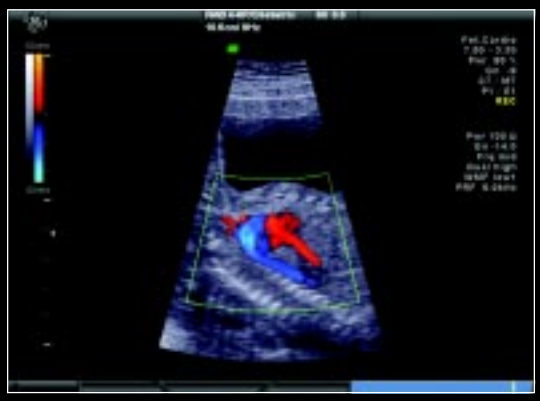
Thyroid Nodule

Normal Liver

Breast Lesion

Fetal Circle of Willis

Fetal Lung/Liver



Fetal Aortic Arch

Nuchal Translucency

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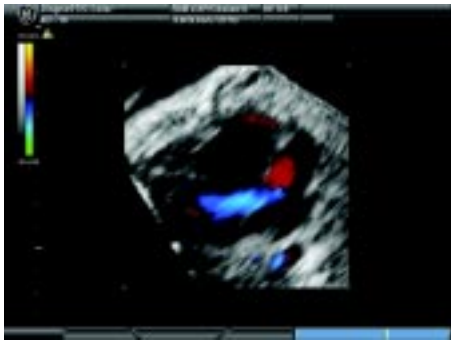
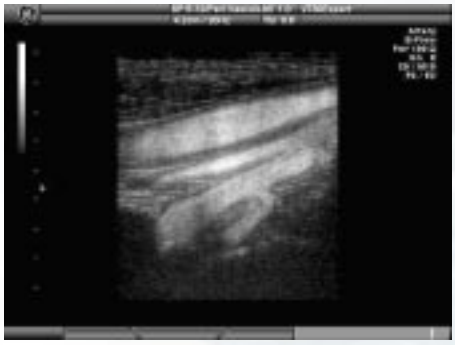
Diagnostic
4D volume analysis of the fetal heart

With the Diamond Breakthrough, GE has introduced a new approach to image the fetal heart. **DiagnoSTIC**, now with color and angio, is a method to see a multiplanar view of the fetal heart for a full cycle. The result is a 4D real-time data set of one heart cycle that allows the clinician exceptional flexibility to:

- Rotate the image data for unlimited viewing angles, including four-chamber views
- Analyze the data in a multi-planar view during a heart beat
- Freeze the image at any stage of the cycle
- Utilize full measurement capabilities



DiagnoSTIC



B-Flow

XTD View

The VOLUSON 730 EXPERT also features a suite of additional diagnostic advantages, including such recent advances as:

Coded Technology – GE's leadership method for coding/decoding pulse sequences that boosts weak signals and suppresses unwanted signals for greater image quality

Coded Harmonics – Delivers improved spatial and contrast resolution without loss of penetration

B-Flow – Direct visualization of blood reflectors at high resolution (3X color) and high frame rates (4X color)

XTD View – Extended field of view in real time make it easier to show anatomical relationships

Amazing Fetal Progression

These week-by-week clinical images illustrate the exceptional diagnostic capability of 3D imaging.

First trimester – Up to 13 weeks gestational age, the fetus grows up to 3 inches in length. The development of eyes, toes, joints, nerves, circulatory and digestive system are clearly visible using the RealTime 4D Endovaginal transducer.

Second trimester – Weeks 14 through 26, shows rapid development of the skeletal, digestive, circulatory and nervous systems. The fetus grows up to 13 inches in length and weighs about 2 pounds.

Third trimester – Weeks 27 and beyond, the fetus begins to fully develop organs and nerves. A rapid weight gain begins and most move into "head down" position for birth. Second and third trimesters are visualized using the RealTime 4D Abdominal transducers.

Week 8

Week 9

Week 10

Week 11

Week 12

Week 13

Week 14

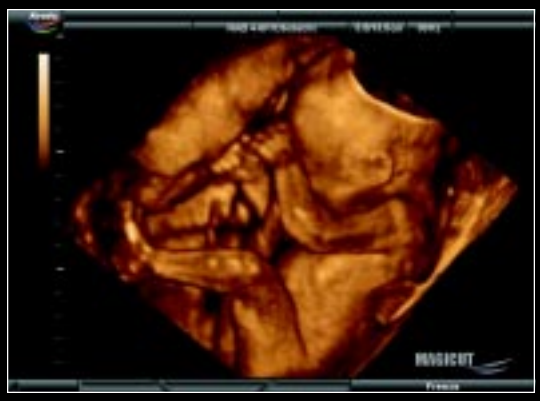
Week 15

Week 16

Week 17

Week 18

Week 19



Week 21

Week 22

Week 26

Week 31

Week 32

Week 33

Week 34

Week 35

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The new 4D transducer is now
smaller than previous version

Breakthroughs
Backed by depth of support

The VOLUSON 730 EXPERT is another example of the constant stream of innovations from the scientists, engineers and clinicians at GE Medical Systems – breakthroughs that provide the superb image quality, clinical utility and department-wide productivity you are seeking.

Ergonomic tools – The VOLUSON 730 EXPERT assures operator comfort and safety through a variety of ergonomic solutions, including an easily adjustable console and monitor, large integrated color touch screen with optimized menu selection, smaller and lighter transducers.

Micro 4D transducer technology – The outstanding performance of the VOLUSON 730 EXPERT is enhanced through the next-generation technology found in GE's new micro 4D transducer. This broadband probe with ultrafine pitch is one-third lighter and smaller than our previous design, yet delivers outstanding image quality up to 25 volumes per second.

Making 3D/4D easier to use – GE is committed to your productivity. For additional information on any application, online help is available at the touch of a button. And for more detailed application training, GE offers self-guided tutorials covering virtually every aspect of 3D and 4D fetal echocardiography.

4D

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Digital solutions

For a single PC to a fully networked healthcare system

The VOLUSON 730 EXPERT offers the flexibility to create an ultrasound imaging and analysis system at the scale and scope that meets your clinical and productivity needs. Choose a single, discrete unit or a fully networked solution that links with your entire healthcare system, VOLUSON provides unprecedented versatility in capturing and sharing data.

Connectivity & data management

The VOLUSON 730 EXPERT system facilitates off-line/remote diagnoses to help better balance workload in an imaging facility:

- Hard-drive and DVD/CD storage
- Full DICOM functionality
- 3D/4D functionality in a PACS environment

4D View

PC-based software that allows clinicians to manipulate and analyze VOLUSON 730 EXPERT data without interfering with patient flow, yet with full functionality, including:

- Fetal heart analysis capabilities, including DiagnoSTIC
- Interactive volume renderings
- Multiplanar image display
- SonoView archiving and data management

OB reporting/image archiving

Complete office solutions for women's healthcare professionals:

ViewReport

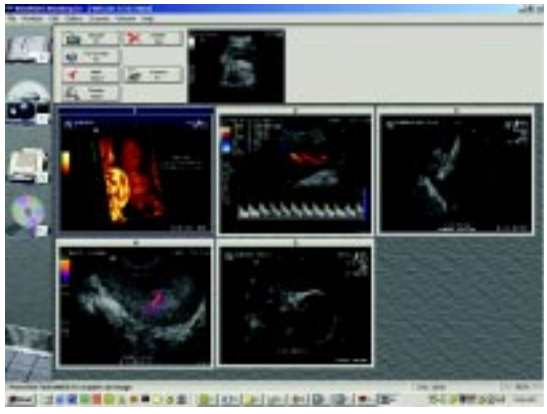
- Standardized OB/GYN reporting, patient scheduling and statistical analysis
- Direct transfer of data

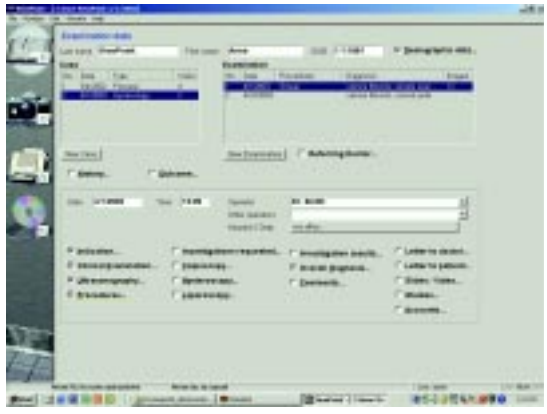
ViewPACS

- Capture and archive images via DICOM, RGB or S-video

Clinical Value

- Accuracy, speed, detail and efficiency
- Consolidation of patient information





Ultrasound image capture and digital archiving

For more than 100 years, scientists and industry leaders have relied on General Electric for technology services and productivity solutions.

So no matter what challenges your healthcare system faces – you can always count on GE to help you deliver the highest quality healthcare.

For details, please contact your GE representative today.

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Ultrasound

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