GE Healthcare

SEE THE COMPLETE PICTURE. UNCOMPROMISED FIELD OF VIEW.

Discovery* MR750w

INSIGHTFUL TECHNOLOGY.

THOUGHTFULLY BUILT AROUND AN UNCOMPROMISED MAGNET.

"Remarkable. What great coverage and image quality."

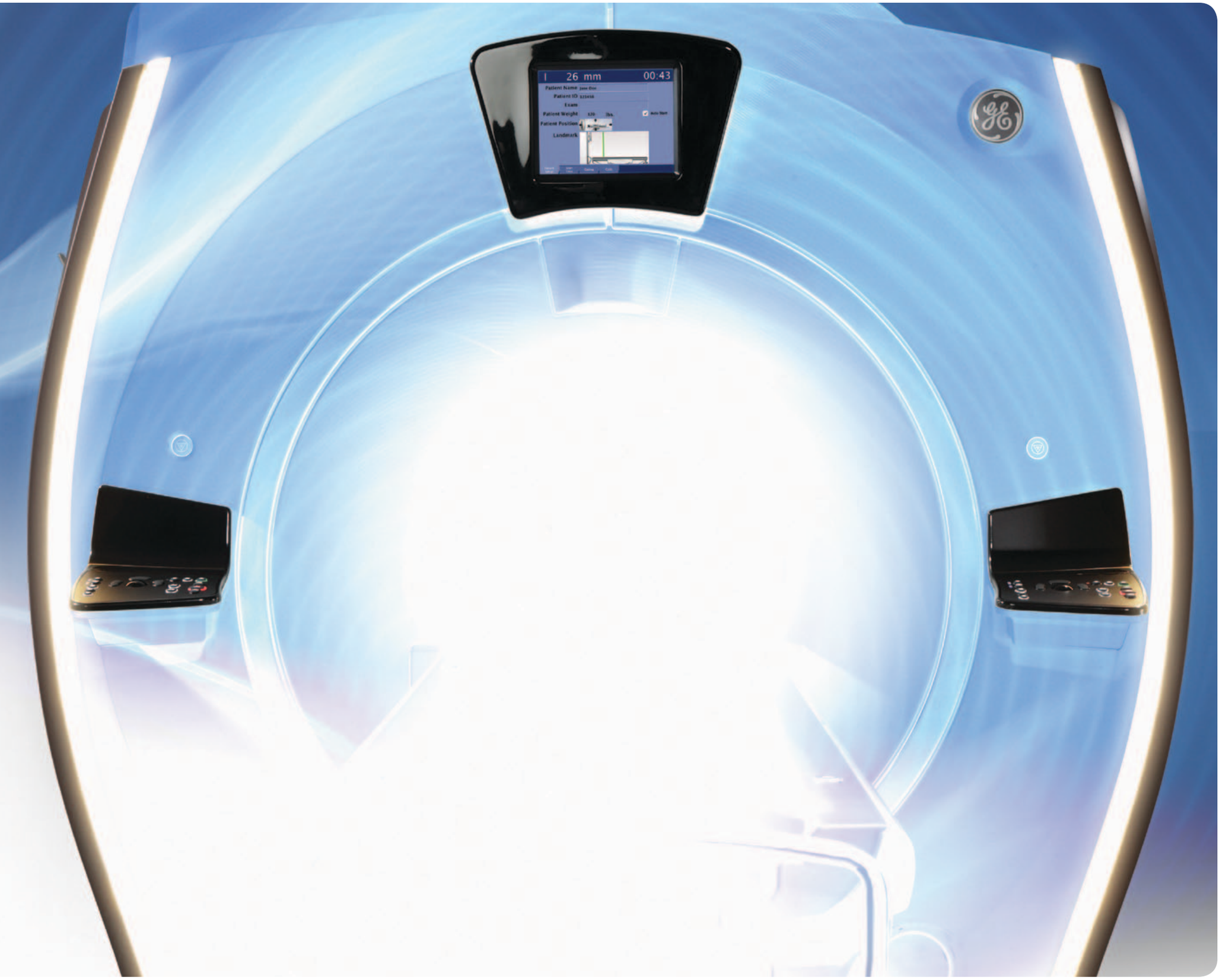
That's just one of the things our customers are saying when they see a clinical image from our Discovery MR750w wide bore system for the first time. It's the highest praise we could ask for, recognizing a fundamental philosophy that has motivated us to continue to build great MR technology for over 30 years. This philosophy is responsible for how we design and build every component of the Discovery MR750w to work together in harmony so you can see a complete picture of your patients. Without compromise.

It all starts with the magnet. When it comes to delivering on the promise of 3.0T image quality, while enhancing the openness and patient experience, no other MR component has greater impact than the magnet. The Discovery MR750w system features a compact, lightweight, superconducting magnet designed to provide excellent homogeneity and ensure uniform signal and fat-suppression over a large, uncompromised imaging volume. This system's magnet also supports a large 50 x 50 x 50 cm field of view (FOV), which may reduce exam times since fewer acquisitions are required to cover large anatomy.

With the powerful 3.0T magnet as its foundation, the Discovery MR750w provides a robust combination of technologies for an uncompromised field of view.

See for yourself how we put it all together.

- GRADIENT TECHNOLOGY
- RF TRANSMIT AND RECEIVE
- MAGNETIC FIELD HOMOGENEITY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Patient Name
Patient ID
Exam
Patient Weight
Patient Position
Landmark

HIGH PERFORMANCE GRADIENTS.

REDEFINING SPEED, ACCURACY AND REPRODUCIBILITY.

When test driving a car, do you measure the performance of the engine simply based on horsepower? Of course not. You measure it by how fast you can get from the dealership to the highway and how well it handles along the way. So why not apply that same logic to MR?

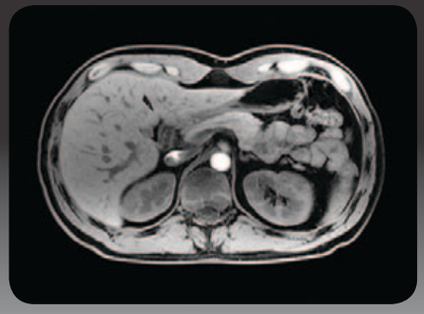
In fact, that's how technologists do it today. When setting up a scan, they don't select the gradient amplitude and slew rate. They select scan parameters, such as the sequence TR and TE, to generate the required clinical image contrast.

While the Discovery MR750w gradient system achieves high temporal resolution and helps you drive the high patient throughput you desire, it's about more than just speed. The accuracy and linearity of the gradients are required to support a true, uncompromised 50 x 50 x 50 cm field of view and high resolution off of isocenter.

This high standard of gradient performance can be found on every Discovery MR750w.

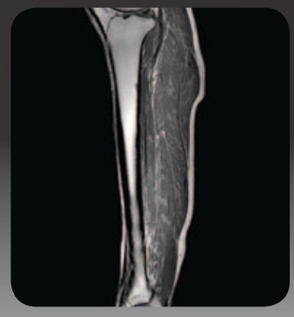
Dual Echo Liver Assessment

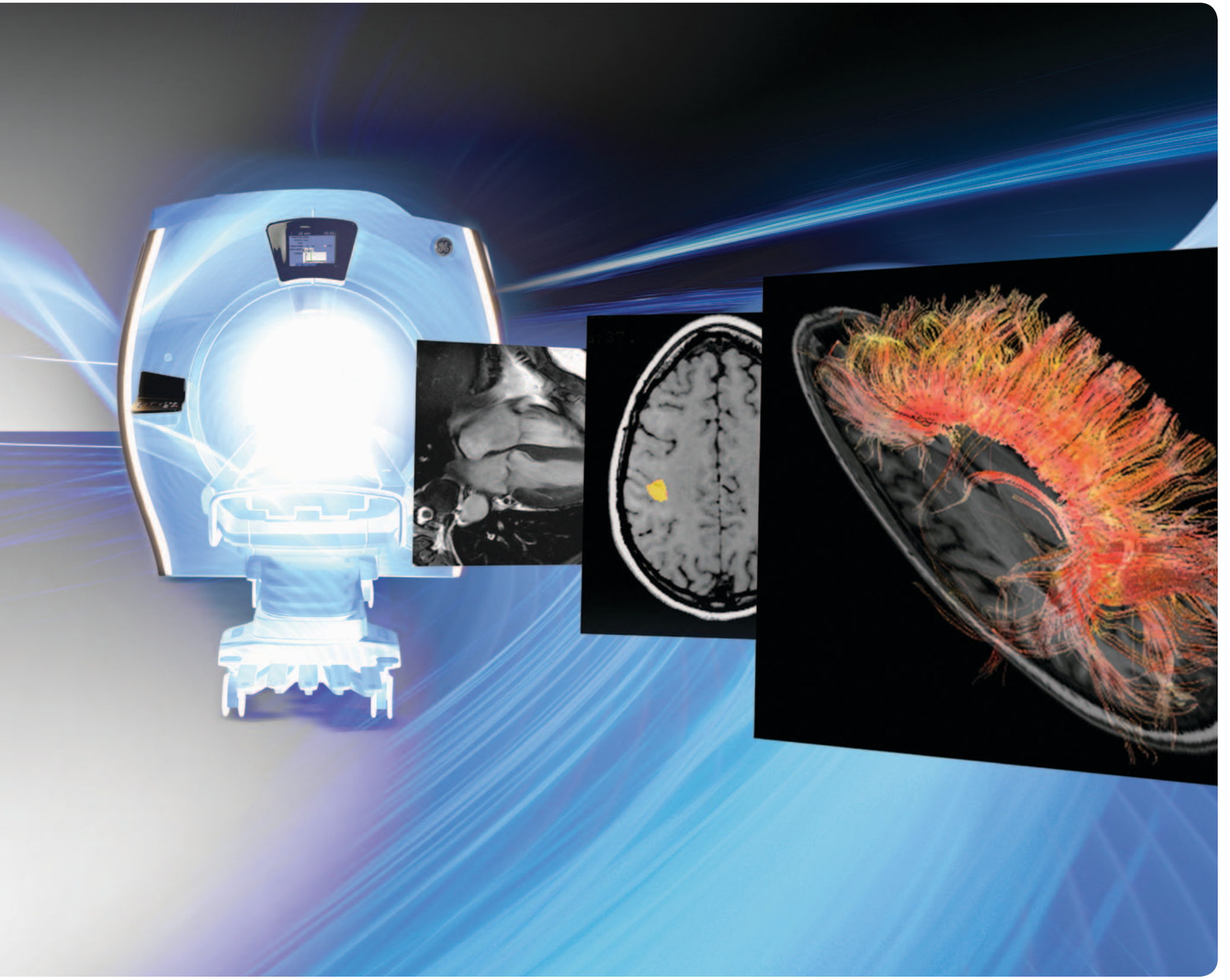
The robust gradients of the Discovery MR750w allow you to capture the first out-of-phase TE at 1.1 ms consistently with excellent resolution.



3D Gradwarp

Reduce image distortion by correcting for gradient field non-linearities in all three directions, leading to more spatial accuracy in the resulting image.





PRECISE RADIO FREQUENCY CONTROL.

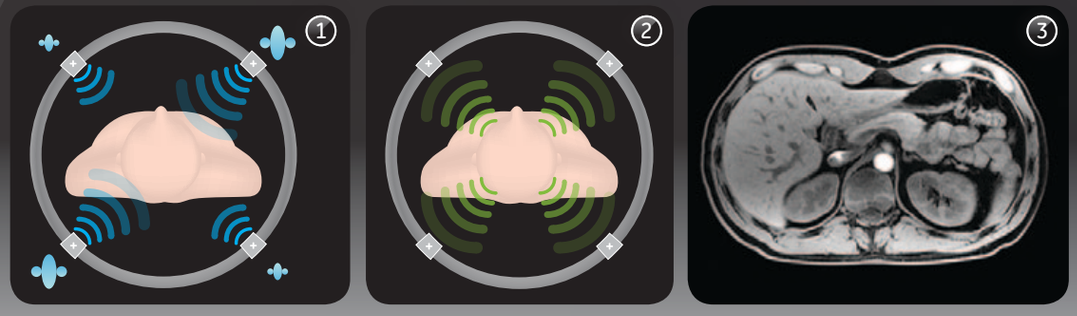
CONSISTENTLY CLEAR 3.0T IMAGES.

Imaging performance is determined by more than just channels. It's really about the shape, size and number of elements within the field of view and how they're used to form an image.

In addition, precise Radio Frequency (RF) control is essential to achieving uniform high signal-to-noise ratio (SNR) across the field of view and ultimately leads to better image quality.

MultiDrive RF Transmit

1. MultiDrive ensures the RF and amplitude of each pulse are adapted for the anatomy of interest.
2. MultiDrive's RF modification produces uniform MR signal during reception.
3. MultiDrive automatically compensates and virtually eliminates B1-induced signal shading across different body shapes and sizes. The result is consistently clear and uniform images.



Optical RF (OpTix)

OpTix Optical RF offers high channel count, analog to digital-optical signal conversion where it matters – inside the scan room to minimize noise and signal degradation, but away from the patient to enhance comfort.

GEM Suite

The Geometry Embracing Method (GEM) Suite is designed with a renewed sense of empathy to bring an enhanced level of comfort to patients, helping to minimize anxiety and motion during the exam. Crafted to embrace the unique geometry of each patient by adapting its size and shape for a closer fit to the desired anatomy, this suite of coils makes for a more relaxed scan experience and exceptional image quality.

High Density Elements

The GEM posterior array has optimal coil element geometry for each patient and targeted anatomy. Unlike many matrix arrays that use the exact same coil element size and shape for all anatomy, the GEM posterior array uses optimized element layouts for the cervical-to-thoracic spine transition, thoracic and lumbar spine and the body. This approach maximizes the signal-to-noise ratio by matching the geometry of the coil elements to the anatomical size and shape of the anatomy.

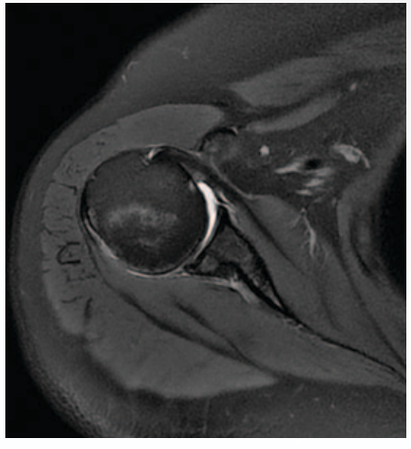
UNIFORM HOMOGENEITY.

SHARP FOCUS ACROSS THE ENTIRE IMAGE.

While digital cameras are often defined by megapixels, a camera's ability to produce clear undistorted images relies more heavily on the quality of the lens and its ability to capture the light. A poorly designed lens cannot overcome the best performing camera.

The same holds true in MR. With the latest surge in wide bore 3.0T systems, the significance of homogeneity and its impact on image quality has never been more important.

No other parameter influences the quality of fat-saturation, anatomical coverage and resolution performance more. Any compromises made to the magnet field homogeneity and you're unlikely to see the benefits of 3.0T wide bore. That's why the Discovery MR750w 3.0T magnet supports uncompromised homogeneity ensuring excellent resolution across the entire image.



Shoulder
PD FSE Fat Sat Axial
Off isocenter

Wrist
PD FSE Fat Sat Coronal
Off isocenter at side

Excellent uniformity out to the edges of 50 cm field of view

UNCOMPROMISED FIELD OF VIEW.

THE FOUNDATION OF MR QUALITY.

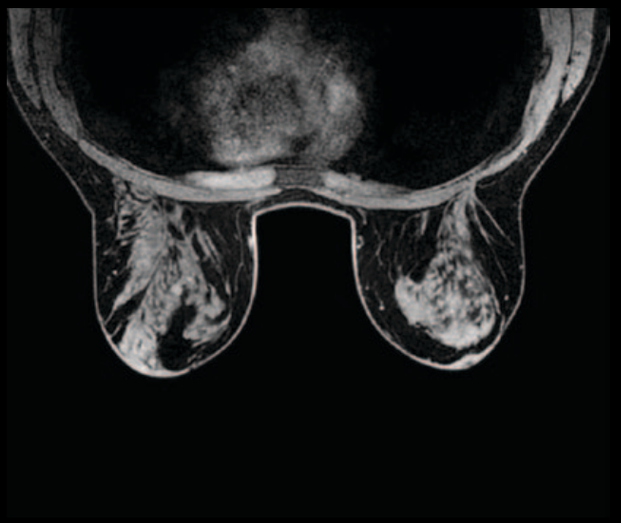
Gradient Technology. RF Transmit and Receive. Magnetic Field Homogeneity.

With our focus on combining excellent magnet homogeneity, high performance gradients and precise RF transmit control and reception, we've chosen not to take short cuts so you can see the complete picture at 3.0T. It's a philosophy that is built into every Discovery MR750w to deliver an uncompromised field of view and stunning image quality. After all, you don't compromise when it comes to your patients, so why should we?

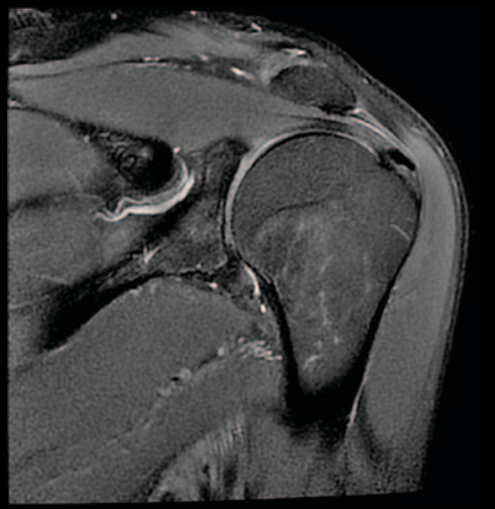
See the complete picture for yourself.

Abdomen
T2 frFSE Coronal
FOV 50 cm

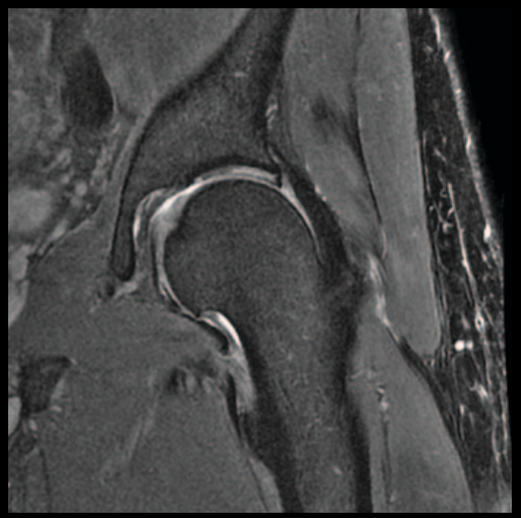
Lower Leg
PD FSE Sagittal
FOV 50 cm



Breast
VIBRANT Fat Sat Axial
FOV 36 cm



Shoulder
PD FSE Fat Sat Coronal
Off isocenter



Hip
PD FSE Fat Sat Coronal
Off isocenter

Thoracolumbar Spine
T2 frFSE Sagittal
FOV 50 cm

Whole Body
T2 SSFSE Coronal
FOV 44 cm
5 station pasted

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About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com

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imagination at work

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