

GE Healthcare

# Discovery™ MR750 3.0T

Simply powerful.  
Powerfully simple.

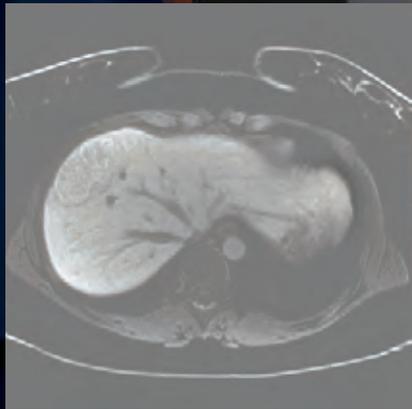


# Break free.

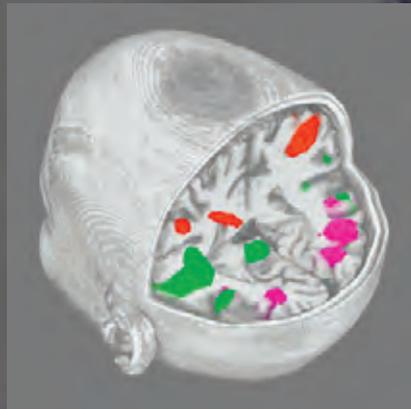
The breast images you need in only two sequences.  
A complete liver study in a 15-minute time slot.  
Routine fMRI with shorter paradigms and greater activation.

Changing “What ifs” to “Why nots.”  
And that’s just for starters. Because the Discovery™ MR750 3.0T  
lets you break the bonds of traditional 3.0T MR scanning.  
Powerfully. Precisely. Productively.

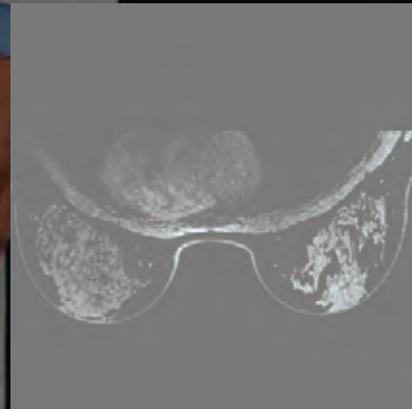
It’s MR of unprecedented power.  
Pure and simple.



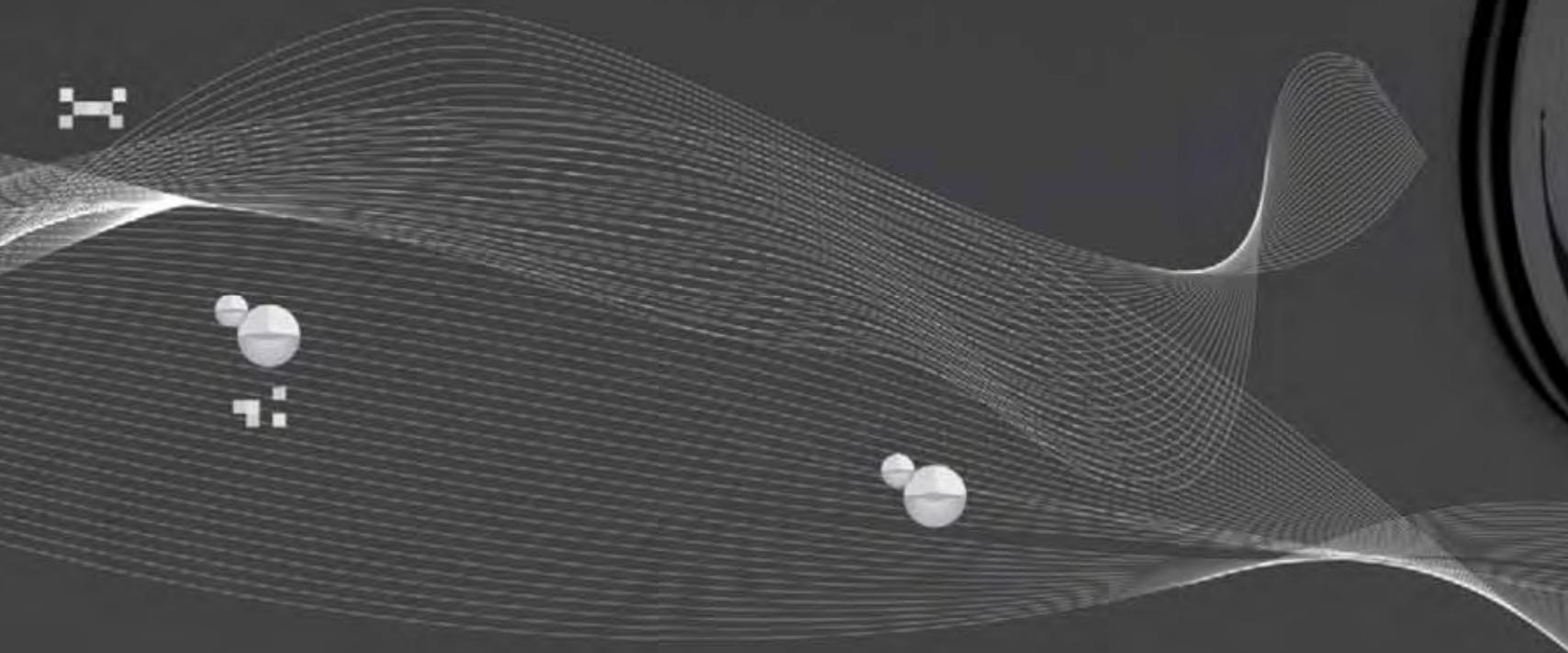
The Discovery™ MR750 enables a robust, comprehensive liver study in a 15-minute time slot.



Conduct routine, accurate, repeatable 5-minute fMRI studies with 60% more slices in the same scan time as before.



High-resolution and multi-contrast acquisition, as well as real-time reconstruction, allow you to acquire the breast images you need in only two sequences.



Breaking today's MR boundaries. To give you every edge.



Routine exams made faster.  
Advanced exams routine.  
And every scan a study in speed.  
Introducing the Discovery™ MR750 Express Exam.

# Ready. ~~Set.~~

**iROC (In-Room Operator Console).  
Faster exam setup — at your fingertips.**

Mounted conveniently on the front of the magnet, the high-resolution color console of the Discovery MR750 consolidates patient set-up information and operator controls in one place that's easy to see no matter where you're standing. View patient, system and scan information, control and select parameters, change scanner configurations, and initiate scans in real time right in the room. Save footsteps by eliminating multiple trips to and from the control room.

When AutoStart is selected on the iROC, the system will start scanning automatically when the scan room door is closed.

**Dual-sided scanner control panels.  
Within reach.**

Control the scanner from either side of the patient table and easily access cardiac or peripheral gating leads and IV lines. Backlit buttons indicate the next logical step in the exam process, and a built-in trackball mouse makes scrolling and clicking easy.

**IntelliTouch patient positioning.  
Start scanning in just two simple steps.**

The Discovery MR750 setup is so automated, you can position patients in just two simple steps, in as little as 30 seconds. Along with the use of the detachable table, IntelliTouch patient positioning shortens in-room set-up time by up to 70% over fixed-table designs.

To operate, simply press the IntelliTouch strip on either side of the patient table at the landmark location, then press the Advance to Scan button to move the patient safely into the bore.

**Express Patient Table. Transfer  
patients once to speed throughput.**

Easily docked and undocked by a single technologist, the GE-exclusive Express detachable patient table boosts your

scanner efficiency and productivity by minimizing time between scans. Single transfers of patients directly onto the MR table create a more comfortable patient experience and increase exam productivity.

In the event of an emergency, just one technologist can undock the table and safely transport the patient out of the room in under 30 seconds.

You can fully prepare patients for their exams outside the scan room on the Discovery MR750 Express Patient Table.





Two 32-channel surface coil connections integrated at the end of the table simplify patient preparation outside the scanning room.



Easy-to-use IntelliTouch strips on each side of the patient table enable fast and accurate landmarking and patient positioning.



The Advance to Scan button automatically moves the patient into scanning position.

# Go.

With a simple, one-handed motion, the integrated arm boards can be optimally positioned to support the patient for injections and transport.



With the high-resolution iROC (In-Room Operator Console), the technologist can complete patient setup right in the scan room for a streamlined exam.



Located to the left and right of the scanner bore, dual-sided controls enable the scanner to be operated from either side of the patient table.



Swifter. Smoother. Simpler.

The Discovery™ MR750 performs just as well for your patients as it does for you. Making a faster, easier, more comfortable MR experience.

# Focus on patients.



Reduce patients' anxiety by preparing for the exam outside the scan room on the detachable Express Patient Table. In the event of an emergency, the table can be undocked and removed from the scan room in just 30 seconds.



With automated acquisition, processing, and networking, entire exams with the Discovery MR750 can be completed with just a few steps. Get patients in and out of the scan room quickly with highly streamlined workflow made possible by easier patient positioning, quicker exam setup, automated protocols, and faster scanning.





Spend more time at the patient's side by completing the exam setup while in the room. Answer questions, address concerns, offer reassurance, and provide an extra level of comfort — all without leaving the room.



Keep patients refreshed and comfortable by adjusting the airflow and lighting in the bore with multiple control settings.



No boundaries.

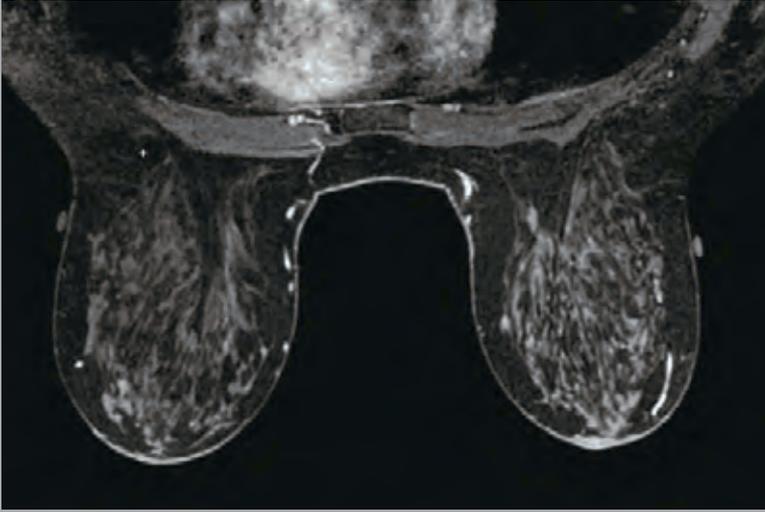


Just frontiers.

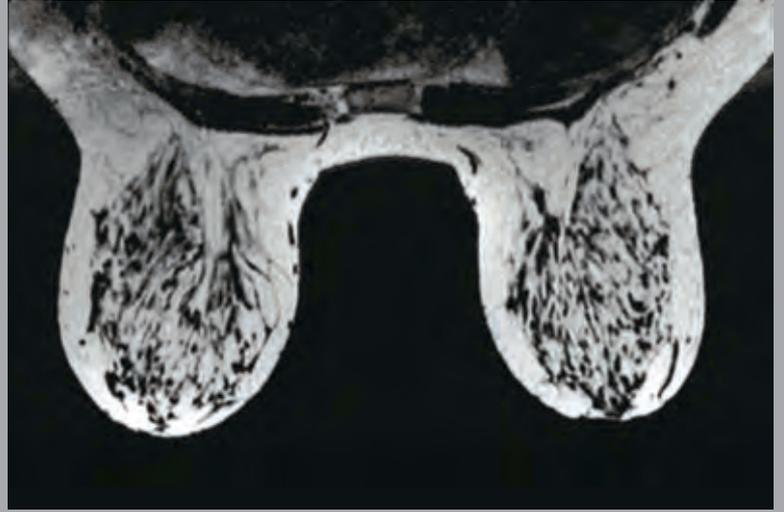


## VIBRANT-Flex

Combining multiple series into one, VIBRANT-Flex reduces exam times and ensures “can’t-miss” homogeneous fat suppression over both breasts in the axial or sagittal plane. By utilizing self-calibrating ARC™ parallel imaging and eliminating the need for manual bilateral shimming, your productivity benefits on the Discovery™ MR750 are substantial.



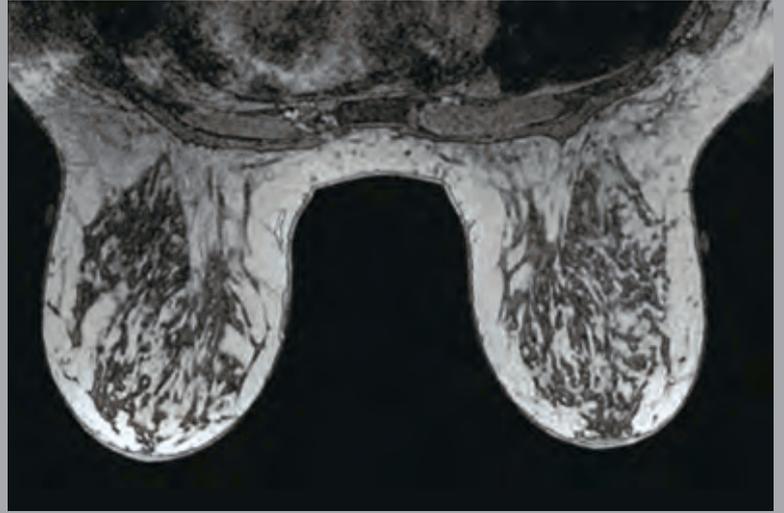
Water only



Fat only



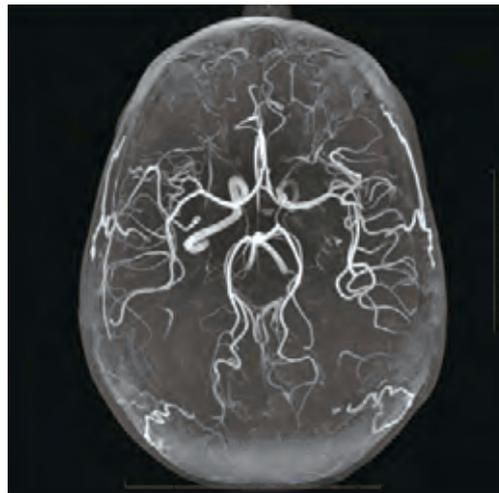
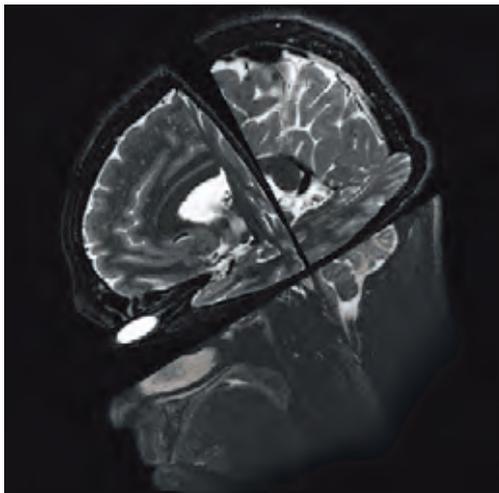
In-phase



Out-of-phase

## Cube™

Reformat sub-millimeter isotropic 3D volume image data from a single Cube acquisition into any plane — with no gaps or loss of resolution. The innovative, self-calibrating parallel-imaging registration technique ARC secures rapid, virtually artifact-free imaging.



## Time of Flight

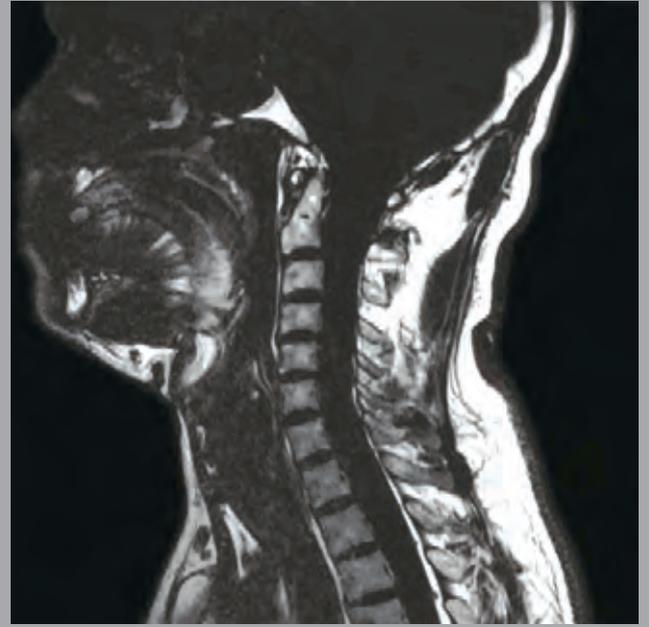
Time of Flight (TOF) imaging on the Discovery MR750 generates better contrast between flowing blood and surrounding tissue and shortens scan time. Images with small vessel detail and subtleties of the blood flow are rapidly captured in high definition with no need for contrast injection — for more confident diagnoses.

## IDEAL

Even in the most challenging areas of anatomy, this unique water and fat separation technique provides consistent, uniform fat suppression virtually every time — from patient to patient, technologist to technologist.



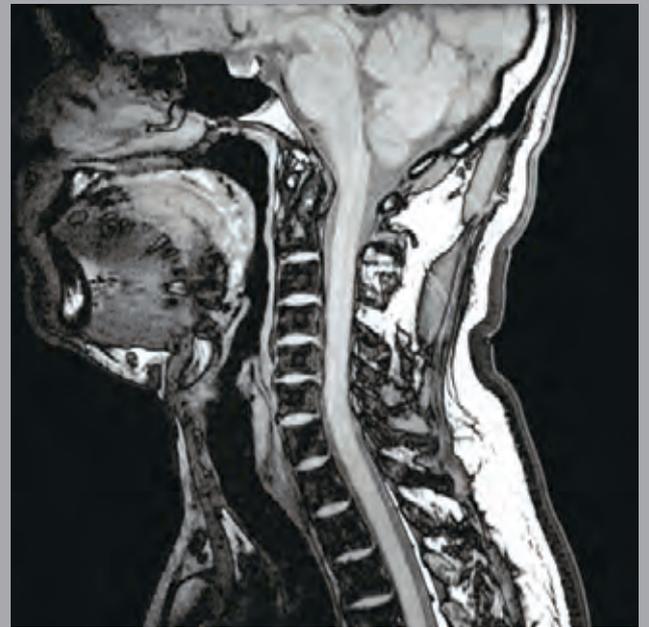
Water only



Fat only

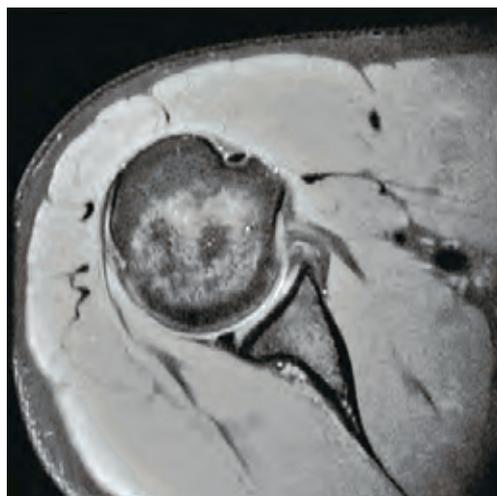


In-phase



Out-of-phase

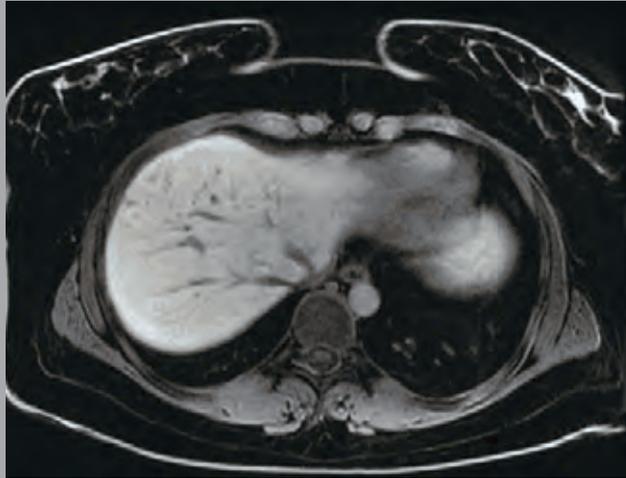
Industry-leading gradient performance and exceptional magnet homogeneity enable high-resolution, off-center musculoskeletal imaging.



## LAVA-Flex

Providing uniform, consistent fat suppression across the entire field of view, LAVA-Flex is a volumetric technique that produces four contrasts in just one acquisition, for confident diagnoses and fewer repeat exams. Its 3D nature allows for multi-plane reformats of exceptional quality.

### Case 1



Water only



Fat only

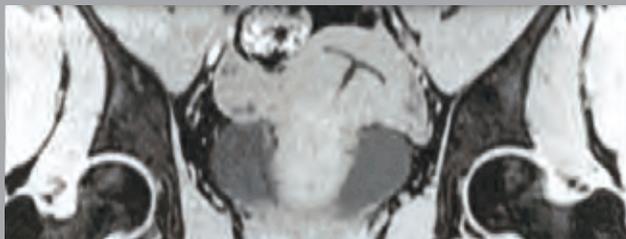


In-phase



Out-of-phase

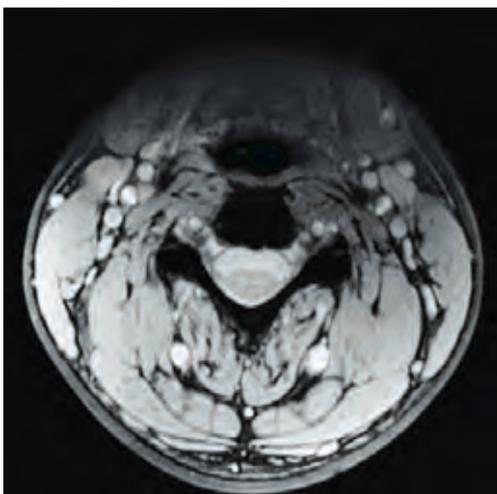
### Case 2



Coronal reformat



Sagittal reformat

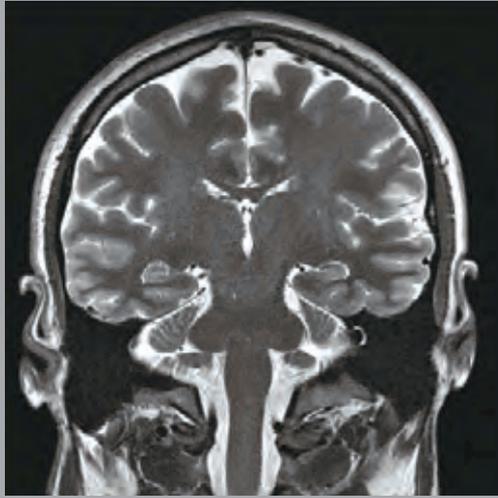
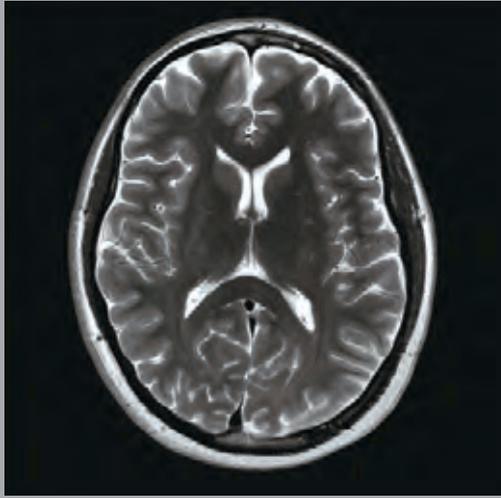


### 3D MERGE

Generate excellent gray-white matter contrast in the spinal cord without sacrificing SNR. This high-definition, 3D application now enables you to do reformats in different planes.

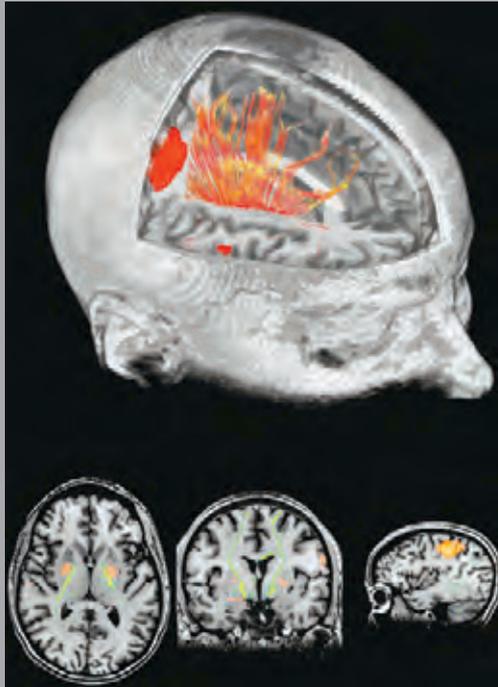
## Multi-Plane PROPELLER 2.0

The Discovery™ MR750 extends the remarkable motion-correction capabilities of PROPELLER 2.0 to all imaging planes. It consistently delivers contrast-rich, motion, and susceptibility artifact-free T2, T2 FLAIR, and DWI images.



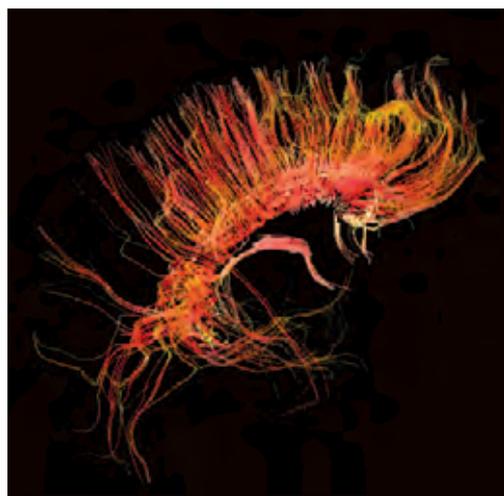
## BrainWave

With a two-fold improvement in overall signal stability, 60% more slices, and more SNR, this suite of functional MRI (fMRI) applications for neurofunctional brain mapping and DTI consistently provides exceptional performance, making the challenging neuro exam routine.



## IDEAL Whole Spine

With its ability to obtain both in-phase and out-of-phase images in one acquisition, IDEAL can be used to scan the entire spine to better identify and locate pathology.



## Diffusion Tensor Imaging (DTI)/FiberTrak

With the Discovery MR750, DTI performance moves to a whole new level with more than twice the slices, alternatively more diffusion directions or shorter scan times. DTI/FiberTrak lets you visualize white matter in the brain as eigenvectors, ADC, fractional anisotropy maps, or 3D fiber tracts projections.

# Start from a position of power.

Powerful magnet. Powerful gradients. Powerful processing.

Stunning new technologies take 3.0T MR imaging to a new level.



Your window on power. The iROC (In-Room Operator Console) gives you convenient control of the system's exceptional technological capabilities.



# 3.0T

## The strongest whole-body gradients.

The gradients — the most powerful in the industry — deliver unmatched 50 mT/m amplitude and 200 T/m/s slew-rate on each axis simultaneously. The result: faster, higher accuracy, and more reproducible scans. A new advanced thermal management system enables up to 60% more anatomical coverage and resolution per unit time compared to conventional designs.



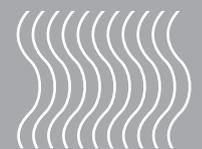
## The 3.0T magnet. Built to last and built to deliver.

The Discovery™ MR750 is built around the third-generation, short-bore, superconducting 3.0T magnet — proven to deliver high homogeneity for excellent results even in large or off-center FOV imaging, fat saturation techniques, and high-performance applications such as cardiac, fMRI, diffusion tensor, and spectroscopy.



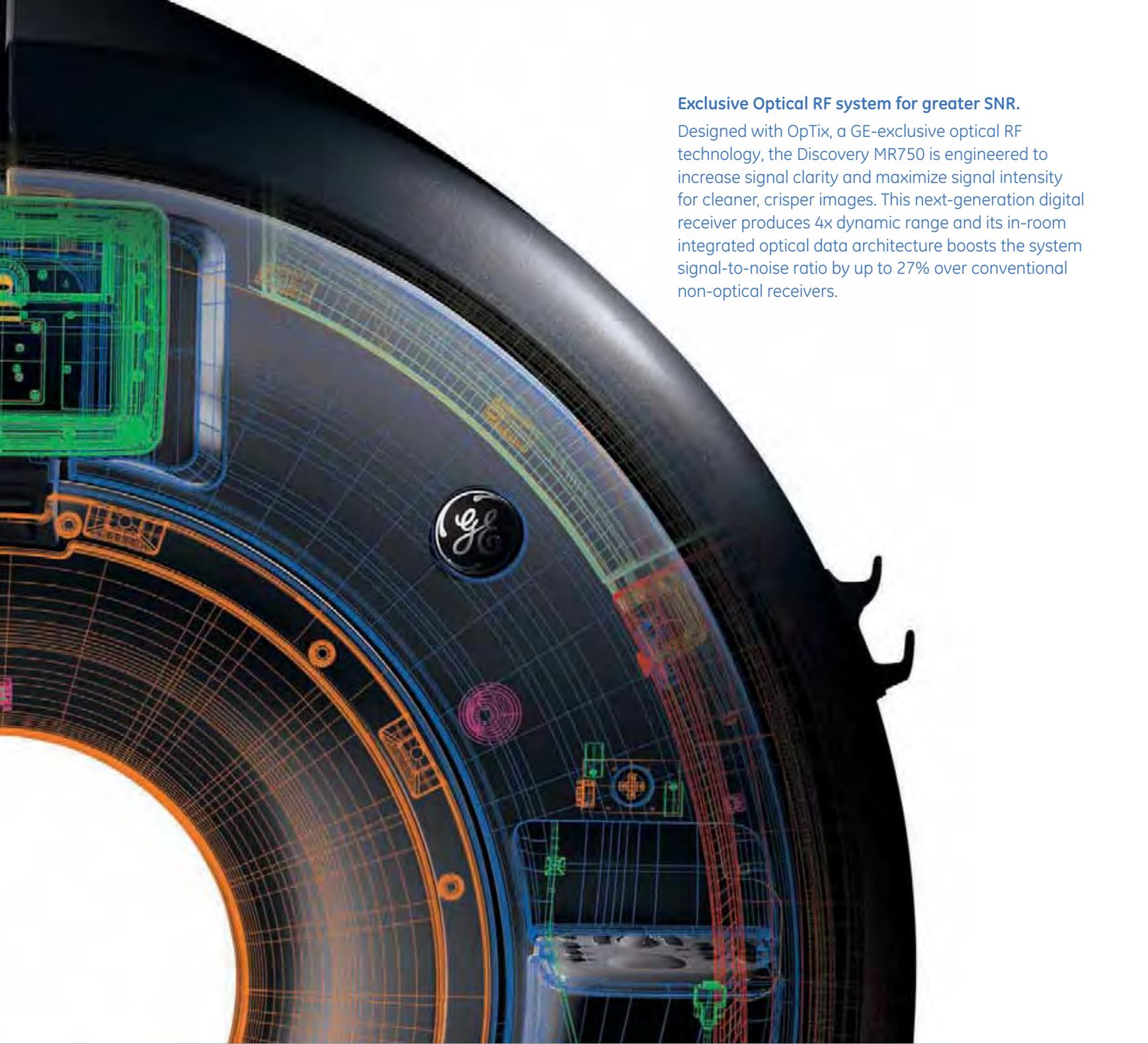
## Higher performance with real-time system optimization.

PERFORM 2.0 automatically fine-tunes system SAR modeling, personalizing it for every patient. It provides up to a 17% gain in scanning efficiency and a proprietary gradient waveform algorithm, managing limitations due to peripheral nerve stimulation (PNS). Push protocol parameters and acquisition speeds to the limit — without risking patient safety or slowing down the system.



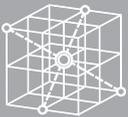
## Unique gradient architecture for faster acquisitions. Heat extraction for fewer slowdowns.

The advanced thermal management system increases reliability five-fold over previous generations of 3.0T systems.



### Exclusive Optical RF system for greater SNR.

Designed with OpTix, a GE-exclusive optical RF technology, the Discovery MR750 is engineered to increase signal clarity and maximize signal intensity for cleaner, crisper images. This next-generation digital receiver produces 4x dynamic range and its in-room integrated optical data architecture boosts the system signal-to-noise ratio by up to 27% over conventional non-optical receivers.



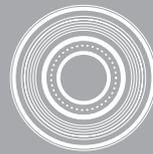
#### Accelerated parallel imaging.

A data-driven parallel-imaging technique, ARC™ utilizes a full 3D data kernel for more accurate reconstruction and improved image quality. It inspires a broader use of parallel imaging by eliminating misregistration errors and related artifacts and is less sensitive to tight fields-of-view. With the Discovery MR750, acquisition times are reduced confidently.



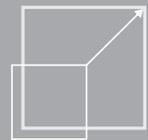
#### Faster reconstructions.

Reconstruction processing gains open the door for data-intensive 32-channel studies once thought impractical on 3.0T MR systems. A powerful volume reconstruction engine enables real-time image generation — even from large, 3D parallel-imaging datasets.



#### Anatomy-optimized RF coils and arrays.

High-density arrays focus coil elements around the anatomy of interest and provide extended coverage where needed, for optimal image quality in every procedure. Open, flexible RF architecture provides you with coil options.



#### Easily scalable for future expansion.

Built on an exclusive data pipeline, the scalable architecture can be expanded to support 128 channels of simultaneous data acquisition.



Faster throughput can mean better ROI and more referrals. Invest in a Discovery™ MR750 and we'll make sure you keep your edge for a long time to come.

# Tilt the field in your favor.

Count on GE to provide your Discovery MR750 with one of the largest, most highly trained service forces in the industry. Rated #1 in Overall Service Performance in the 2007 IMV ServiceTrak™\* MR report, our field engineers are rigorously trained on the unique service capabilities of the Discovery MR750 that help ensure proactive monitoring, reliability, and uptime.

In addition, a wide range of learning tools teaches your imaging professionals how to use the advanced capabilities on the Discovery MR750 with skill and finesse.

Exclusive to GE Healthcare, unique MR Masters Series Physicians Training provides an avenue to learn about the latest MR techniques directly from world-renowned radiologists.

And our exclusive Continuum™ is the promise that you'll outrun obsolescence — with the ability to upgrade your Discovery MR750 to future technology without replacing your magnet.

\*IMV is a leading independent third-party research firm and owner of auntminnie.com.



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## Healthcare Re-imagined

GE is dedicated to helping you transform healthcare delivery by driving critical breakthroughs in biology and technology. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, and biopharmaceutical manufacturing technologies is enabling healthcare professionals around the world to discover new ways to predict, diagnose and treat disease earlier. We call this model of care "Early Health." The goal: to help clinicians detect disease earlier, access more information and intervene earlier with more targeted treatments, so they can help their patients live their lives to the fullest.

Re-think, Re-discover, Re-invent, Re-imagine.

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imagination at work