

GE Healthcare

SIGNA™ Pioneer

Imagine what MR can be.







Amaze

See things way beyond your expectations.

Welcome to the SIGNA Pioneer, named for the many ways it is exploring and expanding what is possible for MR.

By pioneering technology that creates scans sharper than you thought possible ... for more patients per day than you considered possible ... with more comfort and less anxiety than your patients imagined possible.

This is a story of pioneering what are very clear advances with very clear advantages for MR—the story of the SIGNA Pioneer.



SIGNA
Pioneer



Imagine

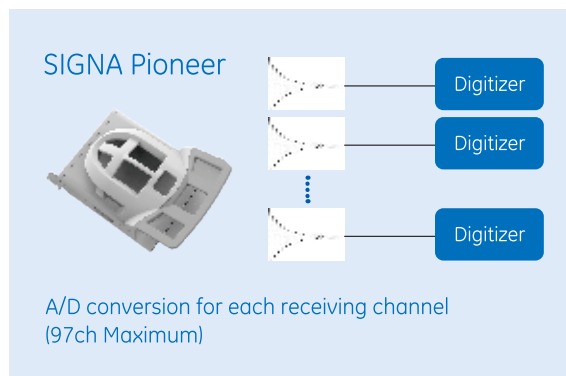
scans sharper than you thought possible.

The SIGNA Pioneer offers startling advances in imaging. Starting with pioneering technology called TDI. It stands for Total Digital Imaging, and it means greater clarity and increased SNR by up to 25%. TDI is built on three fundamental components:

1. Direct Digital Interface (DDI) ... SNR increase up to 25%

DDI employs an independent analog-to-digital converter to digitize inputs from each of 97 RF channels. Every input is captured and every signal digitized, literally redefining the concept of an RF channel. The result? It achieves up to 25% more SNR.

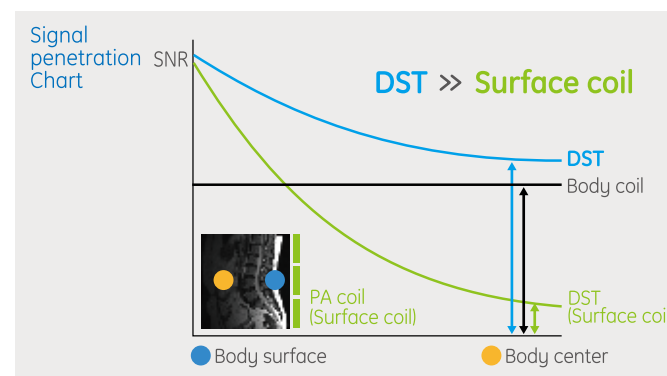
The conversion method to digital signal



2. Digital Surround Technology (DST) ...Homogenization of signal strength

DST combines the digital signal from every coil element with the signal from the integrated RF body coil. The superior SNR and sensitivity of the high-density surface coils are combined with the superior homogeneity and deeper signal penetration of the integrated RF Body Coil. The result is higher quality spine and body images.

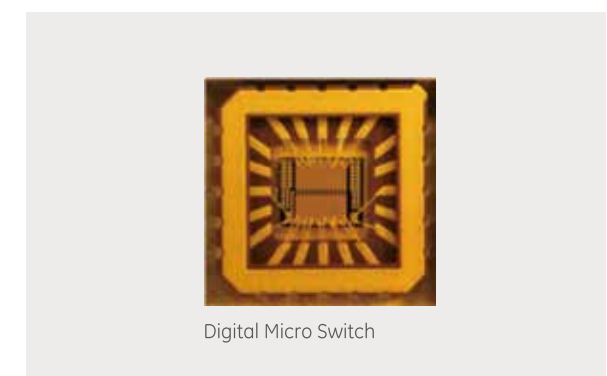
Digital Surround Technology (DST)-concept



3. Digital Micro Switching (DMS) ...For faster RF transceiver

DMS is a new switching technology which features small sized, low energy consumption mechanism that it enables fast switching of the RF signal while limiting the heat generation. It is an indispensable technology to make these expanded functionalities possible.

Digital Micro Switching Technology



MAGiC

MAGiC

Introducing revolutionary technology.

SIGNA Pioneer will lead the change of conventional MRI scanning.

SIGNA Pioneer is all about speed.

Imagine being able to scan one more patient per hour, every hour of every day ... that's the MAGiC (Magnetic Resonance Image Compilation) behind the SIGNA Pioneer's One and Done Imaging.

The wonder of One and Done Imaging.

With One and Done Imaging, you can now capture multiple image contrasts in a single scan.

One scan that you can manipulate in countless ways.

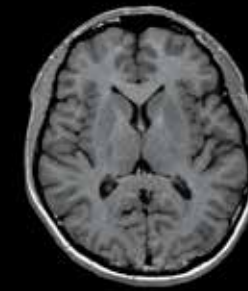
One scan that can do the work of many, with images acquired in as little as one-third the time.

MAGiC Technology

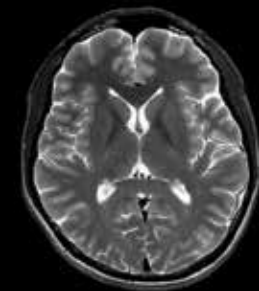
With this revolutionary technique, a single scan generates quantitative T1, T2, STIR, T1 FLAIR, T2 FLAIR and PD weighted images in one-third the total time taken to acquire separate sequences.

And you can change the contrast of the image by manipulating TR and TE values after you have acquired the images.

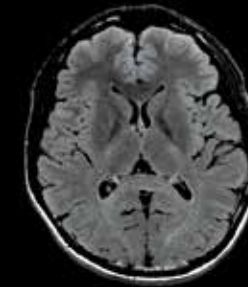
This technology helps ensure that you will not miss any detail in the images and provides you flexibility to view many other contrasts after the exam.



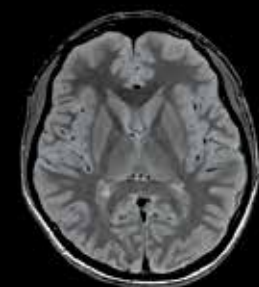
T1W



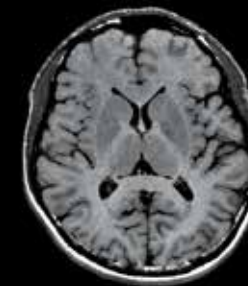
T2W



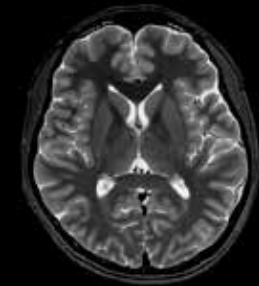
T2 FLAIR



PDW

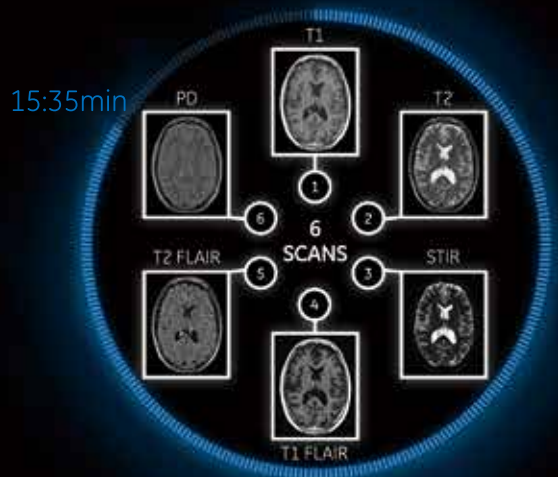


T1 FLAIR



STIR

Conventional

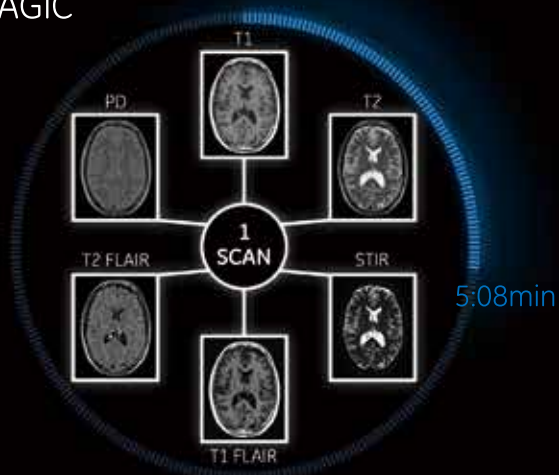


Six scans, one per contrast
Scan time: 15:35 minutes



Imagine trying to photograph a beautiful landscape with six different elements in clear focus. Conventionally, it may require you to capture an individual image of each element separately in order to have the clearest focus possible.

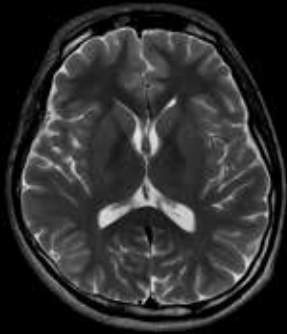
MAGiC



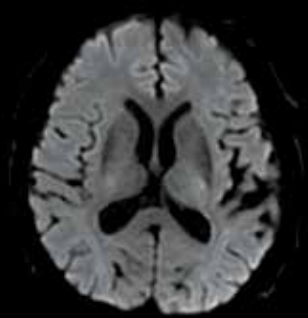
One MAGiC scan delivers six contrasts
Scan time: 5:08 minutes



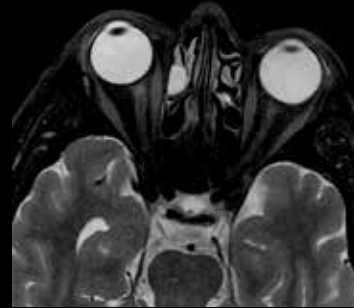
Now imagine if you could capture all six elements of the beautiful landscape all at once, in clear focus.



Brain T2W



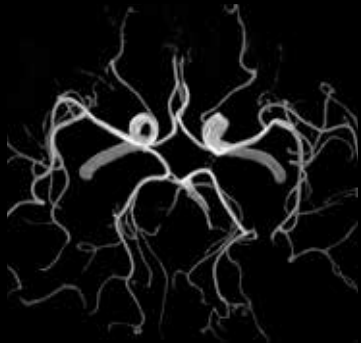
Brain DWI b=1000



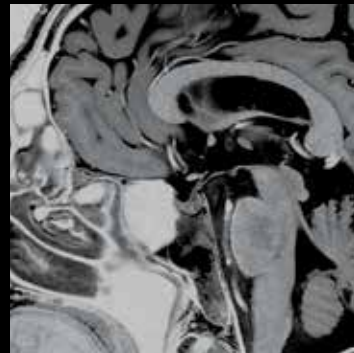
Orbital Region T2W Fatsat



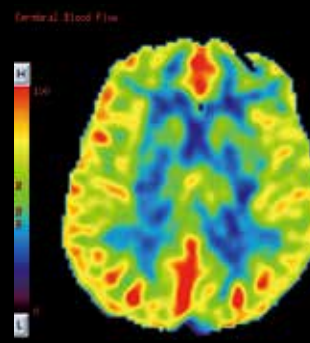
C/T Spine T2W



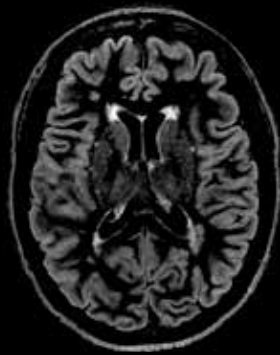
Brain MR Angiography
3DTOF



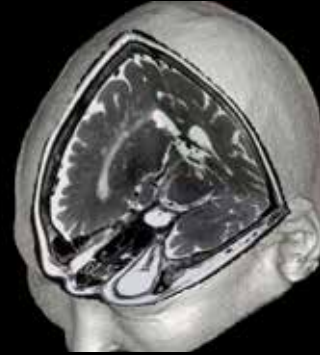
Pituitary Gland
T2W High resolution image



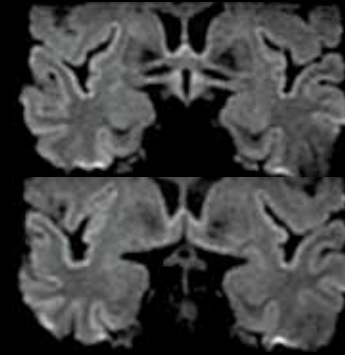
Brain Non contrast Perfusion
3D ASL



Brain 3D Cube DIR



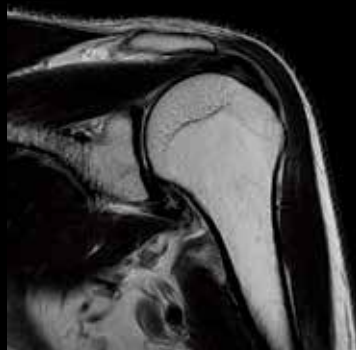
Brain 3D T2W
Cube2.0
(with Advantage Workstation)



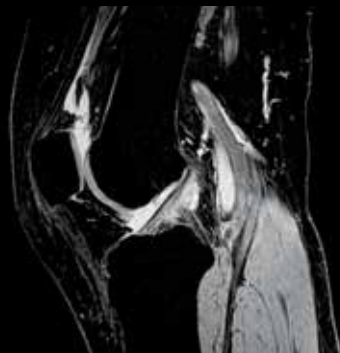
FOCUS DWI
b=1000



L Spine T2W



Shoulder T2W
PROPELLER3.0



Knee 3D T2*
MERGE



Ankle T1W



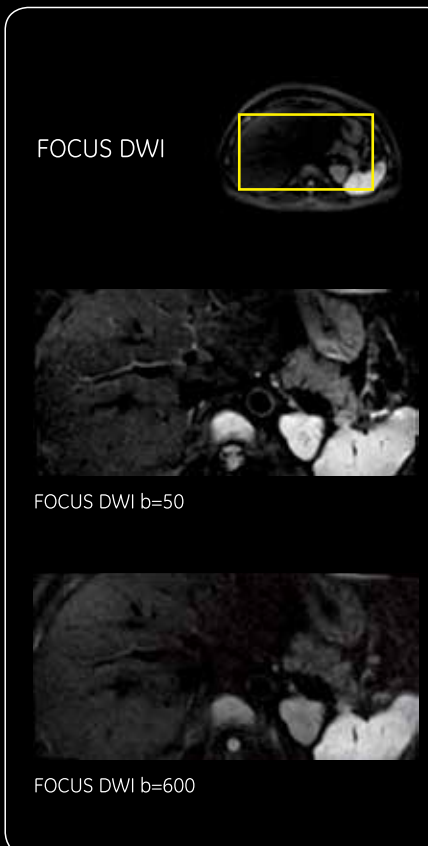
Body T2W Fatsat
PROPELLER3.0



Body T2W Fatsat
PROPELLER3.0



Pelvis T2W
PROPELLER3.0



FOCUS DWI

FOCUS DWI b=50

FOCUS DWI b=600



Breast Axial Dynamics
DISCO 1.6mm/-0.8mm 45s



Lower leg MR Angiography
Inhance 3D Deltaflow

Maximize

To enhance your productivity and economical efficiency.

SIGNA Pioneer helps you reduce scan time using technology such as MAGiC, and improves your efficiency. It also uses a system which enables you to leverage technologies to maximize your productivity and economic advantages.

The newest application platform - DV25

DISCO/Turbo LAVA

Achieves faster dynamic exams with high resolution.

Body Navigator

Provides outstanding image quality in abdominal free breathing exams.

3D PROMO / PROPELLER3.0

Advanced motion correction technology which maximizes consistent high image quality.

MAVRIC-SL*

Artifact reduction technology when imaging anatomies with metallic implants

GE's new application is developed to provide better image quality while also improving the overall scan experience for the patient.

*MR conditional implants

TDI Coil Suite

Our coils are light weight and designed to maximize the efficiency and comfort for the patient.



TDI Head Neck Array coil

- Light weight coil design
- Tilt function
- Open, comfortable design



TDI Posterior Array coil

- Embedded in table
- Delivers maximum coverage of 110cm



TDI Anterior Array coil

- Light weight coil design
- Contoured to the patient



GEM Flex coil

- Light weight, flexible form design
- 3 different sizes
- Positioner supports simple positioning

Designed for Smaller Space & Low Energy

SIGNA Pioneer is developed with the system design that lowers your cost for system siting, and has a very compact footprint that is 25% smaller.*

SIGNA Pioneer uses lower power, and has a 40% Lower PDU rating.*

In addition the unique sleep mode significantly reduces power consumption with all of these features together. SIGNA Pioneer achieves on average 50% lower power consumption.*

* Compared to conventional 3.0T systems





Astonish

Committed to the support of patients.

Signa Pioneer is developed to provide an ideal scan environment and comfort for the patients.

The System has a 70cm wide bore to provide maximum patient comfort.

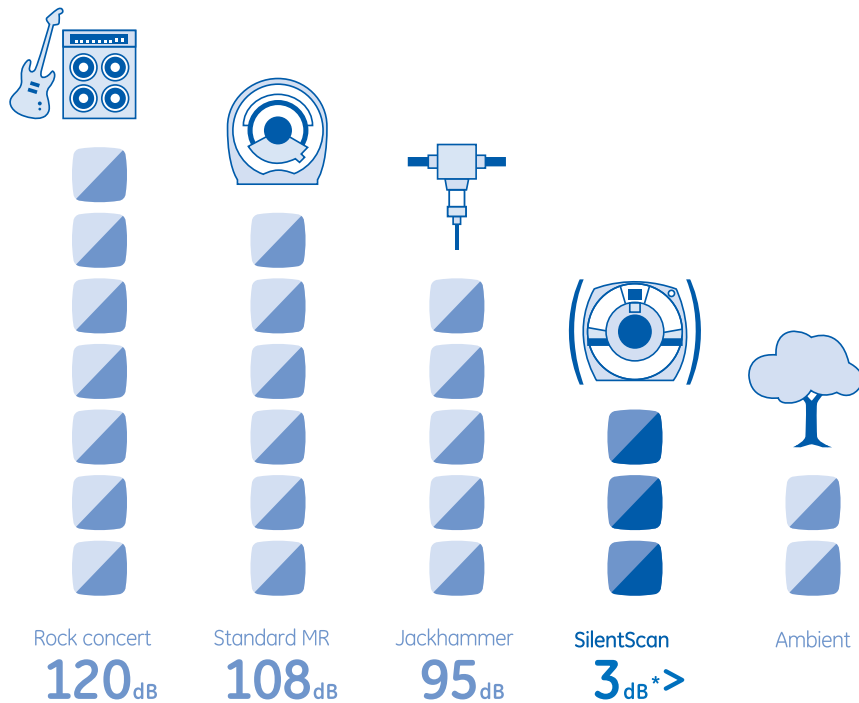
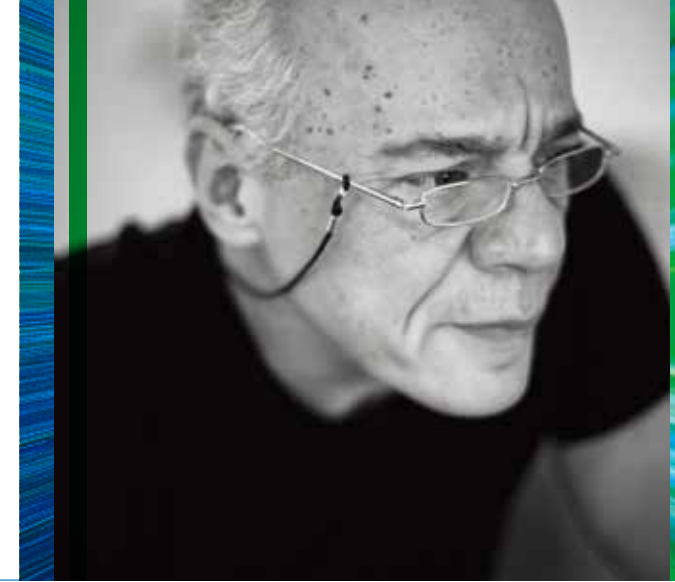
In addition, the width of patient table is a very wide 56cm, which is 30% wider than conventional MRI system.

Our commitment to provide an ideal system design ensures a comfortable exam environment for the patients.

The patient table height can be as low as 52cm, which helps elderly patients transfer safely and comfortably.



- The width of cradle on the table is 56cm... 30% wider than conventional MRI
- Very low table height, only 52cm.



*Above ambient levels; sound measured at isocenter of bore.

SILENT SCAN^{*}

Outstanding imaging performance
and take patient comfort to new levels.

Re-imagine the boundaries of clinical possibility with the extraordinary capability of SIGNA Pioneer. This system can attain new limits in image quality and give your patients a comfortable imaging experience.

- SilentScan, our revolutionary, proprietary technology, shatters industry norms to reduce noise like never before – taking it down to less than 3 decibels above ambient (See diagram for noise comparison).
- TDI technology offers an SNR gain up to 25%, improving image quality & clinical confidence, using a high quality analog to digital signal conversion.
- Advanced applications can speed up workflow for your technologists and make the experience more comfortable for your patients.

SIGNA Pioneer : maximize your clinical performance.

GE Technology



GE Healthcare Japan Head Quarters in Hino



MR Engineer team



MR production lines

GE Healthcare has a strong history of MRI product development, more than 30 years developing unique solutions with state-of-the-art technology by the world class collaboration of Japan and Global design teams.

Fulfilling service support



InSite

InSite™ is GE's advanced remote services technology that can instantly connect your asset with a GE services expert who will attempt to resolve an issue on the spot, often remotely.

If repair is required, a GE service engineer will arrive with detailed knowledge of the problem and equipped to solve it quickly.

Remote Fix

GE can proactively monitor your critical medical equipment, identify potential problems and fix them to avoid unscheduled downtime and cost. It can even capture intermittent faults which can be difficult to observe.

iCenter+

A secure cloud-based asset maintenance and management software application provides data and analytics about asset status, location, maintenance history, utilization, and planning.

TipVA

TipVA on-demand gives you two live remote and interactive ways to learn from expert instructors: either schedule remote training or get answers to your questions by sharing desktop on demand. It's just like having a trainer there with you.

Magnet monitoring.

Through a broadband connection (InSite@BB), always monitors the magnet monitor data of your MR system, and quickly predicts the sign of the trouble such as risk of quench to prevent in advance, before the unlikely event of trouble occurs.

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.

GE Healthcare
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GE imagination at work

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