MRI-SPECS AS INCLUDED IN The NCC BID

GE HEALTHCARE MRI SYSTEM:

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SIGNA Artist 1.5T

S7526GR

SIGNA™Artist1.5T96-ChannelMRSystem

SIGNATM Artist 1.5T from GE Healthcare, fueled by our new SIGNATM Works productivity platform, is a harmonious design of form and function, crafted to energize your productivity, enhance security, improve diagnostics and boost your bottom line.

The Artist configuration includes the system electronics, operating software, imaging software, post-processing software and RF coil suite:

- RF-ReceiveTechnology
- RFCoil Suite
- eXtreme Gradient Technology
- ARTQuiet Technology
- Computing Platform and DICOM

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- eXpress Detachable Table
- SIGNA™Flow and READYView Workflow
- SIGNA™Works Applications Toolkit

Total Digital Imaging: SIGNA™ Artist features the 96-channel Total Digital Imaging RF architecture. This technology delivers images with enhanced clarity and high SNR performance. The TDI RF architecture includes:

- Direct Digital Interface (DDI) employs an independent analog-to-digital converter to digitize inputs from each of the 96 RF channels. Thus, very element translates to a digitized signal to deliver high quality images.
- Digital Micro Switching (DMS) technology represents a revolutionary advance in RF coil design by replacing analog blocking circuits with advanced Micro Electro-Mechanical System (MEMS) based blocking circuits enabling a coil design that supports ultrafast switching times for further expansion of Zero-TE imaging.
- SIGNATM Artist is prepared for Digital Surround Technology (DST). DST delivers the ability to simultaneously acquire signal from the integrated body coil and the surface coil by combining the independently digitized signal from each. 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 to deliver enhance image quality.

RF Coil Suite: The Artist coil suite is designed to enhance patient comfort and image quality while simplifying workflow by ensuring that the geometry of the surface coil matches the geometry of the patient. The suite includes:

- (1) Integrated T/R Body Coil
- (1)T/RHeadCoil
- (1)PosteriorArray
- (1) Head-NeckUnit
- (1) Anterior Array

The Posterior Array is designed to provide optimal element geometry for each targeted anatomy by using different element geometries for the cervical-to-thoracic spine transition, thoracic and lumbar spine, and the body. The PA coil is designed to beused in conjunction withthe HNU, 1 or 2 AA coils combined (2nd is soldseparately), Small AA (sold separately), and the PV Array (sold separately). The PA coil is embedded in the Express detachable table and is invisible to additional surface coils when they are placed directly on top of the surface.

• Elements: 40

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• Length: 100 cm; Width: 40cm

• S/I coverage: 100cm head-first or feet-first

· Parallel imaging in all three scan planes

· Head-first or feet-first positioning

The Head and Neck Unit comprises the head base-plate and three anatomically optimized anterior arrays: the anterior Neuro-vascular array, the anterior cervical spine array, the anterior open-face array. The HNU may be positioned at either end of the Express table to support head-first or feet-first imaging and may remain in place for all body, vascular, spine, and most MSK exams. The HNU base plate supports the patient's head, and the Comfort Tilt variable-degree ramp can be positioned under the HNU base plate to elevate the coil to match the patient's head and neck position.

• Elements: up to 28 combined with PA and AA

• Length: 49.5 cm; Width: 38.8 cm

• Height with NV Array: 35.4 cm

• Height with Cervical Array: 32.6 cm

• Height with Open Array: 25.9 cm

• S/I coverage: up to 50 cm with PA and AA

· Parallel imaging in all three scan planes

· Head-first or feet-first positioning

The Anterior Array is designed for large field of view imaging for chest, abdomen,

pelvis, and cardiac imaging. The AA coil is lightweight, thin and flexible, and pre-formed to conform to the patient's size and shape. With 54 cm of S/I coverage, the AA permits upper abdomen and pelvis imaging without repositioning the coil. In addition, two of AA's can be combined to perform extended coverage for Oncologic imaging.

Elements: up to 36 combined with PA
Length: 55.6 cm; Width: 67.4 cm

• S/I coverage: 54 cm

• R/L coverage: up to the full 50 cm FOV

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- · Parallel imaging in all three scan planes
- · Head-first or feet-first positioning

eXtreme Gradient Technology (XRM): SIGNATM Artist delivers high temporal resolution through 3-axis gradient amplifier power supply and efficient gradient coil design as well as high spatial integrity through excellent magnet homogeneity and gradient linearity over a large FOV. The XRM gradients are non-resonant and actively shielded to minimize eddy currents, and use an innovative digital control architecture design to deliver high fidelity, accuracy and reproducibility.

- Peak amplitude per axis: 44 mT/m
- Up to 200 T/m/s instantaneous peak slew rate per axis
- Peak current & voltage: 830 Amps, 1650 Volts
- Digital PI feedback loop control
- Maximum FOV: 50cm
- Duty Cycle: 100%

Quiet Technology (ART): SIGNA™ Artist features Acoustic Reduction Technology (ART) designed to deliver an enhanced patient experience by significantly addressing both vibrational noise and airborne sound through 5 levels of technology.

- Gradient & RF coil isolation isolates the resonance module from the magnet
- Vibro-acoustic isolation isolated the magnet from the building
- Mass-damped acoustic barriers further mute sound
- Gradient waveform optimization user selectable

Computing Platform: SIGNA™ Artist utilizes a parallel, multi-processor design to enable simultaneous scanning, reconstruction, filming, post-processing, archiving, and networking.

Host PC Platform - Intel Xeon E501620 3.5Ghz (4 core)

- Memory: 32 GB
- Hard Disk Storage: 2x512 GB SSD

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MediaDrives: CD/DVD

Operating System: Scientific Linux

Reconstruction Engine - Intel Xeon E5-2680 (2 x12 core)

• Memory: 96 GB

• Hard Disk Storage: 2 x 400 GB SSD

- 2D FFT/second (256 x 256 Full FOV): 62,000 2DFFT/second

• Operating System: Scientific Linux

The Host PC includes a keyboard assembly with an integrated intercom speaker, microphone, volume controls, and emergency stop switch. Start scan, pause scan, stop scan and table advanced to center hot keys are also included.

DICOM: The SIGNATM Artist generates MR Image, Secondary Capture, Structured Report, and Gray Scale Softcopy Presentation State DICOM objects. The DICOM networking supports both send and query retrieve as well as send with storage commit to integrate with PACS archive. Please refer to the DICOM Compliance Statement for SIGNATM Artist for further details.

SIGNATMWorksclinicalapplications and SIGNATMFloware the latest software platform from GE with core pulse sequences, specialized clinical applications, workflow enhancements and visualization tools designed to enable high productivity with exceptional quality and outcomes with SIGNATM Artist.

SIGNATMFlow is designed tostandardize and accelerate workflow from patient set-up to scanning to review. Workflow can begin before the patient enters the magnet room and exams can be completed within a few mouse clicks – delivering quality and consistencyfor all patients and from all technologists. At the same time, SIGNATMFlow maintains the flexibility needed to rapidly adapt and optimize exams for patient specific situations.

- Express Detachable Table
- IntelliTouch Land-marking
- In-Room Operator Console
- Protocol Libraries & Management Tools
- Workflow Manager & Auto Functions
- . Inline Processing, Networking & Viewing
- ReadyView post processing (on console)

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ExpressDockingTable: The Expresstable is a mobile patient transport device that includes the Posterior RF Array and touch sensitive Intelli Touch land-marking. The fully detachable table is easily docked and undocked by a single operator and simple tomove in an advertise to move in an adversariance of the example of the

- Coil Connection Ports: 3; one at each end; one for embedded PA
- Maximum patient weight for scanning: 500 lbs
- · Maximum patient weight mobile: 500 lbs
- Maximum patient weight for lift: 500 lbs
- 205 cm symmetrical scan range
- · Automated vertical and longitudinal power drive
- · Fast longitudinal speed: 30 cm/second
- Slow longitudinal speed: 0.5 cm/second
- Integrated arm boards & non-ferrous IV pole
- IntelliTouch & laser land-marking
- Laseralignmentland-marking

SIGNATMFlow Modality Worklist delivers an automated method to obtain patient, exam and protocol information from a DICOM work-list server. For sites with full DICOM connectivity, once a patient has been selected from the Modality Worklist, a new session can be started and the In-Room Operator Console will automatically highlight the relevant exam details. The Modality Worklist enables complete control of the MR protocol prescription, but also reduces work by allowing the MR protocol to be selected and linked to the patient record in advance of the patient's arrival.

SIGNATMFlow Protocol Tools enableexam automation while alsogiving theuser complete control of protocols for prescription, saving, searching, and sharing. Protocols are organized into two libraries: GE Optimized (preloaded protocols) and Site Authored (customized and saved). Protocols can be saved based on patient demographics, anatomy, scan type, or identification number for rapid search and selection, and commonly used protocols can be flagged as favorites for quick selection from the Modality Work-list. ProtoCopy enables a complete exam protocol to be shared

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with the click of a mouse and provides a process for managing protocols across multiple systems as well as saving protocols for back-up.

GE protocols provided with the system include Protocol Notes designed to guide the user through the procedure. For special applications, Protocol Notes also include video guides with step-by-step video-based demonstration and instruction. Protocol Notes can be edited by the user to reflect protocol modifications to aid communication among users.

SIGNATM Flow Workflow Manager and Linking: Uponselection aprotocol automatically loads into the Workflow Manager for implementation. The Workflow Manager controls location prescription, acquisition, processing, visualization and networking, and can fully automate these steps, if requested by the user. Once the target anatomy has been prescribed, the Linking feature can be used to translate appropriate parameters to all subsequent series that have been linked, eliminating the need for further action by the user.

Auto Functions when selected can automatically initiate the localizer, coil selection, series-to-series scanning, multi-station scanning, prescription of scan plans for brain exams, as well as delivered instructions to the patient. Pause and Resume allows the user to pause a scan in progress (even in automated mode), to respond to a patient need, and then resume mid-scan (without starting the scan over) helping to address rescans.

Auto Navigators enable free-breathing (respiratory compensated) body imaging for patients unable to breath-hold. The diaphragm tracker pulse automatically places and updates to streamline workflow and eliminate the set-up time associated with respiratory bellows. Auto Navigators can be use with a broad range of imaging techniques including dynamic contrast enhanced T1-weighted imaging.

SIGNATMFlow Inline Processing automaticallycompletes post-processing steps for the user after the images have been reconstructed and saved into the database. For certain tasks, such as vascular segmentation, the user must accept the results, or complete additional steps prior to saving the images to the database. These automated processing steps can be saved to the (scan) protocol to ensure consistent output and workflow:

- · Diffusion weighted series: automatic compute and save
- Diffusion tensor series: automatic compute and save
- eDWI: automatic compute and save
- Image filtering: automatic compute and save
- · Maximum/Minimum Intensity Projection: automatic compute and save
- Pasting: automatic compute and save

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- Reformat to orthogonal plane: automatic compute and save
- T2 mapforcartilage: automaticcomputeandsave
- 3D Volume Viewer: automatic load
- Image Fusion: automaticload
- Interactive Vascular Imaging: automaticload
- · FiberTrak: automatic load
- · Spectroscopy: automatic load

SIGNATH FlowAdvanced Visualization: READYViewisanadvanced visualization tool designed to simplify the quantitative analyses of multiple data sets. READYView automatically selects the most relevant post-processing protocol for the user and provides guided workflow and general assistance for the processing algorithms. In addition, the user can customize workflows with adjustable layouts, personalized parameter settings, and custom review steps. Key capabilities of READYView include the ability to analyze, export and save:

- Time series
- Diffusion weighted series
- · Diffusion tensor series
- · Variable echo series
- Blood oxygen level dependent series (functional data)
- Spectroscopy data (single voxel and 2D or 3D CSI)
- Elastography series

SIGNATMWorks applications tools are designed to complement SIGNATMFlowto standardize and accelerate workflow from patient set-up to scanning to review. The clinical imaging tools are organized to address six clinical areas: NeuroWorks, OrthoWorks, BodyWorks, OncoWorks, CVWorks and PaedWorks.

NeuroWorks delivers applications and imaging options optimized for the challenges of Neuro imaging. Pleaserefer to the product datasheet for SIGNA™Artist for complete details.

- ReadyBrain automated brain exam prescription
- PROPELLER MB motion robust radial FSE now with T1 and Fat Suppression (STIR and ASPIR)
- 3D Cube FSE-based imaging including Dual Inversion Recovery
- 3D COSMIC modified steady state imaging

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- 3D BRAVO IR prepared fast SPGR imaging
- 3D FIESTA and 3D FIESTA-C fast steady state imaging
- eDWI enhanced diffusion with Multi-B value and SmartNEX
- PROBE PRESS singlevoxel spectroscopy
- BrainStat AIF parametric maps
- READYviewandBrainViewpost-processing

OrthoWorks delivers applications and imaging options optimized for the challenges of MSK and Spineimaging. Pleaserefer to the product datasheet for SIGNATMArtist for complete details.

- MARS High Bandwidthdistortion reduction for FSE
- PROPELLER MB motion robust radial FSE now with T1 and Fat Suppression (STIR and ASPIR)
- 3D Cube FSE-based imaging
- 3D COSMIC modified steady state imaging
- 2D/3D MERGE T2* multi-echo fast gradient echo imaging
- READYView post-processing

BodyWorks delivers applications and imaging options optimized for the challenges of Bodyimaging. Please refer to the product data sheet for SIGNA TM Artist for complete details.

- · Body Navigators pencil-beam diaphragm tracker
- PROPELLER MB motion robust radial FSE now with T1 and Fat Suppression (STIR and ASPIR)
- 3D Cube FSE-based imaging
- eDWI enhanced diffusion with Multi-B value and SmartNEX
- 3DLAVAandTurboLAVA withTurboARC andSPECIAL

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- 2DFatSatFIESTAfaststeadystateimaging
- EnhancedSSFSESnapshotimaging
- StarMap T2* iron assessment
- Multiphase DynaPlan
- · SmartPrep automated bolus detection
- · Fluoro Trigger real-time bolus monitoring
- READYView and BodyView post-processing

OncoWorks delivers applications and imaging options optimized for the challenges of

Oncology imaging. Please refer to the product data sheet for SIGNATM Artist for complete details.

- Body Navigators pencil-beam diaphragm tracker
- PROPELLER MB motion robust radial FSE now with T1 and Fat Suppression (STIR and ASPIR)
- 3D Cube FSE-based imaging
- eDWI enhanced diffusion with Multi-B value and SmartNEX
- 3DLAVAandTurboLAVA withTurboARC andSPECIAL
- · Multiphase DynaPlan
- SmartPrep automated bolus detection
- Fluoro Trigger real-time bolus monitoring
- READYView,BrainViewandBodyViewpost-processing

CVWorks delivers applications and imaging options optimized for the challenges of Vascular and Cardiac imaging. Please refer to the product data sheet for SIGNATM Artistforcompletedetails.

- Body Navigators pencil-beam diaphragm tracker
- 2D/3D Time-Of-Flight & 2D Gated Time-of-Flight
- 2D/3D Phase Contrast & Phase Contrast Cine
- · SmartPrep automated bolus detection
- Fluoro Trigger real-time bolus monitoring
- 3D QuickStep automated multi-station imaging
- 2D FIESTA Cine steady-state, gated multi-phase imaging
- 3D FS FIESTA steady-state imaging with Fat Sat

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- 2D/3D IR Prep gated fast gradient echo imaging
- Black Blood SSFSE
- 2D/PS MDE phase sensitive tissue characterization
- MDE Plus tissue characterization with optimized Fat Sat
- CINE IR fast cine gradient echo with IR-prep pulse
- StarMap T2 iron assessment
- READYView post-processing

PaedWorks delivers applications and imaging options optimized for the challenges of Vascular and Cardiac imaging. Please refer to the product data sheet for SIGNA™ Artistforcompletedetails.

- PROPELLER MB motion robustradial FSE nowwith T1 and Fat Suppression (STIR and ASPIR)
- 3D Cube FSE-based imaging including Dual Inversion Recovery
- 3D COSMIC modified steady state imaging
- 3D BRAVO IR prepared fast SPGR imaging
- 3D FIESTA and 3D FIESTA-C fast steady state imaging
- eDWI enhanced diffusion with Multi-B value and SmartNEX
- PROBE PRESS singlevoxel spectroscopy
- · Body Navigators pencil-beam diaphragm tracker
- 3DLAVAandTurboLAVA withTurboARC andSPECIAL
- Black Blood SSFSE
- StarMap T2 iron assessment
- · BrainStat AIF parametric maps
- READYviewandBrainViewpost-processing

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SIGNA Artist 1.5T Magnet Design

To improve the patient experience and provide high image quality, no other component of an MRI system has greater impact than the magnet. The Artist system features a short, wide bore magnet that delivers a large field of view. The magnet geometry has been optimized to reduce patient anxiety by providing more space in the bore and more exams with the patient's head outside of the magnet. The 50cm field of view provides uniform image quality and can reduce exam times since fewer acquisitions may be necessary to cover large areas of anatomy. Complemented by GE's active shielding technology, the Artist has very flexible installation specifications to provide easy siting. And with zero-boil-off magnet technology, helium refills are effectively eliminated, thus reducing operating costs and maximizing uptime.

Magnet:

- Manufactured by GE Healthcare.
- Operating field strength 1.5T (63.86 MHz).
- Active magnet shielding.
- Zero boil-off Cryogens.
- Magnet length 145cm.
- Patient Aperture 76 cm.
- Patient Bore Diameter 70cm.
- · Patient Bore Length 105cm.
- Maximum Field of View 50 cm x 50 cm x 50 cm.

Magnet Homogeneity: Typical ppm and Guaranteed ppm shown.

- 10cmDSV0.007and0.02.
- 20cmDSV0.035and0.06.
- 30cmDSV0.11and0.18.
- 40cmDSV0.5and0.7.
- 45cmDSV1.2and1.6.
- 50x50x45cm2.3and3.6.

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50cm DSV 3.3.

DSV = Diameter Spherical Volume. Homogeneity for an elliptical volume of 50cm (x,y) by 45cm (z) dimension volume is shown for reference. Fringe field (axial x radial):

- 5 Gauss = 4.0 m x 2.5 m.
- 1 Gauss = 6.2 m x 3.7 m.

Quiet Technology:

GE has implemented Quiet Technology on critical components of the Optima MR system to reduce acoustic noise and improve the patient environment. This technology enables full use of the eXtreme Gradient Platform for excellent image quality, while maintaining a safe environment for the patient. The technology

encompassesthegradientcoil, RFbodycoil, andmagnetmounting.

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SIGNA Artist 1.5T Dock and Switch Collector

The Dock and Switch collector provides the interface between the magnet and Express Patient Table with IntelliTouch. Alsoincluded is the RF signal switching hardwarethat routes the input signals to the respective OpTixreceivers.

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Preinstallation Collector and Cable Concealment Kit

The Preinstallation Collector delivers to the site in advance of the magnet and main electronic components. This facilitates the later delivery and installation of supporting electronics. The following are the main components in the Preinstallation collector:

- Heat exchange cabinet for distribution of chilled water.
- Primary Penetration wall panel for support of the penetration cabinet.
- Secondary Penetration wall panel for support of gradient filters, helium cables, and chilled air and water.
- Helium cryocooler hose kit.

The Cable Concealment Kitaccommodates awide-range of scan room ceiling heights and is designed to provide a clean-look installation by concealing the overhead cabling from view.

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1.5T Calibration Phantom Kit

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			This 1.5T calibration kit contains a large volume shim phantom, a daily quality assurance phantom, an echo-planar calibration phantom, and the associated loader shells.
6	1	M7000VA	Vibroacoustic Dampening Kit
			Material in the Vibroacoustic Dampening Kit can significantly attenuate the transmission of gradient-generated acoustic noise through the building structure to nearby areas, including adjacent rooms and floors above or below the MR suite. If this kit is applied during the installation of a new magnet, no additional service charges are necessary. However, installation of the Vibroacoustic Dampening kit under an existing magnet requires special steps. The steps to prepare the site and steps to install, such as modifications to the RF screen room, and other magnet rigging, modifications to the RF screen room, and other finishing work, are not covered in the pricing.
7	1	M7006CF	Artist I.5T Cable Collector - A
	1	M7000YS	Gradient Cable Collector - A
9	f i	M7000WL	Main Disconnect Panel
			The Main Disconnect Panel safeguards the MR system's critical electrical components, by providing complete power distribution and emergency-off control.
10	ľ	M3335CA	Calibration Kit Phantom Holder Cart
11	I	M1000MW	Operator's Console Table
			Wide table designed specifically for the color LCD monitor and keyboard.
12	l	M3335JZ	English Keyboard
			Required for our operator console. This keyboard is ergonomically designed to keep your staff comfortable even through the longest shifts. The scan control keyboard assembly has an intercom speaker, microphone, volume controls and emergency stop switch.

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Standard Service License

GE Healthcare has reclassified its service tools, diagnostics and documentation into various classes (please refer to the Service Licensing Notification statement at the beginning of this Quotation). The Standard License provides access to service tools used to perform basic level service on the Equipment and is included at no charge for the warranty period.

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CardioWorks XT Package

- 3DHeart
- TimeCourse
- Tagging
- FOCUS

3DHeartisa3DFat Sat FIESTAsequence (Optimizedfor 1.5T) or 3DIRPrep FGRE sequence (Optimizedfor 3T) that provides whole-heart coveragefor coronary artery imaging or cardiac chamber imaging. It employs a T2 preparation pulse at 1.5T to provide myocardial suppression for better coronary visualization. A multi-slab localizer allows easy whole-heart prescription, and increase inflow effect for high vessel conspicuity. A navigator echo pulse that detects motion of the diaphragm is utilized to enable free breathing acquisition. The navigator has been optimized to improve robustness, and employs prospective real-time motion correction to improve motion suppression and increase scan efficiency. The multi-slab acquisition minimizes the effect of respiratory drift and heart rate variability on image quality. An optimized phase ordering and steady state preparation has also been used to improve CNR and SNR.

As this sequence supports 3D IRPrep FGRE acquisition mode on both 1.5T & 3T, it can also be used for 3D MDE acquisition. With the purchase of 3D Heart, 3 additional options (3D MDE, Cine IR and Cardiac Navigator) would be included.

CinelRisaconventionalECG-gated, gradientrecalledechoFASTCARDorFASTCINE acquisition sequence with an inversion recovery (IR) preparation. A single adiabatic inversion pulse is generated upon detection of the cardiac R-wave to trigger the multi-phase readout. Each image (i.e., cardiac phase) is at a progressively longer TI time; up to 30 TI times can be captured. Cine IR can be used to approximate the myocardial null point for a subsequent delayed enhancement (MDE) study for myocardial viability.

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FGRETime Course: Fast Gradient Recalled EchoTime Courseis a Fast Gradient-echo time-course imaging sequence that utilize single-echo acquisition to reduce sensitivity to echo mis-alignment or system calibration variations, resulting in robust image

quality with ghosting and artifact reduction. ASSET parallel imaging and shortened RF pulse design are incorporated to improve temporal resolution and reduce motion related artifacts. In addition to selective notch pulse, it also supports non-selective saturation pulse for excellent background suppression and multi-plane imaging capability.

With Cardiac Tagging, an even distribution of spatial saturation lines are applied across the myocardium in the FastCINE Gradient Echo pulse sequence to enable cardiac wall motion assessment. Cardiac Tagging allows the application of 1D diagonal stripes or 2D grid saturation pulses once per R-R interval immediately following the R-wave trigger. Resulting images demonstrate motion (or lack of motion) effects.

FOCUS delivers a highly efficient method for increasing the resolution in Single Shot DW EPI sequences. The outcome delivers robust high resolution results whileremoving artifacts typically induced from motion, image backfolding or unsuppressed tissue. In addition, with the higher efficiency of the application, the reduced field of view imaging leads to a reduction in blurring that translates into an overall improvement to the image quality result. The sequence utilizes 2D selective excitation pulses in DW-EPI acquisitions to limit the prescribed phase encoded field of view at both 1.5T and 3.0T field strengths.

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PaedWorks XT Package

- DTI
- FiberTrak
- IDEAL&Flex
- Flex for FSE Cube
- FOCUS
- SWAN2.0
- 3DHeart
- Inhance Suite

Diffusion Tensor imaging (DTI) creates contrast based on the degree of diffusion anisotropy in cerebral tissues such as white matter. The DTI method expands Echo planar imaging capability to include diffusion imaging sequence using motion sensing gradient pulses along 6 to 155 orientations in order to generate tensor component images. With the Express Worldlow, fractional

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anisotropy (FA) and Volume Ratio Anisotropy (VRA) maps may be automatically created after image acquisition without any user intervention.

FiberTrak: White matter tracts and tissues with high fractional anisotropy are easily displayed and visualized in the 3D Volume Viewer with FiberTrak. This host computer post processing tool expands the capability of Diffusion Tensor imaging by generation of 2D color orientation maps, 2D eigenvector maps, and 3D tractography maps from the diffusion tensor image data. The resulting datasets may be easily saved and archived for later use.

IDEAL and Flex: Generate consistent tissue contrast and reduce the number of series in an exam with DEAL. The IDEAL acquisition and reconstruction methods can generate a water-only, fatonly, in-phase and out-of-phase data sets for clear tissue differentiation in a single series. In addition, susceptibility artifacts common to MR imaging such as incomplete or inaccurate fat saturation, and chemical shift can be eliminated as well. The IDEAL application acquires multiple echoes and uses unique reconstruction routines to generate thefour image contrasts and correct for errors due to tissue susceptibility.

IDEAL is ideally suited for imaging anatomical regions such as the brachial plexus, neck, spine, chest, foot, ankle, and axilla where inhomogeneous magnetic fields may yield failures with traditional fat saturation techniques. IDEAL is compatible with Fast Spin Echo, 3D Gradient Echo and parallel imaging.

For fast T1w multi-phase imaging of the abdomen and pelvis, LAVA Flex acquisition uses 2D ARC parallel imaging to reduce artifacts from breath hold misregistration and incorrect FOV placement while providing up to four types of T1w-based tissue contrasts: water-only, fat-only, in-phase and out-of-phase. LAVA Flex requires LAVA which is included in.

For fast T1w multi-phase imaging of the breast, VIBRANT Flex acquisition uses 2D ARC parallel imaging to enable higher acceleration factors over ASSET parallel imaging, and reduce artifacts from breath hold misregistration and eliminates artifacts due to incorrect FOV placement, while providing up to four types of T1w-based tissue contrasts: water-only, fat-only, in-phase and out-of-phase. VIBRANT Flex requires VIBRANT, which must be purchased separately.

The IDEAL method is compatible with ASSET and ARC parallel imaging and is optimized based on the anatomy of interest.

FSEand Cube Flexdeliversenhancedfatnulledimagingwithanefficienttwoechoflex approach toseparatewaterandfatsignals. Outputting 4 images/slice: Fat, Water, In

andOpposedphase.

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FOCUS delivers a highly efficient method for increasing the resolution in Single Shot DW EPI sequences. The outcome delivers robust high resolution results whileremoving artifacts typically induced from motion, image backfolding or unsuppressed tissue. In addition, with the higher efficiency of the application, the reduced field of view imaging leads to a reduction in blurring that translates into an overall improvement to the image quality result. The sequence utilizes 2D selective excitation pulses in DW-EPI acquisitions to limit the prescribed phase encoded field of view at both 1.5T and 3.0T field strengths.

SWAN(alsoknownas SWAN2.0for DVplatforms) isahigh-resolution 3Dmulti-echo gradient echo sequence that produces weighted averaging across images with different TEs to achieve higher susceptibility weighting. It provides minimum intensity projections over neighboring slices, enhancing contrast for certain tissues containing iron, venous blood, and other substances with susceptibilities that are different than the background tissues. SWAN 2.0 (DV platforms only), outputs an unwrapped phase image leading to increased delineation between calcium products and paramagnetic products (such as blood or iron) to further increase the clinical value of susceptibility imaging. Due to the nature of the weighted averaging of the multi-echo sequence, the SNR of SWAN is higher than that of a single-echo acquisition. SWAN 2.0 helps visualize and delineate small vessels, as well as large vascular structures and iron or calcium deposits in the brain.

3DHeartisa3DFat Sat FIESTAsequence (Optimizedfor 1.5T) or 3DIRPrep FGRE sequence (Optimizedfor 3T) that provides whole-heart coveragefor coronary artery imaging or cardiac chamber imaging. It employs a T2 preparation pulse at 1.5T to provide myocardial suppression for better coronary visualization. A multi-slab localizer allows easy whole-heart prescription, and increase inflow effect for high vessel conspicuity. A navigator echo pulse that detects motion of the diaphragm is utilized to enable free breathing acquisition. The navigator has been optimized to improve robustness, and employs prospective real-time motion correction to improve motion suppression and increase scan efficiency. The multi-slab acquisition minimizes the effect of respiratory drift and heart rate variability on image quality. An optimized phase ordering and steady state preparation has also been used to improve CNR and SNR.

As this sequence supports 3D IRPrep FGRE acquisition mode on both 1.5T & 3T, it can also be used for 3D MDE acquisition. With the purchase of 3D Heart, 3 additional options (3D MDE, Cine IR and Cardiac Navigator) would be included.

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CineIRisaconventionalECG-gated,gradientrecalledechoFASTCARDorFASTCINE acquisition sequence with an inversion recovery (IR) preparation. A single adiabatic inversion pulse is generated upon detection of the cardiac R-wave to trigger the multi-phase readout. Each image (i.e., cardiac phase) is at a progressively longer TI time; up to 30 TI times can be captured. Cine IR can be used to approximate the myocardial null point for a subsequent delayed enhancement (MDE) study for myocardial viability.

The Inhance Suite application consists of several sequences designed to provide high-resolution images of the vasculature with short-acquisition times and excellent vessel detail. These sequences include: Inhance Inflow IR: Inhance Inflow IR is an angiographic method, which has been developed to image renal arteries with ability to suppress static background tissue and venous flow. This sequence is based on 3D FIESTA, which improves SNR, as well as produce bright blood images.

Inhance 3D Velocity: Inhance 3D Velocity is designed to acquire angiography images in brain and renal arteries with excellent background suppression in a short scan time. By combining a volumetric 3D phase contrast acquisition with parallel imaging, efficient k-space traversal, and pulse sequence optimization, Inhance 3D Velocity is capable of obtaining complete Neurovascular imaging in 5-6 minutes.

Inhance 3D Deltaflow is a 3D non-contrast enhanced MRA application for peripheral arterial imaging. Inhance 3D Deltaflow is based on the 3D Fast Spin Echo technique and it utilizes the systolic and diastolic flow differences to help generate arterial signal contrast. A subtraction of the systolic phase from the diastolic phase images results in arterial only images, with venous and background suppression.

Inhance 2D Inflow: The Inhance 2D Inflow pulse sequence is designed to acquire angiography images of arteries, which follow almost a straight path, i.e. femoral, popliteal, carotid arteries, etc.

1 M7000PF

16.

MAVRICSL

MAVRIC SL is an advanced magnetic resonance imaging technique for imaging soft tissue and bone near MR conditional metallic devices. MAVRIC SL is designed to greatly reduce susceptibility artifacts, compared to conventional fast spin echo techniques, and is suitable for use on all patients cleared for MR exams.

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1 M7000CB

TRICKS

TRICKS (Time Resolved Imaging of Contrast KineticS) provides high resolution

multi-phase 3D volumes of any anatomy for fast accurate visualization of the vasculature. With segmented complex data recombination, TRICKS can accelerate 3D dynamic vascular imaging without compromising spatial detail. TRICKS also uses elliptic centric data collection for optimized contrast resolution and auto-subtraction for optimized background suppression. The result is time course imaging that does not require timing or triggering, provides high temporal and high spatial resolution, and enables the extraction of optimum phases of data. As a result, TRICKS enables reliable, high quality vascular imaging.

TRICKS is compatible with surface coils and supports parallel imaging for even higher temporal resolution.

18.

1 M7000EZ

Flow Analysis 4.0

Flow Analysis automates the review and analysis of gated phase contrast magnetic resonance (MR) images and generates a report for the referring physician. This version is available on the host computer.

Flow Analysis has an automated edge detection algorithm that propagates through all the phases of the cine phase contrast series.

The flow analysis measurement tab displays a summary chart of peak velocities in addition to individual velocity results from each phase of the cardiac cycle. A background correction may also be applied which is particularly suited to slow flowing fluid such as cerebrospinal fluid.

Customizable Macros are a feature of Flow Analysis 4.0. These Marcos allow the user to quickly write a report specific to the patient being assessed with simple mouse clicks. The macros are customizable to reflect the language used by the reporting physician.

Flow Analysis offers the capability to archive reports or cine images as seen in a DICOMformat sotheymaybeviewed on any DICOM viewer.

19.

1 M7006AF

HyperSense

HyperSense provides a scan time reduction technique while maintaining SNR through an innovative data compression algorithm for 3D based Cube and ToF sequences.

20.

1 M7006BH

CMR42 Stand-Alone- 1 User

CMR42 stand-alone cardiac processing. Including routine cardiac function, flow, delayed enhancement and T1, T2 and T2* mapping in an efficient user environment.

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21.

1 M7006CA

1.5T 16ch Shoulder Array by Invivo

The Shoulder Array is a rigid shell with anterior adaptable paddle which delivers 16 channel performance optimized for high resolution shoulder imaging with lateral coverage to ensure large field of view imaging.

22. | M7001NL

1.5T 16-channel T/R Knee Array

The 16-channel Knee Array is a transmit/receive coil that produces high resolution images of the knee and is optimized for parallel imaging in all three directions to reduce acquisition times.

23. I M7000SC

1.5T Flex Suite, Standard

The Flex Suite is a versatile set of high density I 6-channel receive coils designed to give high quality images in a wide range of applications. The high degree of flexibility is particularly advantageous when imaging patients that do not fit the constraints of rigid coils, improving the patient and technologist experience. The size and shape of the elements in each flex coil have been optimized for high SNR and parallel imaging for the volume embraced by the coil.

This Standard set provides the Medium and Large flex coils, and a knee stabilization fixture. With these two coils and the included accessories, this suite covers a broad range of musculoskeletal applications, including hand, wrist, elbow, shoulder, hip (unilateral and bilateral), knee, ankle, and foot. In addition, the coils' versatility has been shown in a range of general purpose applications that include head, neck, and spine exams.

Includes:

- 1.5T Flex Coils Medium and Large Arrays.
- 1.5T Flex Interface Module 16-channel Fixed, P-Connector.

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- Flex Knee Stabilization fixture for flat table.
- Flex GP Strap and Interface Module Cover.
- Flex Cable Take-up Pad and General Purpose Stabilization Pad.

24.

1 M7005BE

Flex Array Positioner

The Flex Array Positioner is a multipurpose support for a broad range of exams including foot, ankle, forefoot, knee, and head. A dedicated forefoot attachment allows the flex array elements to be wrapped tightly around the foot, yielding improved image quality. A repositionable support pad in the foot and ankle attachment allows for selection of a 90 degree position, or a relaxed position of the ankle. The pads and

straps included with the stabilizer facilitate rapid setup and allow for flexibility in how the anatomy is secured.

25.

1 E8912CB

GE Optima MR450w Heat Exchangers -49kW(20Tons)

Cooling for your GE Healthcare MR system has never been so easy. GE Healthcare has partneredwiththe GlenDimplexGroup, aworld leader in cooling systems, to offer heat exchangers designed to meet the needs of your MR System. Now you can look to GE Healthcare for your entire MR purchase and support.

This heat exchanger is highly reliable and the only unit verified to perform with the new platform of GE
Healthcare MR systems. As part of your integrated GE
Healthcaresolution, you'll work with a single contact throughout the whole installation. A Project Manager of Installation will help with building layout, room designs, delivery and installation - every step until your system is ready to scan. Our team will work seamlessly with architects, contractors and your internal team to help ensure timely, cost-effective completion.

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Once your cooling system is running, you'll get fast, highly-skilled service support managed through GE Healthcare - with the same quality and response time you expect from your MR system.

FEATURESANDBENEFITS

o Designed to provide stable fully dedicated cooling for your MR system's needs

o Water/glycol outdoor-air-cooled heat exchangers to support your highest exam volumes and your full range of diagnostic procedures o Redundant fluid pumps with automatic switchover let you keep operating with no loss of cooling even if one pump goes down o Quad compressor, dual tandem refrigeration circuit design saves on energy while your system smoothly transitions through the 10% to 100% heat load capacity cycles of patient scanning and idling o Quiet operation between patient exams and overnight - ideal for facilities in residential areas o Comes with installation support, installation visits, preventative maintenance visit and I full year of parts and labor warranty o Installation support includes: support through GE's Project Manager of Install, GE's

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Design Center, technical support from the Glen Dimplex company, two (2) installation visits o Comprehensive and quality service rapidly delivered through our CARES service solution o 65 gallons of 100% glycol concentrate for complete system filling and diluting o Wall mounted remote display panel provides the ability to monitor the system's operation and indicates possible system errors o Filter kit with flow meter helps to ensure purity of water prior to entry to the MR system o Rust inhibiting configuration specifically designed to deal with corrosive environments

typical within 10 miles of coastline

o Highly recommended that Vibration Isolation Spring Kit (E8911CJ) be added for systems that will be roof top mounted

SPECIFICATIONS

- o Net Cooling Capacity: 49 kW / 20 Ton
- o Maximum Coolant Flow: 35 gpm (132 l/m)
- o Coolant Outlet Temperature: 48 F (8.9 C) o

Coolant Temp Stability: E I.8 F (EI.0 C)

- o Max Coolant Pressure: 70 Psi (4.8 Bar)
- o Refrigerant: R407C
- o Ambient Temp Range: -20 to 120 F (-30 to

50C)

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