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Discovery MR750w 3.0T GEM MR System EX Platform

Discovery MR750w 3.0T GEM MR System EX Platform

The Discovery MR750w 3.0T GEM MR system from GE Healthcare is designed to deliver a comfortable patient-friendly environment while also delivering uncompromised clinical performance and streamlined workflow.

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

- eXtreme Gradient Technology
- Acoustic Reduction Technology
- OpTix RF Receive Technology
- Multi-Drive Transmit & PERFORM 2.0
- Volume Reconstruction Engine
- Computing Platform and DICOM
- GEM Express Patient Table GEM Suite - Expert Coil Package
- Express 2.0 Workflow
- ScanTools and EX Tools
- Silent Suite with 3D MRA

eXtreme Gradient Technology: The Discovery MR750w GEM 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. In addition, 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
- Peak current & volts: 830 Amps, 1650 Volts
- Digital PI feedback loop control
- Maximum FOV: 50cm
- Duty Cycle: 100%

Acoustic Noise Reduction Technology: The Discovery MR750w GEM system features five levels of acoustic reduction technology to deliver an enhanced patient environment.

- Gradient and RF coil isolation
- Acoustic dampening material
- Vibro-acoustic isolation
- Gradient waveform optimization

OpTix RF Receive Technology: The OpTix RF receive chain enables high bandwidth, high channel count reception with improved SNR over conventional MR receiver designs. The MR signal is digitized within the scan room and then optically transmitted to the reconstruction engine in the electronics room increasing SNR for all volume acquisitions.

- Coil input ports: 138
- Simultaneous channel/receivers: 32
- Receiver sampling per channel: 80 MHz
- Receiver dynamic range at 1 Hz BW: >165 dB
- Receiver resolution: up to 32 bits
- Digital quadrature demodulation

RF Transmit Technology: The Discovery MR750w GEM system integrates an innovative RF transmit architecture designed to enhance overall image uniformity, and a multi-faceted SAR optimization system.

The MultiDrive RF architecture adjusts/optimizes the phase and amplitude of each RF amplifier output channel that is applied to the 4-port drive whole-body RF transmit coil to enhance RF uniformity and signal homogeneity regardless of patient size and body habitus.

PERFORM 2.0 combines RF body coil design, optimized pulse sequences, detailed predictive SAR modeling during prescription, and real-time SAR feedback and correction during scanning to help ensure high performance across all applications, tailored for each patient.

Computing Platform: The Intel Xeon Nehalem Dual Core Processor computing platform utilizes a parallel, multi-processor design to enable simultaneous scanning, reconstruction, filming, post-processing, archiving, and networking. The keyboard assembly integrates an 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.

- 8GB DDR3 Memory
- 146GB SAS disk subsystem
- 24" flat panel LCD with 1920x1200 resolution
- Single tower configuration
- DVD interchange

DICOM: The Discovery MR750w GEM system 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.

M7000NC (1 unit included in S7525AB) GEM Express Patient Table with IntelliTouch: The GEM Express table is a mobile patient transport device with an embedded high-density, GEM Posterior RF Array and touch sensitive IntelliTouch land-marking. The fully detachable GEM Express table is easily docked and undocked by a single operator and simple to move in and out of the exam room for patient transport and preparation. These features can be vital in instances where multiple patient transfers can negatively impact patient care or when emergency extraction is required.

The GEM Express table and embedded GEM PA coil are designed to accommodate head-first or feet-first imaging for all supported exams. The table features three high-density coil connection ports: one at each end and one embedded for the GEM PA. Two additional coil connection ports are included in the docking mechanism.

- 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/sec
- Slow longitudinal speed: 0.5 cm/sec
- Arm boards and non-ferrous IV pole
- IntelliTouch and laser land-marking

GEM Suite - EX Coil Package: The Geometry Embracing Method - GEM - Suite of coils 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 EX Coil Package includes:

- T/R Body Coil & T/R Head Coil
- GEM PA, HNU & AA Arrays
- GEM Standard Flex Suite & Positioners
- 3-channel Shoulder Array

M7002AH (1 unit included in S7525AB) The GEM 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.

- Elements: 40
- Length: 100 cm; Width: 40 cm
- S/I coverage: 100cm head-first or feet-first
- Parallel imaging in all three scan planes
- Head-first or feet-first positioning

The GEM PA is designed to be used in conjunction with the GEM HNU, GEM AA or GEM Small AA (purchased separately), and the GEM PV Array (purchased separately). The GEM PA is invisible to additional surface coils when they are placed directly on top of the surface.

M7000GH (1 unit included in S7525AB) The GEM 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 GEM HNU may be positioned at either end of the GEM Express table to support head-first or feet-first imaging and may remain in place for all body, vascular, spine, and the majority of MSK exams. The GEM 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

M7000AK (1 unit included in S7525AB) The GEM Large Anterior Array facilitates chest, abdomen, pelvis, and cardiac imaging. The GEM AA 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 GEM AA permits upper abdomen and pelvis imaging without repositioning the coil.

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

M7000SL (1 package included in S7525AB) & M7005BE (1 unit included in S7525AB) The GEM Flex Suite is a versatile set of high-density 16CH receive arrays designed to provide high quality imaging in a wide range of clinical applications. The high degree of flexibility is particularly advantageous when imaging patients that do not fit the constraints of rigid coils. This standard set includes:

- Large Flex Array: 23 cm x 70 cm
- Medium Flex Array: 23 cm x 48 cm
- GEM Flex Interface Module P-Connector
- Positioning Devices

M3335LR (1 unit included in S7525AB) The 3-channel Shoulder Array offers the increased signal-to-noise characteristic of phased-array technology, along with a unique sleeve design that delivers exceptional joint-imaging capabilities.

Workflow: Express Workflow 2.0 incorporates features designed to streamline and automate exams.

- In-Room Operator Console and controls
- IntelliTouch land-marking
- Protocol Libraries & Management Tools
- Workflow Manager & Auto Functions
- Inline Processing, Networking & Viewing
- Start Scan, Stop Scan, Pause/Resume Scan

The In-Room Operator Console and dual-sided controls enable interaction with the host computer from the magnet room. The user has direct control or selection of:

- Display of patient name, ID, study description
- Display and entry of patient weight
- Display and entry of patient orientation and position
- Cardiac gating waveform display
- EKG lead confirmation with gating control:
- Respiratory waveform display
- IntelliTouch Landmarking
- AutoStart
- Display of coil connection and status
- Display of table location and scan time
- Screen saver

Express Exam enables complete control of protocols for prescription, archiving, searching, and sharing. Protocols are organized into two libraries – GE authored and Site authored – and Protocol Notes allow customized notes to be saved with each protocol. ProtoCopy enables a complete exam protocol, from either a library or previous exam, to be shared with a mouse click, and the Modality Worklist provides an automated method of linking exam and protocol information for a patient directly from a DICOM Worklist server.

The Workflow Manager controls the execution of scan prescription, acquisition, processing, viewing and networking and may automate these steps, when requested by the user. Auto Coil Prescription automatically selects the optimum subset of elements for scanning, and AutoStart automatically starts the first acquisition as soon as the technologist exits the magnet room.

Processing steps are automatically completed with Inline Processing once the data have been reconstructed and the images saved into the database. For certain tasks, the user must accept the results or complete additional steps prior to saving the images. These automatic Inline Processing steps can be saved into the Protocol Library.

Inline Viewing allows the user to conveniently view, compare, and analyze images from the Scan Desktop by selecting the desired series from the Workflow Manager.

ScanTools: ScanTools 25.0 and the EX clinical package deliver an expansive portfolio of advanced applications, imaging options, and visualization tools packaged with the system operating software to provide extensive clinical capability and enhanced productivity.

Advanced Neuro Applications:

- Silent Suite with 3D Silenz
- eDWI diffusion with Multi-B and Smart-NEX
- Diffusion Tensor diffusion with FiberTrak
- SWAN 2.0 susceptibility imaging
- IDEAL FSE & GRE-based fat-water imaging
- PROPELLER 3.0 motion robust radial FSE
- PROPELLER 3.0 FSE-based diffusion imaging
- 3D Cube 2.0 FSE-based 3D imaging
- Dual Inversion 3D Cube imaging
- Spin Echo & Fast Spin Echo Suites
- T1-FLAIR & T2-FLAIR Suite
- Gradient Echo & Fast GRE Suites
- Spoiled Gradient Echo & Fast SPGR Suites
- Echo Planar, EPI FLAIR & fMRI EPI Suites
- EchoPlus with RTFA diffusion imaging
- 3D FIESTA & 3D FIESTA-C steady-state imaging
- 3D BRAVO IR-prepped fast SPGR imaging
- 3D COSMIC modified steady-state imaging
- 2D/3D MERGE multi-echo recombined GRE imaging
- PROBE PRESS & STEAM single voxel spectroscopy
- 2D & 3D CSI
- BrainSTAT GVF parametric maps
- BrainSTAT AIF parametric maps
- Ready Brain automated brain exam prescription
- DWI Prep

Advanced Spine & MSK Applications:

- Silent Suite for Spine & MSK

- eDWI diffusion with Multi-B and Smart-NEX
- Diffusion Tensor diffusion with FiberTrak
- IDEAL FSE & GRE-based fat-water imaging
- PROPELLER 3.0 motion-robust radial FSE
- 3D Cube 2.0 FSE-based 3D imaging
- Spin Echo & Fast Spin Echo Suites
- Gradient Echo & Fast GRE Suites
- 3D COSMIC modified steady-state imaging
- 2D/3D MERGE multi-echo recombined GRE imaging
- High Bandwidth FSE artifact reduction
- Spectral Spatial Fat Suppression

Advanced Body Applications:

- eDWI diffusion with Multi-B and Smart-NEX
- 3D LAVA Flex fat-water T1 DCE with Turbo ARC
- IDEAL FSE & GRE-based fat-water imaging
- IDEAL IQ fat assessment
- StarMap T2* imaging
- Body Navigators pencil-beam diaphragm tracker
- PROPELLER 3.0 motion robust radial FSE
- Spin Echo & Fast Spin Echo Suites
- Gradient Echo & Fast GRE Suites
- 3D Cube 2.0 FSE-based 3D imaging
- 3D LAVA T1 DCE imaging with Turbo ARC
- 2D/3D Dual Echo Fat-Water Imaging
- 3D FR FSE MRCP & HYDRO imaging
- Enhanced SSFSE single-shot FSE imaging
- 2D FS FIESTA steady-state imaging
- Multi-phase DynaPlan
- SmartPrep automated bolus detection
- Fluoro Trigger real-time bolus monitoring
- Respiratory Compensation, Gating & Triggering
- iDrivePro & iDrivePro Plus real-time imaging
- SPECIAL IR Fat Saturation

Advanced Vascular Applications:

- Inhance 2.0 NCE-MRA suite
- TRICKS dynamic 3D CE-MRA
- SWAN 2.0 susceptibility imaging
- Flow Analysis post-processing
- 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
- Magnetization Transfer
- Flow Compensation
- Peripheral & EKG Gating & Triggering
- Respiratory Compensation, Gating & Triggering

Advanced Cardiac Applications:

- 2D Phase Sensitive MDE myocardial imaging
- MDE Plus
- Cine IR gated GRE imaging with progressive TI
- FGRE TC myocardial time course timing
- Black Blood SSFSE multi-slice imaging
- Flow Analysis post-processing
- Double-Triple IR-FSE with spectral fat suppression
- FastCine FGRE-based, gated multi-phase imaging
- 2D FIESTA Cine steady-state, gated multi-phase imaging
- 3D FS FIESTA steady-state coronary imaging
- iDrivePro Plus real-time inter-active imaging
- Blood Suppression
- Cardiac Navigator diaphragm tracker
- Cardiac Compensation, Gating & Triggering
- Respiratory Compensation, Gating & Triggering
- Cine Paging (128 images/4 windows @ 30fps)

- Flow Analysis post-processing

Advanced Imaging Tools:

- ARC & Turbo ARC data-based parallel acceleration
- ASSET 3.0 image-based parallel acceleration
- Real Time Field Adjustment for DWI
- Chemical Shift Direction Selection
- 2D/3D GradWarp compensation
- Acoustic Reduction Technology
- IR Prep, DE Prep & T2 Prep
- Full Echo Train & Tailored RF
- Spectral Spatial Fat Suppression
- SPECIAL IR Fat Suppression
- ASPIR Fat Suppression
- Matrix ZIP 512 & ZIP 1024
- 3D Slice 2X ZIP & 4X ZIP
- Square Pixel & Rectangular FOV
- No Phase Wrap & No Frequency Wrap
- Extended Dynamic Range

Advanced Processing & Display:

- Inline Viewing & Inline Processing
- Image Fusion & Image Pasting
- SCIC & PURE surface coil intensity correction
- Multi-planar Volume Reformat
- Interactive Vascular Reformat
- ClariView Image Filtering
- Compare Mode & Reference Image
- Cine Paging (128 images/4 windows @ 30fps)
- Flow Analysis post-processing

Advanced FuncTool Analysis:

- ADC maps & eADC mapping
- Correlation Coefficient analysis

- NEI Negative Enhancement Integral analysis
- MTE Mean Time To Enhance analysis
- Positive Enhancement Integral analysis
- Signal Enhancement Ratio analysis
- Maximum Slope Increase analysis
- Maximum Difference Function analysis
- Difference Function analysis

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Discovery MR750w Magnet Collector and Vibroacoustic Dampening Kit

Discovery MR750w Magnet Collector and Vibroacoustic Dampening Kit

The MR750w is equipped with GE's most-advanced 3.0T magnet design, high-performance 44 mT/m and 200 T/m/s slew rate gradients, a spacious 70cm patient bore with bright inner-bore lighting, and MultiDrive RF transmit technology delivering performance, productivity and exceptional image quality.

GE's Wide-Bore Magnet Design: With GE's active shielding technology and space-age composite design, the lightweight 3.0T magnet minimizes weight while preserving homogeneity and minimizing fringe fields. The result is a 3.0T magnet that does not compromise performance yet can be installed almost anywhere. The magnet's high-homogeneity delivers excellent fat-saturation away from iso-center and ensures image quality over a full 50 cm field-of-view. Coupled with its zero-boil off technology and remote magnet monitoring technology, the MR750w 3.0T magnet is designed to provide years of worry-free, reliable, low-cost operation.

In-Room Console (iROC): By consolidating all controls into one place, the In-Room Console (iROC) provides real-time feedback to the operator to improve exam room efficiency. With a high-resolution, color LCD display located just above the MR750w gantry, coil-connection, patient set-up, cardiac and respiratory waveforms make exam preparation a breeze. The iROC provides feedback on:

- Display of patient name, ID, and study description.
- Display and entry of patient weight.
- Display and entry of patient orientation / position.
- AutoStart - initiates automatic scan start.
- Cardiac & Respiratory waveform display.
- IntelliTouch landmarking information, table position, and scan time.
- Coil connection status.

High Performance Whole-Body Gradients: The MR750w incorporates the latest in MR gradient technology with the wide eXtreme Resonance Module (XRMw). XRMw

gradients deliver 44 mT/m peak amplitude, up to 200 T/m/s instantaneous peak slew-rate on each axis, and deliver unmatched fidelity, accuracy, and reproducibility (please refer to system datasheet for additional information). They are water-cooled and equipped with integrated thermo-electric cooling panels to provide excellent stability and duty-cycle for gradient intensive applications. The XRMw gradients have been designed with excellent linearity across the 50cm FOV. Utilizing a unique acoustic barrier material, acoustic noise levels are reduced for enhanced patient comfort without compromising imaging performance.

MR750w MultiDrive RF Whole-Body RF Coil: The Discovery MR750w system comes with GE's MultiDrive RF transmit technology as a standard system feature. This system features a high efficiency 4-port drive RF body coil and independent RF amplitude and phase control to improve RF signal homogeneity across the field of view. The system features a fully automated optimization to adjust the RF settings for each patient to deliver optimal image quality regardless of patient size or shape.

3 1

Discovery MR750w 32ch+ System Electronics

Discovery MR750w 32ch+ System Electronics

The Discovery MR750w 3.0T system incorporates several innovative technologies designed to improve image quality, MR exam workflow and efficiency, and exam consistency at 70 cm. Included in this collector are the technologies that drive the MR750w system including:

Volume Reconstruction Engine Architecture: The backbone of any high-channel count system is the reconstruction architecture. The MR750w utilizes the latest multi-core processing engines, acquisition to disk technology, and bulk-access memory to deliver the necessary processing power to reconstruct data from high channel count coils. With 55,000 2D FFTs/sec an impressive volume to ensure you are not hampered in image reconstruction speed. The result is reliable and efficient processing MR data that enhances exam productivity.

4 1

Preinstallation Collector and Cable Concealment Kit

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 Kit accommodates a wide-range of scan room ceiling heights and is designed to provide a clean-look installation by concealing the overhead cabling from view.

5 1

Discovery MR750w Scan Room Electronics

Discovery MR750w Scan Room Electronics

The MR750w scan room electronics collector includes all of the following:

- MultiDrive RF components (cabling and electronics).
- Mechanical and electrical docking architecture that interfaces the GE Express patient tables, both GEM and non-GEM tables, to the Discovery MR750w magnet.
- RF signal switching hardware and cabling that routes the MR signals received to the respective OpTix receivers.

6 1

Main Disconnect Panel

Main Disconnect Panel

The Main Disconnect Panel safeguards the MR system's critical electrical components, by providing complete power distribution and emergency-off control.

7 1

3.0T Calibration Phantom Kit

3.0T Calibration Phantom Kit

This 3.0T calibration kit contains a large volume shim phantom, a daily quality assurance phantom, an echo-planar calibration phantom, and associated loader shells.

8 1

3.0T Cable Configuration - A

3.0T Cable Configuration - A

To accommodate various electronic and scan room configurations and sizes, the 3.0T has preset lengths of cables and connector kits to speed system installation. This cable collection is compatible with fixed and relocatable building configurations.

9 1

English Keyboard

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.

10	1	<p>MR Seismic Sub Contract Catalog</p> <p>MR Seismic Sub Contract Catalog</p> <p>The MR seismic anchorage catalog allows GE Healthcare customers and architects to sub-contract with qualified outside engineering firms to meet local seismic siting requirements. This catalog does not contain any GE Healthcare manufactured equipment or parts and is intended for use during the room construction and installation phases of GE Healthcare MR equipment. Any and all construction related to meeting local seismic siting requirements is solely the responsibility of the customer and not GE Healthcare.</p>
11	1	<p>Calibration Kit Phantom Holder Cart</p> <p>Calibration Kit Phantom Holder Cart</p>
12	1	<p>Operator's Console Table</p> <p>Operator's Console Table</p> <p>Wide table designed specifically for the color LCD monitor and keyboard.</p>
13	1	<p>Standard Service Package for Warranty Period</p> <p>Standard service package delivered for the warranty period.</p>
14	1	<p>MSK Elite Package</p> <p>MSK Elite Package</p> <ul style="list-style-type: none"> • MAVRIC SL • Cartigram <p>MAVRIC SL is a new 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.</p> <p>Cartigram is a non-invasive imaging method for early detection of osteoarthritis. It quantifies the T2 relaxation of knee cartilage and can overlay the quantified parametric maps over high resolution images for clear visualization of the anatomy.</p>
15	1	<p>Body Elite Package</p>

Body Elite Package

- FOCUS
- DISCO

FOCUS delivers a highly efficient method for increasing the resolution in Single Shot DW EPI sequences. The outcome delivers robust high resolution results while removing 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.

DISCO provides highly accelerated LAVA FLEX based volumetric imaging for high resolution 3D volumetric results without compromising temporal imaging performance, and delivering 1.5mm isotropic results of whole organ coverage in as low as 5 seconds. DISCO utilizes a 2point DIXON method to increase the robustness of the technique.

16 1

Breast Expert Package - GEM 3.0T

Breast Expert Package - GEM 3.0T

- VIBRANT
- 3.0T 8-channel GEM Breast Array

VIBRANT is a fast, high resolution T1-weighted imaging sequence and application optimized for

evaluation of breast tissue. VIBRANT uses parallel imaging acceleration to quickly acquire multi-phase data without compromising spatial resolution. This 3D gradient echo technique, optimized for sagittal or axial acquisitions, uses an optimized inversion pulse and dual-shimming technology that yields enhanced image contrast and robust, uniform, bilateral fat suppression.

For improved tissue contrast, VIBRANT is compatible with Flex imaging (sold separately). VIBRANT Flex acquisition will provide a water-only, fat-only, in-phase and out of phase data sets in a single acquisition and produce images with significantly reduced chemical shift and susceptibility artifacts.

The GEM Breast Array generates high-definition breast images. Optimized for use with ASSET and VIBRANT for up to 3X acceleration, this 8-element phased-array coil helps

ensure excellent temporal and spatial resolution, patient after patient. The array is also compatible with Fast Spin Echo, Fast Gradient Echo, and Diffusion Imaging Sequences, and includes a set of MR compatible biopsy grids.

17 1

MR750w 3.0T GEM MSK Package

MR750w 3.0T GEM MSK Package

- 8-channel Knee Array
- 8-channel Foot/Ankle Array
- 8-channel Wrist Array

The 8-channel Transmit and Receive Knee Array is designed for high definition imaging of the knee. This array uses unique hybrid technology where separate birdcage coils are used for RF transmission and excitation, and independent receive elements. The array is compatible with PURE for uniform signal intensity, and ASSET and ARC parallel imaging method for accelerated acquisition speed.

The Foot/Ankle Array produces high-resolution images of the foot and ankle by incorporating an 8-channel phased array design in a unique "ski" boot design. The unique coil design has excellent distal coverage and supports multiple foot positions for optimizing studies. Parallel imaging is supported to reduce acquisition times.

The 8-Channel Wrist Array generates high definition images of the hand and wrist. The one-piece, ovoid, hinged design is optimal for small-FOV imaging and provides 12-cm S/I coverage. The coil can be positioned overhead or at the patient's side in either a vertical or horizontal orientation. The array is compatible with PURE processing for uniform signal intensity, and ASSET and ARC parallel imaging methods for accelerated acquisition speed.

18 1

Seismic MR Heat Exchanger for MR450, MR750, MR750w, PET/MR - Standard Ambient Temp near Coast

GE Discovery MR450 and Discovery MR750 Heat Exchangers - 70kW (30 Tons) - Seismically Certified Heat Exchanger

Cooling for your GE Healthcare MR system has never been so easy. GE Healthcare has partnered with the Glen Dimplex Group, a world leader in cooling systems, to offer heat exchangers designed to meet the needs of your Discovery 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 Healthcare

solution, 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.

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.

FEATURES AND BENEFITS

- Designed to provide stable fully dedicated cooling for your MR system's needs
- Water/glycol outdoor-air-cooled heat exchangers to support your highest exam volumes and your full range of diagnostic procedures
- Redundant fluid pumps with automatic switchover let you keep operating with no loss of cooling even if one pump goes down
- 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
- Quiet operation between patient exams and overnight - ideal for facilities in residential areas
- Comes with installation support, installation visits, preventative maintenance visit and 1 full year of parts and labor warranty
- Installation support includes: support through GE's Project Manager of Install, GE's Design Center, technical support from the Glen Dimplex company, two (2) installation visits
- Comprehensive and quality service rapidly delivered through our CARES service solution
- 65 gallons of 100% glycol concentrate for complete system filling and diluting
- Wall mounted remote display panel provides the ability to monitor the system's operation and indicates possible system errors
- Filter kit with flow meter helps to ensure purity of water prior to entry to the MR system
- Rust inhibiting configuration specifically designed to deal with corrosive environments typical within 10 miles of coastline
- Highly recommended that Vibration Isolation Spring Kit (E8911CJ) be added for systems that will be roof top mounted

SPECIFICATIONS

- Net Cooling Capacity: 70 kW / 30 Ton
- Maximum Coolant Flow: 35 gpm (132 l/m)
- Coolant Outlet Temperature: 48 F (8.9 C)
- Coolant Temp Stability: E 1.8 F (E1.0 C)
- Max Coolant Pressure : 70 Psi (4.8 Bar)
- Refrigerant: R407C
- Ambient Temp Range: -20 to 120 F (-30 to 50 C)
- Condenser Air Flow (Approx): 18,000 Cfm
- Tank Capacity: 100 gal (378 l)
- Flow Meter Range: 4-40 gpm
- Filters: 50 micron cartridge filters
- Supply Voltage: 460v / 3 phase / 60 Hz
- Coolant Connections: 2" NPTF
- Overall Size (L x W x H) 44" x 136" x 84.5"

COMPATIBILITY:

- GE Discovery MR450 1.5T MR system
- GE Discovery MR750 3.0T MR system

NOTES:

- Item is NON-RETURNABLE and NON-REFUNDABLE
- Standard bolt anchoring is recommended over vibration isolation spring mounts in earthquake prone regions

Seismically Certified Heat Exchanger: Unit for regions where seismic activity is of concern, or, is otherwise mandated by state regulation, to be designed to pass seismic shake table testing. These chilelrs have been tested and certified in accordance with certification method 'ICC-ES AC-156', to remain fully operable after testing was completed. In addition, the units have passed the California Office of Statewide Health Planning & Development (OSHPD) board certification with pre-approval # OSP-0169-10.

19 1

MR Basic Positioning Pads, 1 Chair, Narrow and Wide Straps

MR Accessories Kit

The Accessories Kit combines a physician's chair, a complete set of positioning pads, and a set of Velcro security straps.

The Physician's Chair has padded arms for comfort and comes in a charcoal gray

color that blends with any environment.

The MR Accessories Kit contains a complete set of coated positioning pads in a lightweight tote case that can be a permanent fixture in an MR suite or can be easily carried from room to room. The following pads are included: 1 knee rest, 1 knee coil insert, 1 extremity rest, segment table pads, 4 body wedges, 4 rectangle stack pads, and 2 rectangle elbow pads.

The Velcro Security Straps include one 14 inch wide set and one 6 inch wide set.

20 1

MR Fast Start Package

MR Fast Start Package includes:

- 4 E8801BA Disposable Earplugs
- 1 E8807AB Signa Log Books
- 1 E8819RG Conmed Electrodes
- 1 E8802MC Wide Security Straps
- 1 E8802MD Narrow Security Straps
- 1 E8801MR Head Coil Set
- 2 E8819A MR Warning Sign - Large
- 10 E8819B MR Warning Sign - Small
- 1 E8804EG MR Safety DVD

21 1

Medrad Spectris Solaris EP Injector w/ICBC - NOT FOR MOBILES

Medrad Spectris Solaris EP MR Injection System

Medrad Spectris Solaris EP MR injector for use use in all MR scanner field strengths up to and including 3.0T. Optimized touch-screen for fewer keystrokes, KVO (keep vein open) allows patient to be prepared before beginning the scan. Larger 115 ml saline syringe for longer KVO or multiple flushes. Includes cables and starter kit...E

NOTE: GE is responsible for unpacking, assembly, and installation of equipment. Medrad will be available for technical assistance by phone at (412)767-2400. An additional charge will apply for on-site installation assistance. Medrad will be responsible for operational checkout, final calibration, in-service of the equipment, and initial applications training. Please contact the local Medrad office two weeks in advance of installation.

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Magnacoustics Genesis Ultra Music System for MR

Magnacoustics Genesis ULTRA Communication & Music System

The Magnacoustics Genesis ULTRA is the only MRI Communication & Music System to

interface directly with GE's MRI hardware and software. This allows software driven Auto Voice Commands from GE's computer to be delivered directly into the patient's ears for breath-hold sequences. This same interface allows the Technologist to talk directly to the patient through the console Mic even while the scan is in progress. The Genesis ULTRA also features an exclusive Patient Ready Signal. By simply depressing a small button on the handheld control an audible and visual signal is transmitted to the Technologist indicating the patient's readiness for the scan to begin. This simple step streamlines the breath-hold exam which amounts to approximately 30% of all exams. Patient Handheld Volume and Media Selection Controls with Voice Feedback interface with an FM/AM stereo, CD player, and iPod interface. This distracts even the most apprehensive of your patients by allowing them to be in control of their own environment. Additionally, the Auto Gain feature automatically raises and lowers the volume level for the patient based on the Sound Pressure Level of the MRI. Magnacoustics also provides the only patented 8-driver transducer that provides the highest sound directly to the patients ears with the MagnaLink Headset System. This patented system includes a stethoscope-style headset with the MagnaPlug (replaceable earplug) that provides 29dB of attenuation and complies with GE Healthcare MR Safety Guide Operator Manual.

The Genesis ULTRA's See-In-the-Dark GUI Electroluminescent Backlit Technologist Control Unit enhances operation in the normally low-lit MRI environment allowing the Technologist to operate the entire system with the touch of a button.

The Genesis ULTRA includes an integral interface for fMRI with built-in input for audio stimulation and output for responses...E

23	1	<p>MagnaPlug Earplugs for MagnaLink Headset</p> <p>MagnaPlug Earplug for MagnaLink Headset Standard Size Earplug (E8823ML)</p> <p>MagnaPlug - Earplug to be used with the MagnaLink Headset, which provides the patient with 29dB (NRR) or better attenuation tested per ANSI standard. Complies with the GE Healthcare MR Safety Guide Operator Manual, Rev 7. 500 Pairs per bag</p>
24	1	<p>700 VA Partial System UPS - MR</p> <p>700 VA Partial System UPS - MR</p> <p>Tested with all MR system computers, the 700VA Partial System UPS provides reliable, clean, consistent power for the data processing portion of the MR imaging system. The use of the double conversion UPS enables the MR system data processing portion electronics to operate when there is a power anomaly or total power loss. Valuable data and the system operating software are protected, if there is an extended outage the UPS allows for an orderly shutdown of the system.</p>

FEATURES/BENEFITS

- True double-conversion, online technology provides reliable operation and uninterrupted glitch free power
- Automatic frequency selection eases startup, i.e., 50 or 60 Hz compatible
- Integral Electronic Static Bypass switch means zero transfer time
- Improves user productivity, system reliability, reduces service costs and increases system uptime
- Advanced Battery Management (ABM) software monitors / indicates battery health and improves battery service life

SPECIFICATIONS

- Dimensions (H x W x D): 9.09" x 6.3" x 13.9"
- Weight: 26 lbs.
- Input Voltage Range: Single Phase 80-138 V
- Input Frequency Range: 47-70 Hz
- Rating: 700 VA / 630 W

COMPATIBILITY

- MR Systems

NOTES

- This is a partial system UPS - it covers only the computer, not the entire MR imaging system. After a power event portions of the system will have to be reset before operation can resume
- Customer is responsible for rigging and arranging for installation with a certified electrician
- ITEM IS NON-RETURNABLE AND NON-REFUNDABLE

TiP Discovery and Optima Family Training 10 Days Onsite Plus 10 Hrs TVA

TiP Discovery and Optima Family Training 10 Days Onsite Plus 10 Hrs TVA

The TiP Training Choices program is designed for CURRENT GE customers WITHOUT HDx experience who purchase a Discovery or Optima system. Training is delivered onsite at the customer's facility and instructs students in start-up operation of the system and introduces participants to the system design, workflow, new options and clinical applications included. Extended TVA support ensures learners maintain performance over the long term.

This training program must be scheduled and completed within 36 months after the

date of product delivery.

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2 Days MR TiP Onsite Training

2 Days MR TiP Onsite Training

Two Day MR Onsite Training provided from 8AM to 5PM, Monday through Friday. Includes T&L expenses. Days provided consecutively.

This training program must be scheduled and completed within 12 months after the date of product delivery.

27 2

3 Days MR TiP Onsite Training

3 Days MR TiP Onsite Training

Three Days MR Onsite Training provided from 8AM to 5PM, Monday through Friday. Includes T&L expenses. Days provided consecutively.

This training program must be scheduled and completed within 12 months after the date of product delivery.

Options

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Discovery MR750w 3.0T GEM 25.0

CADstream 5.5 with SureLoc on MR Console

CADstream 5.5 with SureLoc on MR Console

CADstream includes hardware and post processing software that facilitates analysis and management of breast image data. Image processing is performed automatically, using predefined templates for non-rigid image registration, subtraction, parametric maps, maximum intensity projection and multi-planar reformat. CADstream also generates reports that include images and graphs that can be exported in PDF or DICOM formats.

CADstream includes SureLoc - a tool that helps radiologists to more efficiently calculate coordinates for MR-guided interventions at the point of procedure. SureLoc reports needle position in real time and displays images and needle position in the patient's orientation.

The following new features are available on CADstream 5.5:

- CADalog, CADstream's study library provides instant access to CADstream-processed studies.

Easily view and align patient studies side by-side for comparison.

- Automatically calculate differences between

studies, including changes in lesion sizes and diameters.

- Report changes between studies using the CADstream Portfolio.
- Multiple configurations provide improved scalability to accommodate MRI program growth, including increases in study volume, physicians reading locations.
- CADstream integrates at the work-list level with many PACS, including Merge, GE, Carestream, McKesson and Sectra.
- The BIRADS-centric user interface guides use through the recommended assessment for location size, morphology and kinetics analysis, and automates reporting.
- Smart, adaptive motion correction automatically registers in 2D or 3D, depending on patient movement.
- Allows users to select the worst curve within a lesion.
- Provides the ability to grow or shrink region of interest for improved reporting of DCIS or treated lesions.
- Improved reports and renderings enhance communication with referring physicians and patients.

Requires installation on MR console.

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Expression Advanced Roll Cart (Adult / Ped)

Expression is specifically designed to withstand demanding environments with strong magnetic fields, Expression delivers the highest quality results, increased patient comfort and safety, and improved productivity with a lifetime of reliability.

- Six-color waveform capability - two ECG, SpO2, EtCO2 and two IBP - provides and easy

to see overview of patient status

- The cleanest and safest ECG information available, thanks to proprietary Advanced Gradient software, for any clinical magnet up to and including 3.0 Tesla
- Wireless SpO2 monitoring uses a digital signal to ensure precise values for saturation and fast acquisition, even on pediatrics.
- Precise EtCO2 measurement with waveform fill helps you make more informed decisions when monitoring respiratory gas.
- Patient body temperature monitoring allows you to provide the same standard of care in the MRI suite that you offer in the OR by allowing rectal, esophageal or surface temperature measurements.
- The smart battery management system provides a full eight hours of life on a single charge for each wireless module. The monitor displays the remaining battery life for the base unit, display and each module. A remote battery charger charges up to four depleted batteries at one time.
- Large, tilting 12-inch color screen makes patient monitoring as effortless as possible with a complete picture of patient status including ECG, SpO2, EtCO2, invasive pressures and Active Trend Arrows - that can easily be viewed from a distance
- Expression's 360 alarm light is positioned on top of the monitor, so you can be alerted to check the patient's condition even when you can't bear the alarm or when you aren't in front of the screen. Numbers and graphs are color-coded and easy to read, enabling fast decision making. Open menus don't block all vitals so you can continuously monitor the patient.

easily remove the display and place it in a more convenient location in seconds.

- Navigation is "dial-and-select" simple. Just turn the large control knob and click on the vital sign for more targeted menu options.

225 KVA UPS/POWER QUALITY

225 KVA UPS Bypass Panel (Use With E4502FG)

225 KVA UPS Bypass Panel (Use With E4502FG)

FEATURES/BENEFITS

- The 225 KVA UPS Bypass Panel feeds power to the GE Digital Energy 225 KVA UPS in the normal mode and enables an imaging system to operate when the UPS is in the manual bypass mode for routine servicing of the UPS or in the event of UPS failure
- The UPS input and output breakers provide branch overcurrent protection, a disconnection means and OSHA lockout/tagout provisions
- The bypass breaker includes a control contact which interfaces with the UPS to switch into static bypass
- Each circuit breaker is permanently identified by function for ease of operation
- Reduces installation time and cost by providing a pre-designed and tested system eliminating the need to mount and wire a number of individual components
- Standardized design and testing assures high product quality and system reliability

SPECIFICATIONS

- Dimensions (H x W x D): 90.67" x 40" x 11.5"
- Weight: 525 lbs.

- Mounting: Four 0.5" round mounting holes provided

COMPATIBILITY

- Use with GE Digital Energy 225 KVA UPS (E4502FG)

NOTES:

- Customer is responsible for rigging and arranging for installation with a certified electrician
- ITEM IS NON-RETURNABLE AND NON-REFUNDABLE

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GEDE SG Series 3-Phase 225 KVA UPS (use with E4504CL)

GE Digital Energy 225 KVA UPS

The GE Digital Energy SG Series is one of the best performing and most reliable three-phase UPS systems providing critical power protection for medical imaging systems. The SG Series UPS was developed using GE's Design for Six Sigma methodology ensuring that the product fully meets customer requirements and expectations. It produces extremely low output voltage distortion during step loads from 0-100% thus making it ideal for diagnostic imaging systems. Its superior performance enables GE to correctly size the UPS for the application resulting in significant savings in initial and life cycle costs compared to other systems.

FEATURES/BENEFITS

- The use of uninterruptible power enables the system imaging to be completed after the loss of supply power, and allows for saving of valuable data and orderly system shutdown
- This 3 Phase, Online Double Conversion UPS

eliminates all power anomalies such as noise, transients, over-voltage, and under-voltage, which could damage the imaging system's sensitive computer components

- Improves imaging system reliability, reduces service costs, and increases system uptime
- Superior UPS technologies include:
 - Superior dynamic load handling capability offers you a cost-effective solution with reduced lifecycle costs and a reduced footprint
 - Extremely low output voltage distortion reduces the need for over-sizing the UPS (up to 14% smaller footprint)
 - Space vector modulation resulting in faster response and higher efficiency
 - Output isolation transformer separates the utility power from the load providing greater critical power protection
 - Superior battery management enhances the life of the battery and reduces operational costs
 - Input 5th harmonic filter reduces the input distortion to less than 7%.
- SNMP Card included which allows the UPS to be managed using an existing Network Management System or with GE Digital Energy's exclusive UPS management software
- Recommended with 225 KVA Bypass Panel (E4504CL), sold separately

SPECIFICATIONS

- Dimensions (H x W x D): 70.9" x 43.3" x 31.5"
- Weight: 2193 lbs.
- Voltage: 480VAC, 3 phase, 4 wire + ground
- Frequency: 60 Hz

COMPATIBILITY

- PET Trace Cyclotron, 7T MR Systems and multiple CT and MR system configurations

NOTES:

- Customer is responsible for rigging and arranging for installation with a certified electrician
- ITEM IS NON-RETURNABLE AND NON-REFUNDABLE