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## **Optima - CT660 Systems**

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The Optima CT660 is GE's latest generation intelligent CT system. It is a scalable 128 slice platform including advanced innovations from our Discovery Series (TM), This means that Optima CT660 is capable of addressing your advanced clinical needs. Optima CT660 with Xstream gantry display is ready to help you deliver personalized care for your demanding patient schedule and quickly manage your unscheduled ED exams. With the Optima CT660 you get fast, high-quality acquisition at optimized dose for patients young and old, large and small, across a wide spectrum of procedures: angiography, brain, chest, abdomen, orthopedic, and more.

### **Key Features:**

- Exclusive V-Res (TM) Detector technology providing 40mm of 0.625mm acquisitions
- Volara\* XT DAS (Data Acquisition System): The Volara\* XT digital DAS for faster sampling and improved image performance and reduced artifacts
- Fast coverage speed of 110mm/sec with sub-mm resolution
- Full 360 degree rotation in 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0 and 2.0(axial) seconds, ensuring short breath holds, comfortable exams and flexibility to customize protocols for unique patient needs with minimal coverage impact
- Routine thin slice scanning, as thin as 0.625mm optimizing the use of thinner images for sagittal, coronal, oblique, and volume image presentation and review
- The overlapped reconstruction feature enables 384 slices reconstruction in helical acquisitions and 128 slices per rotation in axial mode delivering improved Z-axis visualization performance relative to non-overlapped reconstruction
- Highly efficient compact geometry design delivering optimum performance of the x-ray tube and generator
- Image decomposition to:
  - Retrospective thin images from data sets where thicker images were initially reconstructed
  - Facilitates more detailed image analysis
  - Improves 3D and reformat visualization
- ASiR reconstruction technology may enable reduction in pixel noise standard deviation (a measurement of image noise). The ASiR reconstruction algorithm may allow for reduced mA in the acquisition

of images, thereby reducing the dose required(\*\*).

- A reconstruction technology that may enable improvement in low contrast detectability(\*\*)

(\*\*) In clinical practice, the use of ASiR may reduce CT patient dose depending on the clinical task, patient size, anatomical location and clinical practice. A consultation with a radiologist and physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

Fast, User-Friendly, Simultaneous Workflow:

- Advanced Workflow Platform, the next evolution of GE's workflow platform built to help you maximize productivity.
  - Delivers up to 35 images per second (ips) reconstruction
  - Image Check delivers up to 55 images per second (ips) reconstruction (340x340 matrix)
  - Up to 10 fps network transfer rates
  - Direct Multiplanar Reformats (DMPR) that enables the move from 2D review to prospective 3D review of sagittal, coronal and oblique planes automatically
  - Data Export and Interchange that allow you to easily share images with referring physicians and patients
- One Stop ED mode: Optima CT660's exclusive 12" Xtream touch display on the gantry enables unique one stop ED scanning to streamlined ED exam workflow allowing patient selection, protocol selection and confirming exam parameters directly at the gantry, without having to leave the patients side.
- Includes reference protocols and the ability to customize your own for a total of 6,840 programmable protocols
- SmartPrep with Dynamic Transition allows low dose intermittent monitoring of intravenous contrast enhancement in a user-selected section of anatomy. With Dynamic Transition when the prescribed contrast enhancement is reached the system will automatically transition from the monitoring phase to the scan phase
- 10 Prospective Multiple Reconstructions: Up to 10 reconstructions can be pre-programmed as part of the scan protocol prior to acquisition. The operator can select different start/end location, slice thickness, interval, interval reconstruction algorithms and display fields of view for each reconstruction. Assisting to prospectively prescribing the

image reconstructions needed, even for complex trauma exams and freeing the user up to focus on the patient

- Remote tilt from the operator console to increase exam speed
- Built-in breathing lights with a countdown timer, so the patient does not have to guess how much longer to hold their breath
- New built-in 12-inch touch screen gantry display allows technologists to deliver personalized care by displaying the patient's name on it. When not scanning, the video of relaxing scenes or cartoons may have a calming effect on children or patients of all ages.
- By using One Step patient positioning on built-in 12-inch touch screen gantry display the bed provides automatic positioning according to the type of exam, reducing manual positioning and streamlining workflow
- In room start button mounted on gantry with countdown display, facilitates single technologist operation and improved departmental productivity
- GE software allows you to automate or build every task into the protocols to increase throughput
- Has up to 250,000 uncompressed 512 x 2 image files storage capacity, and 3,520 scan rotations or up to 1,500 scan data files, or up to 300 exams.

#### Dose Management Leadership:

- OptiDose management features: new bowtie filters optimized for adult and pediatric body exams, full 3D dose modulation, color coding for kids, tracking collimator hardware and software for x-ray beam tracking to name a few of GE's dose optimization features, all based on the ALARA principle
- Dynamic Z-axis tracking provides automatic and continuous correction of the x-ray beam shape to block unused x-ray at the beginning and end of a helical scan to reduce unnecessary patient radiation
- 3D Dose modulation - Before the scan, clinicians must select the desired Noise Index as well as the minimum and maximum mA setting. The system automatically accounts for the changing dimensions of the patient's anatomy, enabling patient to patient reproducibility in this aspect of image quality and real-time x-y-z during each scan.
- Tracking collimator hardware and software for x-ray beam tracking to minimize patient dose

- Filtration of the x-ray beam is optimized independently for body and head applications
- DLP (dose length product), and dose efficiency display during scan prescription provides the patient's dose information to the operator
- Dose Reporting provides access to the CT DIvol and DLP with the patient record prior and post exam. DICOM Structured Dose Report is also supported.
- Dose Check provides the user with tools to help them manage CT dose in clinical practice and is based on the standard XR-25-2010 published by The Association of Electrical and Medical Imaging Equipment Manufacturers (NEMA). Dose Check provides the following:
  - Checking against a Notification Value if the estimated dose for the scan is above your site established value
  - Checking against an Alert Value where the user needs specific authority to continue the scan at the current estimated dose without changing the scan parameters if the estimated dose exceeds the alert value
  - The ability to define Alert Values for Adult and Pediatric with age threshold
  - Audit logging and review capabilities
  - Protocol Change Control capabilities

The Advanced Reconstruction breaks through existing limits on speed, image quality and flexibility to provide an optimized volumetric workflow solution from acquisition to final report and has the capability to deliver up to 16 full fidelity images per second (ips) reconstruction and 10 fps network transfer rates.

Clinical Benefits:

- CTA runoffs
- Thin slices fast; routine use of thin slices
- Organ coverage in arterial phase
- Long helical scans
- Multi-phase organ studies
- Improved multi-planar reformats with isotropic microvoxel imaging
- Fast scanning with outstanding image performance and GE's proprietary cross beam and hyperplane helical reconstruction

algorithms

- System designed for optimization of z-axis resolution and dose with 0.625mm slice thickness

System Components:

Gantry:

- Advanced slip ring design continuously rotates the generator, Performix 40 X-ray tube, detector and Volara XT digital data acquisition system around the patient.
  - Aperture: 70 cm
  - Maximum SFOV: 50 cm
  - Rotational Speeds: 360 degrees in 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0 and 2.0(axial) seconds
  - Tilt: +/- 30 degrees, speed 1 degree/sec
  - Remote tilt from operator's console
  - Integrated breathing lights and countdown timer
  - Integrated 12-inch touch screen on gantry with workflow features
  - Integrated start scan button with countdown timer to indicate when x-ray will turn on
- Visual readout is easy to read from the tableside or from the operator console. Gantry tilt controls are located on the side of the gantry.

Laser Alignment Lights:

- Defined internal and external scan planes to +/- 1mm accuracy
- Operate over full range of gantry tilt
- Coronal light remains perpendicular to axial light as gantry tilts

Table:

- Cantilever design for easy access
- Vertical range: 43.0 cm to 99.1 cm
- Vertical scannable range: 79.1 cm to 99.1
- Horizontal range: 1,745 mm (VT1700 table) or 2,045 mm (VT2000 table)
- Horizontal Speed: up to 137.5 mm/sec
- Table load capacity: 227 kg (500 lb) +/- 0.25mm positional accuracy

X-ray Tube: Performix 40 metal-ceramic tube unit

- Performix 40 tube with 6.3 MHU of storage and capable of 72kW

operation provides increased helical performance with greater patient throughput

- Wide range of technique (10 mA to 560 mA, in 5 mA increments) gives technologist and physician flexibility to tailor protocols to specific patient needs, while optimizing patient dose, and providing the power needed to perform a broad spectrum of examinations.
- Maximum anode heat storage capacity: 6.3 MHU
- Dual Focal Spots:
  - Small Focal Spot: 0.9 x 0.7 IEC60336:2005
  - Large Focal Spot: 1.2 x 1.1 IEC60336:2005
- Maximum power: 72 kW
- Beam collimated to 56 degree fan angle

High Voltage Generator: High Frequency

on-board generator allows for continuous operation during scan.

- 72 kW Output Power
- kV: 80, 100, 120, 140 kV
- mA: 10 to 560 mA, 5 mA increments

Maximum mA for each kV Selection (large focal spot):

- 400mA @ 80kV
- 480mA @ 100kV
- 560mA @ 120kV
- 515mA @ 140kV

V-Res Detector: The V-Res detector was designed for high performance imaging. The V-res detector benefits are:

- Solid 40mm coverage per rotation
- GE's patented ceramic detector material

Volara XT Digital DAS (Data Acquisition System): The Volara XT digital DAS dramatically reduces electrical noise for improved imaging performance.

- 2,460Hz maximum sample rate
- Effective analog to digital conversion

Optima CT660 Operator Console:

- 1,792GB of total system storage
- Up to 250,000 512 x 2 images and 3,520 scan or up to 1,500 scan data

files or up to 300 exams

- 4.7 GB DVD-R/CD-R for DICOM interchange (not recommended as a long term archive)

Image Networking: Exams can be selected and moved between the Optima CT660 CT System and any imaging system supporting DICOM protocol for network send, receive and pull/inquiry.

- Standard Auto-configuring Ethernet
- Direct Network Connection
- Supports 1GB or 1000/100/10 BaseT

DICOM Conformance Standards

- DICOM Storage Service Class
- Service Class User (SCU) for image send
- Service Class Provider (SCP) for image receive
- DICOM Query/Retrieve Service Class
- DICOM Storage Commitment Class Push
- DICOM Modality Worklist (incl. Performed Procedure Step) (through ConnectPro option)
- DICOM Print

The Optima CT660 workflow platform is designed to deliver high performance in each of these tasks:

- SmartTools Simplifies Scan Setup and Includes All Reconstructions, Filming, Archiving, Transferring Prospectively
- Workflow platform built on the LINUX operating system delivers up to 35 fps reconstruction and 55 fps with Image Check, and the fastest network transfer rates of up to 10fps
- Data Export and Interchange allow you to easily share images with referring physicians and patients
- Direct MPR that enables the move from 2D review to 3D image review of axial, sagittal, coronal and oblique planes automatically
- Exam Split delivers the capability to split a series of patient images into separate groups for networking
- Exam Rx desktop environment provides the clinical tools desired for fast, efficient control of patient studies. Exam Rx tools include patient scheduling and data entry, exam protocol selection, protocol viewing and editing, scan data acquisition, image display and routine analysis,

AutoTransfer, AutoStore, and AutoFilm

- ImageWorks is a desktop environment designed to take advantage of the Optima CT660 CT System advanced computer systems. Standard features include archive, network and manual film control, as well as some advanced image processing such as Direct multi-planar reformatting (DMPR), multi-projection volume rendering (MPVR) and display. The ImageWorks desktop also provides a gateway for DICOM 3.0 image transactions, either through a local area network, or via DICOM-formatted media
- Volume Viewer includes Volume Analysis, Volume Rendering and Navigator software. This combination allows the user to render volumetric data in three dimensions for use in analysis of patient condition, i.e. CT Angiography (CTA), gives more information on the spatial relationships of structures than standard 3D, allows the translucent visualization of structures for improved problem solving, can perform "virtual endoscopies" of air and contrast filled structures. Enables 3D reformats in any plane, ALL on the Xstream ready console

Scan Modes: The Optima CT660 system can perform virtually any clinical application due to its wide variety of scan modes. Helical scan mode offers continuous 360 degree scanning with table incrementation and no interscan delay. Axial scan mode allows for up to 64 contiguous axial slices acquired simultaneously with each 360 degree rotation.

- Helical scanning pitches: 0.516:1, 0.984:1, 1.375:1
- Retrospective reconstruction image thicknesses: 32 x 0.625, 64 x 0.625, 128 x 0.625\*

\* Available only with Overlapped Reconstruction option (axial mode & 40 mm coverage)

Scan Enhancements:

- Anatomical programmer: a ten region anatomical selector allows quick and easy access to user programmable protocols and a separate selector for adult and pediatric exams with greater than 6,840 protocol storage available.
- Protocols include preset scan time, kV, mA, scan mode, image thickness and spacing, table speed, scan FOV, display FOV and center, recon algorithm, and special image acquisition and processing options like DMPR

- Any scan parameters may be edited for each scan or all scans - either before or during an exam. The number of scans may also be easily changed
- AutoScan: Automates longitudinal table movement and start of each scan
- Auto-Voice: 3 preset (9 languages) and 17 user defined messages automatically deliver patient breathing instructions, especially useful for multiple helical scanning
- Trauma Patient: Allows patient scans and image display/analysis without entering patient data before scanning
- Reconstruction Algorithms: Soft Tissue, Standard, Detail, Chest, Bone, Bone Plus, Lung, and Edge

For US and Canadian Customers, this quotation includes access to the DoseWatch Explore application for a period of time concurrent with the system warranty. DoseWatch Explore is an introductory dose management software application that provides you secure access, via any PC with internet access, to dose and protocol data from this system. An InSite connection to the system and completion of the registration process is required to use the DoseWatch Explore application.

Warranty: The published Company warranty in effect on the date of shipment shall apply. The Company reserves the right to make changes. All specifications are subject to change. Regulatory compliance: This product is designed to comply with applicable standards under the radiation control for Health and Safety Act of 1968.

Laser alignment devices contained within this product are appropriately labeled according to the requirements of the Center for Devices and Radiological Health.

Siting Considerations: See the Pre-Installation manual for details of the siting requirements for the Optima CT660.

This product is a CE-compliant device that satisfies IEC60601-1:1998 and applicable collateral and particular standards, including regulations regarding Electro-Magnetic Compatibility (EMC) and Electro-Magnetic Interference (EMI), pursuant to IEC-60601-1-2:2004.

This product complies with NEMA Standard 29-2013 / MITA Smart Dose Standard.

- 1 Optima standard cable set
- 1 The Optima 1700 table enables volume scanning. Key features of this 1700 table include: easy patient access by lowering to <17 inches from the floor, 500lb weight capacity, up to 1700mm scannable range, 137.5 mm/sec travel time, real-time Z-axis position feedback between gantry and table.
- 1 The Freedom workspace is an ergonomic working environment specifically designed for use with the GE Healthcare imaging systems. The sleek table design enables the efficient use of space while enhancing clinical workflow and technologist comfort.
- The Freedom workspace provides a minimalist footprint to improve patient visibility and giving the user easier access to patients in the imaging suite.
- It offers sit/stand and horizontal/vertical monitor flexibility. It can also help reduce noise and heat with remote location options of the console. The non-adjustable Freedom workspace version is 1300mm long x 895mm wide x 850mm height and weighs 55.8kg.
- 1 Uninterruptible Power Supply
- Exide Uninterruptible Power Supply. Custom Designed Firmware to Interconnect with LightSpeed Pro, LightSpeed RT, Optima and BrightSpeed Systems. The UPS Primarily Backs Up the System Computer Functions. Bridges Short Power Outages and Provides Time for Crossover from Normal Main Power to Emergency Power. Must be Located Within Eight Feet of the PDU.
- 1 Service cabinet for system accessories storage
- 1 The 90Amp CT system main disconnect panel (MDP) serves as the main facility power disconnect source installed ahead of the system PDU. The MDP will disconnect system power on first loss of incoming power, helping to prevent damage to system components. It also includes an automatic restart control circuit which restores power to the CT System PDU after a power outage.
- Can reduce installation time and cost by eliminating delays in obtaining individually enclosed components and on site assembly (ex: main circuit breaker, feeder overcurrent devices, magnetic contactors and UPS emergency power off are combined into a single panel)
  - Configuration flexibility - can be used as a stand-alone main

disconnect or with the optional partial system UPS. (On systems where the optional partial system UPS is used the main disconnect panel also provides NEC mandated emergency power off control to both the PDU and UPS

- Designed and tested for GEHC CT products

#### Specifications:

- Automatic restart incorporates an adjustable time delay to delay main power until the power has stabilized for 5 seconds
- One flush wall mounted remote emergency off pushbutton furnished with each system
- UL, cUL and CE labeled

1 Medrad Stellant D Dual-Flow Ceiling Mount Injection System with Short Post.  
Requires E8007PJ Mounting Plate be added to the order....E

1 OCS III MOUNTING PLATE

1 CT Table Slicker with Cushion - 1700 Systems (2 Piece Set)

#### FEATURES/BENEFITS

- Two-piece, sealed slicker cushion set has comfort pads enclosed inside the slicker cover and extender cover
- Durable, clear PVC plastic cover facilitates faster, more thorough cleanup of blood and fluids
- Increase system uptime by protecting table from spills and particulate contaminants
- Thermo-sealed seams and flaps prevent contaminate buildup in hard to clean areas

#### COMPATIBILITY

- VCT with GT 1700 Table, CT HD750

1 CT Footswitch Slicker - 2000 & 1700 Systems

The footswitch slicker for CT VCT 2000 and 1700 systems is made of durable, clear PVC plastic that protects the footswitch and facilitates faster, more thorough cleanup of contamination caused by blood and other body fluids. Cover is held securely in place with Velcro...H

1 TiP CT Basic Training 6 Days Onsite 10 Hours TVA

TiP Applications CT Basic Training for LightSpeed, LightSpeed VCT and BrightSpeed Systems includes:

- 6 onsite days covered in two site
- 10 hrs. TVA

All elements of the programs are completed within 36 months post installation. Onsite training and TVA are delivered Monday through Friday between 8AM and 5PM. T&L expenses are included.

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#### 4 Days CT TiP Onsite Training

Four Days CT 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.

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#### CT LightSpeed 7x and Optima 660 (Class/Lab)

The CT LightSpeed 7x & Optima 660 course is a differences class and is intended for Engineers who have completed (R0026CT) LightSpeed Pro Training. It will equip the Engineer with system and subsystem theory and hands-on lab activities to address technical service issues for the 32/64-slice family of scanners (including LightSpeed VCT, LightSpeed VCT XT, LightSpeed VCT Select, and Optima 660. This training must be used within 2 years from the purchase date.

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Meals and Lodging Expense has been developed to allow the customer the convenience of prepaying for their meals and lodging expenses when attending Technical Service Training at the GE Healthcare Institute located in Waukesha, WI.

The price of this convenience is based on a per day basis. Thus a quantity of 1 is equal to 1 day's meals and lodging expense. When purchasing the meals and lodging expense please be mindful of weekend days during the training stay and include 2 days to cover a weekend in the purchase quantity.

Examples: A 5-day course needs a quantity of 5. Any course longer than 5 days should include 2 days to account for the weekend stay. Any course longer than 10 days will require an additional 4 days of the meals and lodging expense to cover the 2 weekends of the stay. Thus a 15-day course would have a quantity of 19 days to cover the 2 weekends of the stay. This expense must be used within 2 years from the purchase date.

Three meals a day Monday thru Thursday, 2 meals on Friday, pluse breaks are provided in the onsite cafeteria. The GE Healthcare Institute cafeteria closes Friday after lunch and reopens Monday morning for breakfast. Weekend meals are the responsibility of the customer.

Only for In-resident courses to be taken at the GE Healthcare Institute.

- 1 The AIRFARE EXPENSE has been developed to allow the customer the convenience to prepay their roundtrip Airfare expenses when attending Technical Service Training at the GE Healthcare Institute located in Waukesha, WI. To be used for engineers attending In-Resident Class/Lab courses for Diagnostic Imaging.

Customer will make their Airfare arrangements thru the GE Travel Center. Specific directions will be provided to the customer upon confirmation of class. Please note that this expense must be used within 2 years of the purchase date

- 1 Lodging Weekend Expense

Weekend Lodging Expense is to cover Saturday and Sunday lodging expenses for those engineers who are staying at the Rivers Edge Condos while attending Diagnostic Imaging Biomed training at the Healthcare Institute. Please note that there are no meals included on the weekend. Must be used within 2 years from the purchase date.

- 1 Optima CT660 Service (web)

This upgrade course taken online is intended for Support Engineers who have previous LightSpeed VCT training. Topics covered include: New gantry display, new power saving mode, new gantry axial motor and control, new gantry covers removal and installation, safety awarenss with gantry cover mounting hardware, new operators console (RIO), load from cold-Saturn detector. This course must be taken within 2 years from the purchase date or it expires without refund.

- 1 Service package delivered for the lifetime of the equipment (20 years)

1 The CT system 2000 table enables volume scanning. Key features of the VT 2000 table include: 500 lb weight capacity, 2000 mm scannable range, 175 mm/sec travel time, real-time position control to support advanced application such as SnapShot Pulse, VolumeShuttle, and Volume Helical Shuttle.

1 The Snapshot Imaging Package allows the user to acquire cardiac scans utilizing up to 0.35 second rotation speed for excellent cardiac exams. This package contains the following items necessary for CT Coronary Angiography on these systems.

The features associated with the Snapshot package are:

- Edge preserving cardiac filters which allows the user to reduce dose up to 30% with the 3 levels of filtration available
- ECG trace on the gantry and console allowing the user to display the live trace of the patients heart rate and display the actual location of the window of time when the image is being acquired.

Snapshot Imaging package can be used to acquire helical retrospective ECG Gated CT Images of the coronary arteries, cardiac anatomy and various other applications that require temporal resolution to reduce heart motion effects. The Snapshot imaging package includes the following hardware and software necessary to acquire cardiac studies with CT.

Snapshot imaging software for the operator console is designed to produce optimized cardiac images with minimum cardiac motion effects. Three different imaging acquisition techniques are available to the user

- Snapshot segment - single sector with temporal resolution of 175ms
- Snapshot Burst-dual sector with temporal resolution of 87ms
- Snapshot Burst Plus-4 sector with temporal resolution of

43ms

Ivy monitor: The Ivy ECG Monitor comes in this cardiac package. It will be used to monitor patient cardiac output and synchronize acquisition with that output.

Xtream 12" Gantry and Operator Console ECG Trace: The ECG trace provided by the Ivy monitor will be displayed on the CT gantry and operator's console with this option. Allowing the user to display the live trace of the patient's heart rate and display the actual location of the window of time when the images are being acquired. It will provide easy access to patient cardiac output status and assist in providing visual feedback for optimum acquisition start.

R-Peak Editor: The R-Peak Editor allows user to retrospectively modify trigger points identifying R-peaks on ECG trace as displayed on the console. The capability may improve successful cardiac acquisition rate by enabling users to perform the modification in the cases where there is irregular heartbeat or suboptimal triggers.

Cardiac Enhancement Filters are noise reduction filters, providing three new levels of image filtration while preserving of edge image detail coupled with patient dose reduction of up to 30%.

ECG Dose Modulation ECG gated dose modulation reduces patient dose by modulating x-ray technique during acquisition based on heart phase.

1 The SmartScore package provides ECG-gated hardware for both prospective and retrospective gating for coronary artery calcium scoring.

Xtream 12" Gantry and Operator Console ECG Trace: The ECG trace provided by the Ivy monitor will be displayed on the CT gantry and operator console with this option. Allowing the user to display the live trace of the patient's heart rate and display the actual location of the window of time when the image is being acquired. It will provide easy access to patient cardiac output status and assist in providing visual feedback for optimum acquisition start.

The Ivy Monitor comes in this calcium scoring package. It will be used to monitor patient cardiac output and synchronize acquisition with that output.

Calcium scoring analysis software is not provided with this package.

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The Low Dose 5-Beat Cardiac package allows the user to acquire cardiac imaging exams with retrospective or prospective gated acquisitions utilizing up to 0.35 second rotation speed for excellent cardiac exams. This package contains the following items necessary for CT Coronary Angiography:

SnapShot Imaging can be used to acquire ECG Gated CT Images of the coronary arteries, cardiac anatomy and various other applications that require temporal resolution to reduce heart motion effects. The SnapShot Imaging package includes hardware and software necessary for cardiac studies with CT.

SnapShot imaging is designed to produce optimized cardiac images with minimum cardiac motion effects. Three different imaging acquisition techniques are available for the user

- SnapShot segment - single sector algorithm with temporal resolution (TR) of 175ms
- SnapShot Burst - dual sector algorithm with TR of 87ms
- SnapShot Burst Plus - 4 sector algorithm with TR of 43ms

Xtream 12" Gantry and Operator Console ECG Trace:

- The ECG trace provided by the Ivy monitor will be displayed on the CT gantry and operator's console with this option. Allowing the user to display the live trace of the patient's heart rate and display the actual location of the window of time when the images are being acquired. It will provide easy access to patient cardiac output status and assist in providing visual feedback for optimum acquisition start.
- The ECG Editor allows the user to retrospectively modify trigger points identifying R-peaks on ECG trace as displayed on the console. The capability may improve successful cardiac acquisition rate by enabling users to

perform the modification in the cases with irregular heartbeat or suboptimal triggers.

#### Cardiac Enhancement Filters:

- Noise reduction filters, providing three levels of image filtration while preserving of edge image detail coupled with patient dose reduction of up to 30%.

#### ECG Dose Modulation:

- ECG gated dose modulation reduces patient dose by modulating x-ray technique during acquisition based on heart phase.

SnapShot Pulse is a cardiac scanning technique that helps reduces patient dose by up to 83%, and improves cardiac workflow, with uncompromised image quality. SnapShot Pulse uses prospectively triggered axial acquisitions synchronized by the patient heart rate, in which X-rays are turned on only during the required heart phase and turned off completely at all other times. In essence, the technique captures a complete picture of the heart using a series of three to four snap shots taken at precise patient table positions and precisely timed to correspond to (relative to conventional cardiac CT acquisitions).

SnapShot Pulse helps improve workflow by reducing the size of image set to be reconstructed, reviewed and post processed. A typical SnapShot Pulse series consists of 280 to 400 images, compared with up to 3,000 images in a typical helical cardiac scan series. Since there's a smaller number of images to reconstruct, SnapShot Pulse takes less time, yet still delivers the same amount of information as a helical cardiac exam.

The Ivy Monitor comes in the cardiac package. It will be used to monitor patient cardiac output and synchronize acquisition with that output.

CT AVA is a Highly Automated Software Post Processing Package for the CT Operator's Console. It is an Additional Tool for the Analysis of 3D Angiography Data Providing a Number of Display, Measurement and Batch Filming/Archive Features

to Study User-Selected Vessels Which Include Stenosis Analysis; Pre/Post Stent Planning Procedures and Directional Vessel Tortuosity Visualization.

#### Clinical Benefits

- Decreased Operator Dependence: Currently there is Heavy Operator Dependence to Produce True Vessel Cross Sections and Vessel Profiles. This Software Eliminates the Need for the Operator to Manually Identify the Center of the Vessel.
- Automated Batch Filming and the Ability to Rotate Around a Vessel, Reduces the Risk of Overlooking Vascular Structures.
- Quick AVA - Two click vessel analysis
- Measurement Tools: Quantitative Information on User-Selected Vessel Segments , Aids in the Proper Selection of Prosthesis
- Distances to Bifurcations or Other Landmarks are Critical for Clinical Decisions
- Increased Value of Reports: A Single Report Provides a Complete 3D Context; Measurements Cross-References and 3D Views. Consistency in the Format and Style of the Reports Also Help Referring Physicians.

#### Productivity Benefits

- Decreased Time to First Clinically Relevant Image: Automatic Centerline Detection Provides a Quick 3D Value Understanding of a Selected Vessel. The Anatomy Becomes Visible Once Two Points Identifying the Section of Interest Have Been Defined.
- Background Auto-Filming: Replaces Manual Filming.

System Requirements: VolumeViewer on the Console - B7870JA

AutoBone Express is a Software Package that provides Automatic Segmentation of Bony Structures and Calcified Plaques Optimized for the latest CTA Acquisition Techniques.

#### AutoBone Xpress Clinical Benefits:

- Click Segmentation of Bony Structures to facilitate

Vascular Structures Visualization for any Anatomy including Head and Neck CTA.

- 1-Click Automatic Segmentation of Calcifications for Abdominal CTA and Run-Off Exams. Side-by-Side display of Vessels in 3D MIP with and without Calcifications provides a Direct Access to Calcified Plaques effect on Vessel Lumen.

Operator Productivity Benefits Include:

- Decreased time to First Clinically Relevant Image Segmenting Automatically Bony Structures and providing a Quick 3D MIP Overview of Vascular Structures.
- Synchronized Viewports enabling Fast confirmation of Results on Reformatted and Native Images.
- AutoSelect Segmentation Tools may be used to Refine Segmentation by Quickly Adding or Removing Structures.
- The resulting Volume Rendered Image can be Manipulated to View Vessels Only. Transparent Bones can be Restored for Landmarks. Calcifications can also be Visualized in Transparency to Show Lumen.
- Optimized Layouts for each Anatomy for Fast and Relevant Visualization.

System Requirements: VolumeViewer on the Console - B7870JA

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Medrad Stellant P3T Cardiac Protocol Option

P3T Cardiac computes custom injection protocols as well as scan timing for each patient, enabling personalized care and patient safety while maintaining efficient workflow.

- Utilizes the power of DualFlow technology (simultaneous injection of contrast and saline) to obtain functional cardiac data
- Enables more consistent images across varied patients, studies and technologists
- Eliminates the need to estimate injection protocols for complicated studies

## CT Table Slicker with Cushion - 2000 Systems (2 Piece Set)

### FEATURES/BENEFITS

- Two-piece, sealed slicker cushion set has comfort pads enclosed inside the slicker cover and extender cover
- Durable, clear PVC plastic cover facilitates faster, more thorough cleanup of blood and fluids
- Increase system uptime by protecting table from spills and particulate contaminants
- Thermo-sealed seams and flaps prevent contaminate buildup in hard to clean areas

### COMPATIBILITY

- VCT with GT 2000 Table, CT HD750