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VAMC CANANDAIGUA, NY
PO# 528-B32011
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Item No.	Qty		Description

1 **1**

The Optima CT660 is GE's latest generation intelligent CT system. It is a scalable 32 to 128* slice platform including advanced innovations from our Discovery Series (TM), This means that Optima CT660 can grow as your clinical needs expand. 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.

* Overlapped Reconstruction is required to obtain additional reconstructed slices in one axial rotation.

Key Features:

- Exclusive V-Res (TM) Detector technology providing 40mm (64 rows) 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
- Diode technology providing true 64 channel acquisition and is ready for future expansion
- 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
- 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
- Neuro 3D Filter provides users the capability to filter head acquisition data using specially designed and optimized 3D

Neuro 3D Filter is not available when ASiR is implemented.

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 16 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 intermittant 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 make personalized exams 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 the Default 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-ay 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 CTDIvol 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

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- 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 exclusive patented 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 Propsectively
- 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 seperate 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 Xtream 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:

Item No.	Qty	Description

- 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

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.

Item No.	Qty	Description
2	1	English Keyboard (Black) for CT systems and system labels
3	1	Optima CT660 Cable set
4	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 seight capacity, up to 1700mm scannable range, 137.5 mm/sec travel time, real-time Z-axis position feedback between gantry and table.

Item No.	Qty	Description
5	1	Freedom Workspace is the desk designed with ergonomics. This table design enables the efficent use of space while enhancing clinical workflow and technologist comfort. Attributes: Fully adjustable monitor arms Adjustable height Flexible location of Console hardware
		Benefits: Improve patient visibility Clear path to patient More comfortable for technologist Improved ergonomics for technologist Sitting or Standing position Easy height adjustment
		Requirements: Tables are 3M apart from Operator console
6	1	ASIR - Adaptive Statistical Iterative Reconstruction for Optima CT660 system
7	1	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

Item No.	Qty		Description
8	1		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

Item No.	Qty		Description
9	1		USB Bar Code reader for use with ConnectPro (optional) Connect Pro - Offers New Levels of Productivity by Providing a Connection Between the Facilities Hospitial (HIS) or Radiology (RIS) Information System. ConnectPro Simplifies and Eliminates Errors in Patient Data Entry.
10	1		Service cabinet for system accessories storage
11	1		2 Phase 10 KVA Partial UPS for CT Lightspeed and Lightspeed PRO

The 2 Phase 10 KVA Partial System UPS kit has been specifically designed to coordinate with the BrightSpeed, LightSpeed and LightSpeed PRO 16 families of CT scanners. In the event of a power outage, a partial system UPS provides continuous back-up power to the scanner host and control computers, thus assuring no loss of usable scan data. In addition, critical circuits in the gantry and table remain powered which facilitate the safe removal of the patient from the scanner. If power is restored within the battery hold-up time, the operator can continue scanner operations without the need to reboot the system. When longer power outages are anticipated,

the UPS provides time for the operator to complete an orderly shutdown of the system software.

FEATURES/BENEFITS

- True double-conversion, online technology provides reliable operation and uninterrupted glitch free power.
- Automatic voltage and frequency selection eases startup, i.e., 50 or 60 Hz compatible
- Integral Static Bypass switch means zero transfer time
- Integral Manual Bypass switch facilitates continued scanner operation while UPS is being serviced
- Single input connect utilized for both UPS input and static switch
- Maintains system electronics and allows critical scanner operations to continue for 10 minutes (typical) after loss of power
- Advanced Battery Management (ABM) software monitors / indicates battery health and doubles battery service life

SPECIFICATIONS

- Dimensions (H x W x D): 32.7" x 12" x 32"
- Weight: 350 lbs.
- Rating: 10 kVA
- Input Voltage Range: 85-144V / ph; 2 Phase
- Output Frequency: 50 or 60 Hz, auto-sensing

COMPATIBILITY

- HiSpeed Advantage-RP, CT/I, Lightspeed QXi, LightSpeed Plus, LightSpeed Ultra, LightSpeed 16, BrightSpeed Systems, LightSpeed Pro 16 and RT Systems, Discovery NM 670 (Nuc)

NOTES:

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

12	1		90 Amp Main Disconnect Panel for CT

This 90 amp main disconnect panel for GEHC CT systems provides emergency shut down, undervoltage protection, overcurrent protection, local disconnect for the imaging system. It also reduces installation time and cost by providing a single-point

Item No.	Qty	Description

power connection eliminating the need to mount and wire a number of individual components. The standardized design and testing assures high product quality and system reliability, and it is UL and cUL listed for compliance with National Electric Code. Panel can be surface or semi-flush mounted and includes one remote emergency off push button. Customer is responsible for rigging and arranging for installation by a licensed electrician. ITEM IS NON-RETURNABLE and NON NON-REFUNDABLE Warranty Code: Y

13   1

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

14   1

OCS III MOUNTING PLATE

15   1

Medrad P3T PA - Pulmonary Angiography Option

16   1

Slicker - CT HD750 and VCT w/GT 1700 Table (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

17   1

Footswitch Slicker for CT HD750 and VCT 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

18   1

VCT Straps - Narrow (Width 60mm/2.36 in.) 1 side measures 21.25 in (540mm), other side measures 41.73 in (1060mm). Both straps with Velcro. Warranty Code: H

19   1

VCT Straps - Wide (Width 370mm/14.56 in.) 1 side measures 21.25 in (540mm), other side measures 41.73 in (1060mm). Both straps with Velcro. Warranty Code: H

Item No.	Qty		Description

20   1

Wide Patient Transfer Board

FEATURES/BENEFITS

- For smooth transfer of patient from gurneys to imaging or surgery tables
- Transfer Board is radiolucent

INCLUDES:

- Set of 4 security straps; 1.5 in. × 16 in.

SPECIFICATIONS:

- Width: 23 in.
- Length: 73 in.
- Height: 0.5 in.

21   1

Transfer Board Hanger

FEATURES/BENEFITS

- Wooden construction
- Holds up to five transfer boards, either wide, narrow or both

INCLUDES:

- Mounting hardware included

Warranty Code: H

22   1

CT Patient Logbooks (5/Bx)

FEATURES/BENEFITS

- The GE CT Patient Log Book is an effective way to track daily patient studies in the CT department
- There are columns for Date/Time, Patient Information, Dr./Tech, Contrast, Scan Information, Exam #, Archive Media #, and CT Diagnosis
- Each logbook records 6 patients per page on 50 double-sided pages, for a total of 600 patients

SPECIFICATIONS

- Weight: 6 lbs.
- 5 logbooks per case

COMPATIBILITY

Item No.	Qty	Description
		• Recommended for use in CT
23	1	Optima CT660 Documentation
24	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.

| 25 | 1 | TiP Applications VCT Dose/IQ Protocol Optimization |

TiP Applications VCT console upgrade training includes 2 onsite days covered in one site visit and 4 hours TiP Virtual Assist. Training includes ASIR, protocol optimization, workflow enhancements, and VHS (where applicable).

Training is provided from 8AM to 5PM, Monday through Friday. Includes T&L expenses.

This training program must be scheduled and completed within 36 months after the date of product delivery.

| 26 | 1 | TiP Applications Onsite CT Training 2 Days per year over 3 Years |

Two consecutive days of TiP Applications Onsite CT training presented during the 2nd, 3rd, and 4th year after system purchase.

Onsite training provided from 8AM to 5PM, Monday through Friday. Includes T&L expenses.