

1 S7660AA

Fayetteville HHC - Optima 660 -#2

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 (TM), LightSpeed (TM), and BrightSpeed (TM) families. 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 64 reconstructed slices in one axial rotation. The 64 slice option is required to obtain 64 slice acquisitions. Overlapped Reconstruction and 64 slice options are required to obtain the 128 reconstructed slices in one axial rotation.

Key Features:

- Exclusive V-Res (TM) Detector technology providing 40mm (64 rows) of 0.625mm acquisitions
- 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(pediatric), 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
 - 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
- Includes reference protocols and the ability to customize your own for a total of 6,840 programmable protocols
- 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
- 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 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 (pediatric), 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 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 Prospectively
- Workflow platform built on the LINUX operating system delivers up to 16 fps reconstruction and the fastest network transfer rates of up to 10 fps
- 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

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

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.

1	B7877EN	English Keyboard (Black) for CT systems and system labels
1	B7660AD	Optima CT660 Cable set
1	B7660AT	1700 mm Table for Optima CT660
1	B75002CD	Optima desk is the desk designed with ergonomics. This table design enables the efficient 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 Operators console

1 B76292FJ

ASiR(TM)(Adaptive Statistical Iterative Reconstruction) dose reduction technology*

- May enable improvement in low contrast detectability +
- May deliver image pixel standard deviation equivalent to a higher acquisition such as that delivered by a higher power generator when imaging the same object +
- May allow for scanning at lower mA and less anode heat input, thereby reducing the likelihood of encountering tube cooling limitations +

+ 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.

* TradeMark of General Electric Company

ASiR feature is licensed for use with a GE X-ray tube. Use of a third party x-ray tube will require purchase of an additional license for this feature.

1 E4502KY

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

1 E4502AB

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 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-REFUNDABLE Warranty Code: Y

1 E8007PP

Medrad CT Stellant D w/ Dual Flow - Medium Post 85 cm

1 E8007PT

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

1 E8016AZ 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

1 E8016BA 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

1 W0100CT 6 Day CT TiP Onsite System Training

CT Onsite Training for a new CT system

- One 4 day onsite visit to coincide with system start-up.
- One 2 day onsite follow-up visit 6-8 weeks post system start up.

During the first visit, the applications specialist will work with the medical and technical staff on system operation and patient procedures. The training produces the best results when a dedicated core group of 2-4 CT technologists complete the session with a modified patient schedule. It is suggested that key physicians are available to participate in the protocol implementation and image quality review sessions. By the end of this visit, the core group should be able to perform the routine patient procedures.

The 2 day revisit is suggested after the staff has run the system for 6-8 weeks, however this is flexible based on the site needs. The training will focus on the intermediate and advanced functions of the system or special needs of the customer. The training produces the best results

when the same dedicated core group of 2-4 CT technologists from the initial visit complete the session with a modified patient schedule.

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

2 W0002CT

2 Days CT TiP Onsite Training

Two Day 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.

1 R0026CT

The LightSpeed Pro Advanced course is intended for engineers servicing LightSpeed Pro 16, LightSpeed RT, and forward production LightSpeed 16/Ultra/Plus (starting in 2004) systems. This course must be taken within 2 years from the purchase date.

1 R0044CT

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.

16 R0100CM

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, plus 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.

- 2 R0102CM 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 R0010CT CT Basic Physics/Instrumentation (Web)
- The CT Fundamentals Course is Designed for Service Engineers who have Little or No Familiarity with CT Systems. The Course Teaches General Processes, Concepts, and Equipment Used in CT Scanning. This Course is Delivered Via the internet as an online training course. This course must be taken within 2 years from the purchase date.
- 1 R0031CT CT Lightspeed Pro Advanced Service (Web)
- Web course is 8 hours long
- Sales Description:
- Introduction to CT LightSpeed Pro system theory and subsystems
- Executive Summary:
- This is a computer-based training course intended to prepare Service Engineers on basic system theory for the LightSpeed Pro product line.
- Course Competencies:
- The curriculum builds on concepts taught in CT Basic Physics and is a prerequisite for the CT LightSpeed Pro and Discovery ST in-resident training classes at the GE Healthcare Institute.
- Special Considerations:
- A functioning laptop computer with a CD-ROM reader, network card and a modem card is required for use during this course. The browser on the computer must be IE4 or Netscape 4.5 or higher. Minimum system requirements include 133 MHz Windows 95, NY 4.0 or higher 32 MB of RAM 16-bit color display adapter. Proof of completion of this eLearning course is necessary prior to attending any subsequent GE Healthcare In-Resident training. This course contains proprietary content. For customers attending this course, special paperwork is required to take this course. Please see the registration page for details on the enrollment process. This course must be taken within 2 years from the purchase date.
- 1 R0034CT CT GLOBAL OPERATORS CONSOLE 3,4,& 5
- The Global Operators Console can be referred to as the Xtreme console as well. This is the current operator console for the CT LightSpeed and PET Discovery ST systems. This course must be taken within 2 years from the purchase date.

- 1 R0043CT 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 awareness 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 R0901CM Troubleshooting Basics Service (Web)
- This Course is Intended for Individuals Involved in Servicing Medical Equipment. By Taking This Course, You will Learn a Proven Process for Troubleshooting Problems with Medical Equipment. You will Also Learn How to Use Various Tools in a Troubleshooting Situation and How to Interpret Error Messages. This Course Does Not Address How to Troubleshoot Specific Products. It is Recommended That you Have Fundamental Training in a Modality Prior to Taking This Course. This course must be taken within 2 years from the purchase date.
- 1 R0907CM Networking and Dicom Basic for DI Service (Web)
- Training will prepare engineers on configuring and troubleshooting networks, which use the DICOM protocol for transferring patient data and how to read and use DICOM Conformance Statements.
- This course covers the following:
- Introduction to 7 layer OSI and 5 layer TCP/IP protocols (Basic model only)
 - Identify hardware used in networking
 - Review of the most used networking devices, cables, NIC, switch and routers
 - Simple network connection with 2 to 5 devices
 - Dicom definitions, theory and configuration
- This course must be taken within 2 years from the purchase date.