Request No. EQR2025-002
Date Received
Received By tml

RECEIVED
Nov 21 2024
STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

STATE HEALTH PLANNING AND DEVELOPMENT AGENCY

100 NORTH UNION STREET, SUITE 870MONTGOMERY,
ALABAMA 36104

REQUEST FOR DETERMINATION OF EXEMPTION STATUS FOR REPLACEMENT OF EXISTING EQUIPMENT

A filing fee in the amount of $ 1,401.50 has been submitted with this application.

Requestor Identification (Check one)

☑ Hospital ☐ Nursing Home ☐ Other (Specify) _____

A. Southeast Health Medical Center
Name of Requestor

1108 Ross Clark Circle | Dothan | Houston
Address | City | County

Alabama | 36301 | 334-793-8701
State | Zip | Phone Number

B. _____
Name of Facility/Organization (if different from A)

_____
Address | City | County

_____
State | Zip | Phone Number

C. _____
Name of Legal Owner (if different from A or B)

_____
Address | City | County

_____
State | Zip | Phone Number

D. Jennifer Gaines
Name and Title of Person Representing Proposal and With Whom SHPDA Should Communicate

1108 Ross Clark Circle | Dothan | Houston
Address | City | County

Alabama | 36301 | 334-793-8701
State | Zip | Phone Number

DESCRIPTION OF EQUIPMENT TO BE REPLACED

A. Manufacturer:

GE

B. Serial Number:

51132

C. Model:

H3000ZH

D. Name of Equipment:

Myosite

DESCRIPTION OF PROPOSED NEW EQUIPMENT

GE

TBD

S3907AD

NM/CT 850 3/8 inch detector

E. Fair Market Value of Equipment at Present:

$0

E. Cost of Equipment (include written price quote):

$700,752.07

F. Describe Use of Current Equipment:

Cardiac nuclear medicine imaging (helps identify blockages/narrowing in the coronary arteries; evaluate diseases of the heart muscle; determine the extent of heart damage from a heart attack or from treatments like chemo/radiotherapy, visualize blood flow)

G. Describe Use of Proposed Equipment:

The NM/CT scanner integrates Single Photon Emission Computed Tomography (SPECT) with CT to capture functional/anatomical imagery. This provides a comprehensive view of the heart, which aids in: accurate diagnosis, effective treatment planning, and ongoing

H. List any attachments or additional procedures associated with this new equipment not performed by old equipment:

This equipment will be able to accommodate slightly larger patients

H. Can any procedures be performed with the proposed new equipment that cannot be performed with the replaced equipment? If yes, describe in detail:

This equipment will be able to accommodate larger patients

I. Location of Existing Equipment (Include Room Number):

The location of the existing equipment is in room labeled "Nuclear Medicine M1", on the 1st floor of Southeast Health (owned by Houston County Healthcare Authority) located at 1108 Ross Clark Circle Dothan, Alabama 36301

J. List specially trained or qualified Personnel necessary for operation of equipment:

Nuclear Medicine Technologists

K. What use will be made of old equipment when replaced? (Trade in on new equipment, used as back up, parts, etc.)

The old equipment will be disposed of by a third party vendor

L. List job titles of any additional Personnel that will be required to operate the new equipment.

None

M. Describe any renovation or new construction that will be necessary for the installation of the replacement equipment and cost.

This project will include removing and replacing an older nuclear camera with a larger unit with the latest technology. The new camera is larger, so we will have to remove walls and reconfigure spaces for better flow in the department. We will also be taking some underutilized spaces and creating a clean supply room and relocating an existing ECHO Treadmill room. We will repurpose a small corner of the Heart and Vascular waiting room (located within the main hospital) to create four TVAR (Transcatheter aortic valve replacement) exam rooms, these rooms are used to evaluate patients to determine if they are candidates for a TVAR procedure. The finishes will all be similar or equal to the finishes that are adjacent to the construction zone and will blend aesthetically with existing finishes. The construction cost for this project is: $1,054,250.00

N. Describe any new annual operating cost associated with this project such as maintenance contracts, salaries of new employees hired due to equipment, etc.

The maintenance agreement will be around $32,665/year

COST

A. Equipment Costs
Cost of equipment ONLY; do not list lease cost.
(Costs must be supported by price quote on manufacturer's stationary/letterhead). $ 700,752.07

B. Less Trade-In of Old Equipment -$ 0

C. Total Cost of Equipment $ 700,752.07

Calculation of fee for this Determination:

Multiply dollar amount in COST section (C. Total Cost of Equipment) by one percent (1%) (the application fee for a Certificate of Need);

- Non-Rural Hospitals:
  Twenty percent (20%) of the calculation obtained above.

- Rural Hospitals:
  Twenty-five percent (25%) of the calculation obtained above.

Include manufacturer's literature on old equipment, if available, and on the new equipment.

Include any other information pertinent to the determination.

The Executive Director may request any other information which is relevant to their decision.

CERTIFICATION

I certify that the information provided herein is true and correct and that there is no additional information which would be pertinent to this application which has not been provided. Further, I understand that any misrepresentation on this application or failure to include relevant information may void any favorable determination secured by such misrepresentation or omission.

Signature of Applicant

Richard D Sutton
Printed Name of Applicant

CEO
Title of Applicant

Sworn to and subscribed before me this
19th day of November, 2024.

Helen K. Vanderson
Notary Public (SEAL)

My Commission Expires 05/17/2027

GE HealthCare

October 21, 2024
Quote Number: **2007859849.9**
Customer ID: **1-23M2DW**
Quotation Expiration Date: **12/31/2024**

ENSURE REQUISITION/PURCHASE ORDER IS ISSUED TO:
GE PRECISION HEALTHCARE
TAX ID (83-0849145)

Southeast Health
1108 Ross Clark Cir
Dothan, AL 36301-3022

This Agreement (as defined below) is by and between the Customer and the GE HealthCare business ("GE HealthCare"), each as identified below for the sale and purchase of the Products and/or Services identified in this Quotation, together with any applicable schedules referred to herein ("Quotation"). "Agreement" is this Quotation (including line/catalog details included herein) and either: (i) the Governing Agreement identified below; or (ii) if no Governing Agreement is identified, the GE HealthCare Terms and Conditions and Warranties that apply to the Products and/or Services identified in this Quotation.

GE HealthCare can withdraw this Quotation at any time before Customer: (i) signs and returns this Quotation or (ii) provides evidence of Quotation acceptance satisfactory to GE HealthCare ("Quotation Acceptance"). On Quotation Acceptance, this Agreement is the complete and final agreement of the parties relating to the Products and/or Services identified in this Quotation. There is no reliance on any terms other than those expressly stated or incorporated by reference in this Agreement and, except as permitted in this Agreement, no attempt to modify will be binding unless agreed to in writing by the parties. Modifications may result in additional fees and cannot be made without GE HealthCare's prior written consent.

Handwritten or electronic modifications on this Agreement (except an indication of the form of payment, Customer purchase order number and signatures on the signature blocks below) are void.

Governing Agreement:	Vizient Q4-2024 Imaging Group Buy
Terms of Delivery	FOB Destination
Billing Frequency(Subscriptions)	Annually
Auto-Renewal(Subscriptions and other Term-Based Purchases)	Yes
Billing Terms	80% on Delivery / 20% on Acceptance
Payment Terms	45 Net
Sales and Use Tax Exemption	Certificate on File
Net Price (Year 1)	$632,752.07
Annual Subscription Price (for the remainder of the Initial term)	$34,000.00
Total Quote Net Selling Price	$700,752.07

IMPORTANT CUSTOMER ACTIONS:
Please select your planned source of funds. Source of funds is assumed to be cash unless you choose another option. Once equipment has been shipped, source of funds changes cannot be allowed.

___ Cash

___ GE HFS Loan ___ GE HFS Lease

___ Other Financing Loan ___ Other Financing Lease Provide Finance Company Name _____

The parties have caused this Agreement to be executed by their authorized representative as of the last signature date below.

GE HealthCare

October 21, 2024
Quote Number: **2007859849.9**
Customer ID: **1-23M2DW**
Quotation Expiration Date: **12/31/2024**

Southeast Health

Signature: _____

Print Name: _____

Title: _____

Date: _____

_____
Purchase Order Number, if applicable

GE Precision Healthcare LLC, a GE Healthcare business

Signature: Joshua Caillavet

Title: Lead Sales Specialist Imaging

Date: October 21, 2024

Document Instructions

Please sign and return this quotation together with any Purchase Order(s) to:

Email: bryan.lacasse@gehealthcare.com

Phone: (603) 315-6204

Fax:

Email: bryan.lacasse@gehealthcare.com

Phone: (603) 315-6204

Fax:

Payment Instructions

Please **remit** payment for invoices associated with this quotation to:

P.O. Box 96483
Chicago, IL 60693

FEIN: 83-0849145

Southeast Health

Bill To:	SOUTHEAST HEALTH	SOUTHEAST HEALTH ACCOUNTS PAYABLE PO BOX 6987 DOTHAN AL 36302-6987
Ship To:	SOUTHEAST HEALTH	SOUTHEAST HEALTH 1108 ROSS CLARK CIR DOTHAN AL 36301-3022

Addresses:

To Accept This Quotation

- Please sign the quote and any included attachments (where requested).
- Source of Funds (choice of Cash/Third Party Loan or GE HFS Lease Loan or Third Party Lease through _____), must be indicated, which may be done on the Quote Signature Page (for signed quotes), or the Purchase Order (where quotes are not signed) or via a separate written source of funds statement (if provided by GE HealthCare).
- If your purchasing process requires a purchase order, please make sure it includes:
  - The correct Quote number and Version number above
  - The correct Remit To information as indicated in “Payment Instructions” above
  - Your correct SHIP TO and BILL TO site name and address
  - The correct Total Price as indicated above

Evidence of the agreement to contract terms. Either: (a) the quotation signature filled out with signature and P.O. number; or (b) Verbiage on the purchase order stating one of the following:
(i) “Per the terms of Quotation # _____”;
(ii) “Per the terms of GPO # _____”;
(iii) “Per the terms of MPA# _____”; or
(iv) “Per the terms of SAA # _____.

Catalog Item Details

Line	Qty	Catalog	
1	1.00	Y0000LC	**Pricing Non-Disclosure Language**

Net Price
$0.00

This CONFIDENTIAL offer may not be shared with any third parties, buying evaluation groups or anyone not directly employed by customer. This offer is being extended in relation to a national show-site agreement, research partnership, or other non-standard transaction. If required for publishing, GE will happily provide a list price quote.

Line	Qty	Catalog	
2	1.00	S3907AD	**NM/CT 850 3/8 inch Detector**

Net Price
$453,250.00

NM/CT 850 system is a hybrid SPECT/CT imaging system combining a nuclear imaging camera with a hybrid-dedicated low-dose CT subsystem. It has an all-purpose, dual-detector, free-geometry integrated nuclear imaging camera that features the advanced Elite NXT detector technology, slim gantry, cantilevered patient table, an Acquisition station and Smart Console digital processing workstation, now combined with a Revolution ACTs CT that has been adapted for low-dose hybrid-dedicated use within the NM/CT 850 imaging system.
The Elite NXT detectors feature 3/8” or 5/8” thick detectors for all-purpose nuclear imaging.
The adapted low-dose hybrid-dedicated Revolution ACTs is an 8-Slice CT with short geometry designed gantry and New Clarity panel detector HiLight™ scintillator with DAS on detector (DoD) and other advanced OptiDose* dose management features.
Key features of the free-geometry NM/CT 850 design include:
• Slim-profile, wide-bore, robotic gantry design
• 180° and 90° orientations of the NM detectors for high SPECT and WB scanning efficiency
• Rapid, simultaneous multi-axis gantry motions
• Upright and horizontal detector orientations for exceptional clinical versatility, including patients that are in a hospital bed, standing or sitting during scan
• Multi-functional, dual-axis imaging table
• Automatic “home” positioning enables easy setup of the gantry and the table using pre-programmed detector geometries and imaging modes
• Real-time automatic body contouring
• User-friendly, intuitive Linux-based user interface
• CT imaging sub-system for low-dose Hybrid SPECT/CT applications including attenuation correction and localization
• Smart Console™ provides automated processing, connectivity, and user collaboration tools, for enhanced workflow and accessibility.
• Ignite integrated workflow with Xeleris processing and review workstation designed to help enhance departmental productivity

The Evolution for Bone SPECT Camera License enables the acquisition of Evolution for Bone SPECT data sets on 800 series cameras. The Evolution for Bone SPECT algorithm models the collimator-detector response, improves Bone SPECT resolution, signal to noise ratios and reduces noise variability. Evolution for Bone SPECT enables improved resolution of bone SPECT studies acquired over standard acquisition time or non-inferior image quality with up to 50% reduction in count density, achieved by either imaging at ½ acquisition time or injecting with ½ dose (or any combination of the two) when compared to standard bone SPECT imaging protocols. The Evolution for Bone reconstruction is an additional module within the Q.Volumetrix MI application.
The Evolution for Planar Bone Camera License enables the acquisition of Evolution for Planar Bone data sets on the 800 series cameras. The Evolution for Planar Bone includes a noise reduction algorithm that preserves the finest structures in the image using well-suited pixel size and optimal energy window settings. This Adaptive Structure Matching Non-Local Filter enables improved planar image quality for the same scan time, shorter planar scan time while preserving image quality, or reduced injected dose with the same scan time while preserving image quality. The Evolution for Planar Bone reconstruction is an additional module within the Whole Body Bone and Spots Review application.
The Evolution for Cardiac Camera License enables the acquisition of Evolution for Cardiac data sets on the 800 series cameras. The Evolution for Cardiac resolution recovery algorithm models the collimator-detector response, improves cardiac SPECT resolution,

signal to noise ratios and reduces noise variability. Evolution for Cardiac provides non-inferior image quality with up to 50% reduction in count density, achieved by either imaging at ½ the acquisition time or injecting with ½ the dose (or any combination of the two) when compared to standard MPI protocols. The Evolution for Cardiac reconstruction is an additional module within the Myovation application.
The Evolution Tool Kit Camera License enables the acquisition of Evolution Tool Kit data sets on the 800 series cameras. The Evolution Tool Kit is a package enabling improved resolution and reduced noise for SPECT studies of Tc99m, I123, In111 and Ga67 by using the Evolution reconstruction technique with resolution recovery. Compared to standard FBP or iterative reconstruction, Evolution Tool Kit can enable improved visual clarity. Evolution Tool Kit includes Poisson and Angular re-sampling tools to for imaging simulation of various levels of count densities to test the impact of time or dose reduction on image quality. Evolution Tool Kit reconstruction is an additional module within the Q.Volumetrix MI application.

Line	Qty	Catalog	
3	**1.00**	**H3909AD**	**NM LEHRS coll w/ cart (Full camera config includes SwiftScan Licenses)**

Net Price
$14,700.00

NM 800 Low Energy High Resolution and sensitivity Collimators includes two collimators and a dedicated collimator cart.

Line	Qty	Catalog	
4	**1.00**	**H2506TC**	**NM MEGP Collimators with Cart**

Net Price
$11,760.00

NM Medium Energy General Purpose Collimators includes two collimators and a dedicated collimator cart

Line	Qty	Catalog	
5	**1.00**	**S3906AM**	**Pinhole Collimator + Bilateral Motion**

Net Price
$14,700.00

Pinhole Collimator plus cart plus Bilateral Motion functionality

Line	Qty	Catalog	
6	**1.00**	**H3100PF**	**QC Flood Source Holder Kit**

Net Price
$220.50

A large plate mounted at a small distance above the NM detector on which the flood source is positioned in order to perform acquisition of flood studies for QA/QC purposes.

Line	Qty	Catalog	
7	**1.00**	**H3100PE**	**QC Point Source Holder**

Net Price
$49.00

An L-shaped metal plate attachable to the wall with an opening for a syringe in order to acquire point source-based flood acquisition at a few meters distance from vertically positioned detector for QA purposes.

Line	Qty	Catalog	
8	**1.00**	**H3602SL**	**QA COR Source Holder**

Net Price
$220.50

Center of rotation source holder for Quality assurance, easily attached to Infinia or Ventri table.

Line	Qty	Catalog	
9	**1.00**	**H3909DY**	**QC Bar Phantom 2.5/3.2/3.5/4mm (for USA)**

Net Price
$2,450.00

Bar phantom for spatial resolution and linearity tests of gamma cameras. The phantom consists of four quadrants with different bar specification:
For each of the quadrant, bar spacing is 2.5mm, 3.2mm, 3.5mm 4.0mm

Line	Qty	Catalog	
10	**1.00**	**B7999ZB**	**2 Phase Uninterruptible Power Supply**

Net Price
$14,880.00

Vertiv Uninterruptible Power Supply with custom designed cables to interconnect with GE scanners. 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.

Line	Qty	Catalog	
11	**1.00**	**H3100YT**	**UPS fixtures for 480V UPS for NM SPECT/CT**

Net Price
$6,485.60

A set of cables and components required for use with E4502JJ Eaton 6 kVa UPS - for DLX and DX Digital X-Ray system consoles and Nuclear products that provide partial emergency backup power supply for completion of NM scans and gantry motion.

Line	Qty	Catalog	
12	**1.00**	**H3100TZ**	**Flat Floor Plate**

Net Price
$1,960.00

A streamlined floor plate designed to facilitate collimator exchange on the NM 600/800 series cameras to aid hospital bed and stretcher imaging.

Line	Qty	Catalog	
13	**1.00**	**H3100PG**	**600/800 Series Pallet Extender**

Net Price
$196.00

The patient pallet extender for NM 600/800 Series products can be used to extend the table top for multi-FOV SPECT, SPECT/CT and whole body studies to take advantage of the full scan range capabilities. Length is 600mm; Width is 391mm; 300mm extension
Note - The use of the extender requires more space between the camera and the back wall of the scan room. Consult with GE Healthcare project manager for minimum room size requirements.

Line	Qty	Catalog	
14	**1.00**	**H2506KR**	**NORAV Integrated ECG Gating**

Net Price
$2,156.00

NORAV ECG GATING

A compact ECG gating device for Discovery 630 gated cardiac studies, embedded in the Patient table in order to simplify operation.

Line	Qty	Catalog	
15	**1.00**	**H2506TR**	**600/800 Series Detector Removal**

Net Price
$2,704.80

Detector dismount for shipment of system without detectors attached, must be reassembled in final location

Line	Qty	Catalog	
16	**1.00**	**B77292CA**	**CT Service Cabinet**

Net Price
$633.57

Service cabinet for system accessories storage
CT Service Cabinet (H-42" L36" W24")

Line	Qty	Catalog	
17	**1.00**	**B73602CA**	**Brivo CT Gantry Dolly**

Net Price
$1,141.70

Dolly dedicated to Brivo CT

Line	Qty	Catalog	
18	**1.00**	**S3906AX**	**Q.SPECT camera license (enables PET/CT data format for review)**

Net Price
$0.00

S3906AX Contains a version of H2506TO (Q.Metrix Camera License). This version is intended to enable SPECT/CT data from SmartConsole to transfer for review using PET/CT displays.

Line	Qty	Catalog	
19	**1.00**	**H3909EA**	**Q. AC**

Net Price
$31,850.00

Software package for maintaining AC quality at low CT dose. It's unique CT reconstruction and processing algorithms provide SPECT attenuation correction that maintains quantitative SPECT measurements accuracy even at very low CT dose.

Line	Qty	Catalog	
20	**1.00**	**R12023AC**	**Standard Service License**

Net Price
$0.00

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

Line	Qty	Catalog	
21	**1.00**	**E4502JJ**	**6 KVA UPS for Nuclear Medicine**

Net Price
$4,464.80

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
• The Online Double Conversion UPS eliminates all power anomalies such as noise, transients, overvoltage and undervoltage, which could damage the imaging system's sensitive computer components
• Improves imaging system reliability, reduces service costs, and increases system uptime
• Cell Saver Technology provides conditioned power even during severe brownout conditions without depleting battery resources
• System monitoring via: LanSafe III / FailSafe III software, (2) RS-232 Ports
• PowerPass Module further enhances reliability through Maintenance Bypass Switch which performs maintenance or upgrade your UPS without powering down your critical systems

SPECIFICATIONS
• Dimensions (H x W x D): 33.6” x 9.9” x 15.8”
• Weight: 218 lbs.
• Input Voltage: 200 - 240 VAC
• Output Voltage: 120/240, 120/208 VAC
• Frequency: 45-65 Hz

COMPATIBILITY
• Maxxus NM
NOTES:
• Customer is responsible for rigging and arranging for installation with a qualified party
• ITEM IS NON-RETURNABLE AND NON-REFUNDABLE
• Removal/disposal of the old unit is the customer's responsibility.

Line	Qty	Catalog	
22	**1.00**	**E4502AG**	**90A A1 Main Disconnect Panel and UPS Control**

Net Price
$5,165.60

NOTES:
• Customer is responsible for arranging for installation with a qualified party
• ITEM IS NON-RETURNABLE AND NON-REFUNDABLE

Line	Qty	Catalog	
23	**1.00**	**E8500NB**	**Patient Arm Support System for Nuclear, PET/CT, MRI**

Net Price
$540.00

Padded Arm Rest combines total arm support and passive restraint, increasing patient comfort during extended procedures. Designed to accommodate virtually all patients. Compatible with most Nuclear Imaging systems and can also be used in MRI, CT and PET applications. Constructed with a comfortable, full support polyfoam with a seamless coated finish. Warranty Code: H

Line	Qty	Catalog	
24	**1.00**	**E8500NC**	**Patient Leg Rest for Nuclear, PET/CT, MRI**

Net Price
$184.00

Contoured Leg Rest prevents low back stress and pain that occurs during supine imaging and treatment, measures 7 in. H x 17 in. D x 13 in. W. Designed to accommodate virtually all patients. Compatible with most Nuclear Imaging systems and can also be used in MRI, CT and PET applications. Constructed with a comfortable, full support polyfoam with a seamless coated finish. Warranty Code: H

Line	Qty	Catalog	
25	**1.00**	**W2403NM**	**NM/CT 850 Launch Classic Training Program**

Net Price
$29,040.00

This training program is designed for customers purchasing a GE HealthCare Nuclear Medicine system (including but not limited to NM/CT 850).

GE HealthCare will work with the designated Customer contact to agree upon a reasonable training schedule for a pre-defined group of core technologists that will leverage blended content delivery and may include a combination of onsite days and virtual offerings . The training will include Virtual Tools and remote connectivity. This blended curriculum with multiple delivery platforms promotes learner retention and allows for an efficient and effective skill development.

This program contains 88 Credits. A customized training program blending onsite and virtual training will be developed in partnership with your Applications Specialist.

· Onsite training – each onsite day of training utilizes 8 credits per instructor (8-hour day)

· Virtual training – each hour of virtual training utilizes 1 credit per instructor

· Virtual instructor-led training: Instructor leads a virtual training session one-on-one or in a group, typically in 2-4 hour scheduled blocks

· Answerline Support-Access to GE HealthCare experts for clinical, non-emergency applications assistance via phone or by using the iLinq button on the imaging console

· In addition to the credits available with this offering, the customer has access to the complimentary, no-cost online educational content available for all customers, both CE and non-CE.

Classroom-Based training (if applicable) – each seat in a classroom-based training (in person or virtual) utilizes 16 credits per student (ala carte offerings are available).
Training will be delivered at a mutually agreed upon time between the customer and GE Healthcare (excluding GE Healthcare holidays and weekends) and is subject to availability during normal business hours (8am-5pm). This training program has a term of twelve (12) months commencing on Acceptance, where all training (onsite and/or virtual) must be scheduled and completed within twelve (12) months of Acceptance. Additional credits may be available for purchase separately.

All GE HealthCare “Training” terms and conditions apply. Given the unique nature of this program, if this program is purchased as part of a purchase under a Governing Agreement, including any Master Purchase Agreement, Group Purchasing Organization Agreement, or Strategic Alliance Agreement, this program shall take precedence over any conflicting training deliverables set forth therein.

Subscriptions and other Term-Based Purchases

Summary of Subscription and Term-Based Purchases		
Fee Type	**Net Price Annual**	**Net Price Total**
Non-recurring Fees		**$0.00**
Recurring Fees	**$34,000.00**	**$102,000.00**
Total Contract Value		**$102,000.00**

Non-recurring Fees:

Line	Qty.	Catalog	Description
1	**1**	**H3905JM**	**Xeleris V SS - 5 users (4th and 5th)**

Total Term Net Price
$0.00

4th and 5th concurrent users for Xeleris V Smart Subscription

Line	Qty.	Catalog	Description
2	**1**	**H3905JR**	**Xeleris V SS Quantification Package**

Total Term Net Price
$0.00

Smart Subscription Quantification Package, available either as a Smart Subscription Add On package, or as part of the Unlimited applications package, including:
• Q.Volumetrix AI
• Q.Lung AI

Q.Volumetrix AI
Optional software for Volumetrix MI that enables advanced segmentation empowered AI and quantitation capabilities for SPECT/CT and PET/CT data. Enables routine quantitative SPECT results in the form of MBq/ml and SPECT SUV (Standard Uptake Value) without workflow impediments for both base line and longitudinal studies, especially where relative quantitation is insufficient Utilizes advanced quantitative reconstruction with compensation for Attenuation, Resolution and Scatter. Patient demographics and dose information are incorporated to provide accurate quantitative results. Quantitative SPECT/PET results are further enhanced with advanced segmentation tools providing 2D and 3D organ and lesion characterization. The Q.Volumetrix AI option provides quantitative patient follow-up.
Supports data from GE Healthcare 600's Hybrid products using the following isotopes: 99mTc, 201Tl, 111,In, 123I, 131I, 67Ga, Lu177 and collimators: NaI: LEHRS, LEHR, LEHS, ELEGP, MEGP, HEGP, CZT: WEHR, MEHRS

Q.Lung AI
Provides diagnosis of Pulmonary Embolism (PE), Chronic Obstructive Pulmonary Disease (COPD), Emphysema and other lung deficiencies.
Assess the fraction of total lung function provided by a lobe or whole lung for Lung cancer resection requiring removal of an entire lobe, bilobectomy or pneumonectomy.
Q.Lung AI introduces lung lobe segmentation based on CT structures, using Deep Learning technology for lung fissure automatic detection.

GE Healthcare reserves the right to determine which applications are included with each package.

Line	Qty.	Catalog	Description
3	**1**	**H3905SP**	**Xeleris V SS Dosimetry Package**

Total Term Net Price
$0.00

Smart Subscription Dosimetry Package, available either as a Smart Subscription Add On package, or as part of the Unlimited applications package, including:
• Q.Thera AI
• Dosimetry Toolkit
• Q.Liver

Q.Thera AI
Q.Thera AI application provides comprehensive suite for the physician to review and monitor absorbed dose which also facilitates radio isotope therapy planning.
The toolkit estimates radiation absorbed doses received by internal organs as a result of administering a radiopharmaceutical. The accumulated absorbed dose and residence time aids in planning the therapeutic course.

Dosimetry Toolkit
Dosimetry Toolkit uses multi WB SPECT/CT and/or WB planar datasets for quantifying changes in radiopharmaceutical uptake over time and calculating residence time per organ for Radio-Isotope Therapy treatment planning purposes.
The purpose of the Dosimetry Toolkit is to define and report the patient organs volume, activity and residence time of radiopharmaceutical concentration within patient organs. These results are based on consecutive patient scans and can be used as input for Radio-Isotope Therapy planning using Q.Thera AI application.

Q.Liver
Q.Liver is a comprehensive application that provides processing, quantification, and multidimensional review of Liver SPECT/PET and CT for display and segmentation. The application provides the user with tools to calculate a therapeutic dose for Selective Internal Radiation Therapy (SIRT) treatment.

GE Healthcare reserves the right to determine which applications are included with each package.

Line	Qty.	Catalog	Description
4	**1**	**H3905TB**	**Xeleris V SW SS Upgrade (X5.0310)**

Total Term Net Price
$0.00

Xeleris V Smart Subscription SW Upgrade for IB users who want to add Xeleris Suite or Q.Thera AI in the US

Recurring Fees:

Line	Qty.	Catalog	Description	Term/Duration(in Years)
1	**1**	**H3905EP**	**Smart Subscription - Xeleris V Concurrent Users Upgrade**	**3.0**

Total Term Net Price
$25,500.00

The above non-physical catalog provides upgrade to the Xeleris V Smart Subscription Base package from 3 or 5 concurrent users to 5 or 10 concurrent users set forth in the Quotation (the “Software”).
The initial term for this license subscription is identified in this Quotation, commencing upon Go Live (the date installation is complete) and will automatically renew for subsequent terms having the same duration as the initial term, unless otherwise agreed between the parties. However, either party may elect to not renew the subscription after the initial subscription term or any subsequent renewal period by providing at least 60 days written notice prior to the renewal date. Subscription renewal pricing is based on then current GE

Healthcare pricing. Price increases will be communicated with at least 60 days prior written notice. Initial billing for the subscription occurs in accordance with the Billing Terms identified in the Quotation, with subsequent payments due in accordance with the Billing Frequency (Subscription) of the Quotation. Subscriptions are not cancellable.
Subscription licenses and installation services shall be deemed delivered as of the date of delivery of the equipment associated with the subscription.
As long as Customer has paid all currently due fees associated with Smart Subscription, GE Healthcare will provide, unless otherwise indicated and at no additional charge: (i) updates and/or upgrades to the Software when and if available and only if they are provided at no additional charge to all GE Healthcare customers with a subscription agreement for the Software; and (ii) support for Software-related issues that: (a) materially and adversely interfere with Customer's use of the Software and (b) result from a failure of the Software to materially conform to the Documentation. Support does not include the following, which will incur an additional charge: (1) updates or upgrades that are offered for an additional charge to all GE Healthcare customers with a support agreement; (2) fixes for issues that do not materially affect the Software; (3) training beyond that described in this Quotation; (4) interface modifications; (5) data migration or data conversion; (6) additional services; and (7) separately billable hardware, software or services.

Line	Qty.	Catalog	Description	Term/Duration(in Years)
2	**3**	**H3905EX**	**Smart Subscription - Xeleris V Add-On Package**	**3.0**

Total Term Net Price
$76,500.00

This non-physical catalog complements the Xeleris V Smart Subscription Base package and entitles Customer to one additional package, as set forth in the Quotation (the "Software").

The initial term for this license subscription is identified in this Quotation, commencing upon Go Live (the date installation is complete) and will automatically renew for subsequent terms having the same duration as the initial term, unless otherwise agreed between the parties. However, either party may elect to not renew the subscription after the initial subscription term or any subsequent renewal period by providing at least 60 days written notice prior to the renewal date. Subscription renewal pricing is based on then current GE Healthcare pricing. Price increases will be communicated with at least 60 days prior written notice. Initial billing for the subscription occurs in accordance with the Billing Terms identified in the Quotation, with subsequent payments due in accordance with the Billing Frequency (Subscription) of the Quotation. Subscriptions are not cancellable. Subscription licenses and installation services shall be deemed delivered as of the date of delivery of the equipment associated with the subscription.
As long as Customer has paid all currently due fees associated with Smart Subscription, GE Healthcare will provide, unless otherwise indicated and at no additional charge: (i) updates and/or upgrades to the Software when and if available and only if they are provided at no additional charge to all GE Healthcare customers with a subscription agreement for the Software; and (ii) support for Software-related issues that: (a) materially and adversely interfere with Customer's use of the Software and (b) result from a failure of the Software to materially conform to the Documentation. Support does not include the following, which will incur an additional charge: (1) updates or upgrades that are offered for an additional charge to all GE Healthcare customers with a support agreement; (2) fixes for issues that do not materially affect the Software; (3) training beyond that described in this Quotation; (4) interface modifications; (5) data migration or data conversion; (6) additional services; and (7) separately billable hardware, software or services.

Total Quote List Price ***$1,286,633.00***

Qty.	Credits and Adjustments	
1	**MYOSIGHT Trade-in**	**$0.00**
	Net Price (Year 1)	***$632,752.07***
	Annual Subscription Price (for the reminder of the Initial term)	***$34,000.00***
	Total Quote Net Selling Price:	***$700,752.07***

ENSURE REQUISITION/PURCHASE ORDER IS ISSUED TO:
GE PRECISION HEALTHCARE
TAX ID (83-0849145)

If applicable, for more information on this devices' operating system, please visit GE HealthCare's product security portal at https://securityupdate.gehealthcare.com/en/products

Optional Items

Please initial the Catalogs you wish to purchase

Catalog Number	Qty	Description	Net Price	Initial
H3100NW	**1.00**	**Axial Head Holder**	**$1,715.00**	_____

Ergonomically designed holder to position patient's head outside of the patient tabletop pallet, enabling brain SPECT orbiting as close as possible to the patient's skull with maximal coverage of the target tissue

Catalog Number	Qty	Description	Net Price	Initial
H3905JP	**1.00**	**Xeleris V SS Neurology Package**	**$0.00**	_____

Smart Subscription Neurology Package, available either as a Smart Subscription Add On package, or as part of the Unlimited applications package, including:
• Q.Brain
• DaTQUANT

Q.Brain
Q.Brain allows the user to visualize and quantify relative changes in the brain's metabolic function or blood flow activity between a subject's images and controls, when used with radiopharmaceuticals approved by the regulatory authority in the country of use, which may be resulting from brain function alterations in:
• Epileptic seizures
• Dementia, such as Alzheimer's disease, Lewy body dementia, Parkinson's disease with dementia, vascular dementia, and frontotemporal dementia.
• Inflammation
• Brain death
• Cerebrovascular disease such as acute stroke, chronic and acute ischemia
• Traumatic Brain Injury (TBI)
When integrated with the patient's clinical and diagnostic information, Q.Brain application may aid the physician in the interpretation of cognitive complaints, neuro-degenerative disease processes and brain injuries.
Q.Brain application on Xeleris 5.1 supports Beta Amyloid tracers including:
• NeuraCeq (Florbetaben)
• Amyvid (Florbetapir)
• Vizamyl (Flutametamol)
• Pittsburgh compound B (PiB)
Beta Amyloid PET studies can aid physicians in confirming presence of amyloid beta pathology in the brain prior to Alzheimer's drug treatments.
Includes Normals Database for: HMPAO Ceretec, ECD NeuroLite, IMP, FDG, Vizamyl (Flutametamol) and PiB.

DaTQUANT
DaTQUANT application allows visual evaluation and quantification

of Ioflupane (123I) images.
DaTQUANT advanced quantification may provide additional information that would not be revealed by visual reading alone.
DaTQUANT includes:
Automated non-rigid registration with predefined Ioflupane (123I) template followed by manual adjustment and confirmation
•Fast Ioflupane (123I) SPECT image quantitative analysis: computation of uptake values in the striatum, striatal binding ratios, putamen/caudate ratios, and left/right asymmetry
•Repeatable and more accurate analysis
•Easy and consistent reporting (PDF format) for referring physicians
Note: DaTQUANT is available for sale only for countries where Ioflupane (I123) pharmaceutical is approved for use.

GE Healthcare reserves the right to determine which applications are included with each package.

Trade-in Addendum to GE HealthCare Quotation

This Trade-In Addendum ("Addendum"), effective on October 21, 2024**,** between the GE HealthCare business identified on the Quotation and **Southeast Health**/ ("Customer"), is made a part of Quotation # **2007859849.9 ^** dated **October 21, 2024** ("Quotation") and modifies it as follows:

A. Customer: (i) certifies that it has full legal title to the equipment and/or mobile vehicle ("mobile vehicles" are defined as any systems requiring a vehicle title) listed in Section E ("Trade-In Equipment"), free and clear of all liens and encumbrances; (ii) conveys title and, if applicable, registration and license documents to GE HealthCare effective on the date of removal or receipt of the Trade-In Equipment (mobile vehicles will not be removed from Customer site until GE HealthCare has received a clean title signed over to GE HealthCare); and (iii) affirms that the Trade-In Equipment has never been used on or to provide care to animals. If GE HealthCare removes the Trade-In Equipment, it will do so at its expense at a mutually agreed time. Trade-In Equipment shall be removed no later than thirty days following installation of Customer's new system, unless explicitly otherwise agreed to by the parties in writing.

Mobile vehicles must include the VIN# on this trade-in addendum: VIN# [insert Vin #]. Mobile vehicles must have a valid DOT sticker and be road worthy at the time GE HealthCare is to take possession of them in order for GE HealthCare to accept a mobile vehicle on trade-in. Any and all logos or hospital affiliation stickers must be removed (outside and inside) by Customer and Customer shall clean the mobile vehicle of all debris and medical supplies prior to removal of the mobile vehicle by GE HealthCare.

B. Customer is responsible for: (i) providing timely, unrestricted access to the Trade-In Equipment in a manner that affords GE HealthCare, or third-party purchaser of the Equipment through GE HealthCare, the ability to complete Equipment inspection and testing, and the ability to complete an operating system back-up prior to de-installation within the timeframe required by GE HealthCare or said third-party purchaser, failure of which to provide may result in termination of this Trade-in Addendum and related credits and/or payments; (ii) ensuring that the Trade-In Equipment and the site where it is located are clean and free of bodily fluids; (iii) informing GE HealthCare of site-related safety risks; (iv) properly managing, transporting and disposing of hazardous materials located on site in accordance with applicable legal requirements; (v) rigging, construction, demolition or facility reconditioning expenses, unless expressly stated otherwise in the Quotation; (vi) risk of loss and damage to the Trade-In Equipment until safety risks are remediated and the Trade-In Equipment is removed or returned; and (vii) for Trade-In Equipment that utilizes helium, ensuring sufficient helium for appropriate ramp down of the Trade-In Equipment. Customer is responsible for appropriately identifying and designating Trade-In Equipment for deinstallation and/or pick up by GE HealthCare. GE HealthCare is not liable for any Trade-In Equipment or other equipment that is removed from Customer's facility due to Customer's failure to properly identify and designate Trade-In Equipment for removal.

C. Prior to removal or return to GE HealthCare, Customer must: (i) remove all Protected Health Information as such term is defined in 45 C.F.R. § 160.103 ("PHI") from the Trade-In Equipment; and (ii) indemnify GE HealthCare for any loss resulting from PHI not removed. GE HealthCare has no obligation in connection with PHI not properly removed.

D. GE HealthCare may in its sole discretion reduce the trade-in amount or decline to purchase the Trade-In Equipment and adjust the total purchase price of the Quotation accordingly if: (i) the terms of this Addendum are not met; (ii) Customer fails to provide access to the Trade-In Equipment as required herein; or (ii) the Trade-In Equipment is missing components or is inoperable and/or non-functioning when removed or returned, which includes situations where helium levels at ramp down are insufficient and cause the Trade-In Equipment to quench – Customer is required to confirm for GE HealthCare the operability of the Trade-In Equipment prior to the deinstallation of the Equipment; or (iii) as a result of Customer's actions, deinstallation of the Trade-In Equipment does not occur within one year of the execution of this Trade-In Addendum or related Quotation. All other terms and conditions of the Quotation remain in full force and effect.

E. Trade-In Equipment:

	Mfr	Model & Description	Quantity	System ID*	Amount ($)
1.	GENERAL ELECTRIC	MYOSIGHT Trade-in	1.00	334793MYO1	0.00

This Addendum is executed when: (i) signed by the parties below; (ii) Customer receives this Addendum and signs the Quotation that references the Trade-In Equipment; or (iii) Customer receives this Addendum and issues a purchase order identifying either the terms of the Quotation (which includes a reference to the Trade-In Equipment) or the Governing Agreement identified on the Quotation as governing the order (PO# _____)†.

Southeast Health	**GE HealthCare**
Signature: _____	**Signature: _____**
Print Name: _____	**Print Name: _____**
Title: _____	**Title: _____**
Date: _____	**Date: _____**

^ A Quotation number must be provided on this document.

* In the event the Trade-In Equipment does not have a System ID, please record the serial number of each component that comprises the Trade-In Equipment.

† If you are relying upon the purchase order to reflect acceptance of the terms contained herein, please update this document with the applicable PO number upon receipt of the PO. Failure to do so may result in delays surrounding deinstallation of the System(s).

& The Trade-In Amount is based on expected trade-in within one (1) year of execution of this Trade-In Addendum. If the Trade-In does not occur within such year, GE Healthcare may adjust the Trade-In Amount or decline to purchase the Trade-In Equipment as set forth in Section (D) herein.

GPO Agreement Reference Information

Customer:	Southeast Health
Contract Number:	Vizient Q4-2024 Imaging Group Buy
Billing Terms:	80% on Delivery / 20% on Acceptance
Payment Terms:	45 Net
Shipping Terms	FOB Destination

Offer subject to the Terms and Conditions of the applicable Group Purchasing Agreements currently in effect between GE HealthCare and Vizient Q4-2024 Imaging Group Buy

If applicable, for more information on this devices' operating system, please visit GE HealthCare's product security portal at: https://securityupdate.gehealthcare.com/en/products

This product offering is made per the terms and conditions of Vizient /GE Healthcare GPO Agreements as follows:

Imaging:
XR0882-MR, XR0702-Card./Vasc., XR0673-CT, XR0652-Mammo, XR0895-PET-CT, XR0895-Nuc Med, XR0715-R&F/RAD & XR0592-ICAR-EP/HEMO, XR0692-BMD

Ultrasound:
XR0918-Ultrasound

LCS:
CE7152(Anesthesia), CE7633 (Monitoring), CE3333 (Infant Care), CE7621 (DCAR) and XR0592 (EP).

Vizient: Please login to the Vizient Marketplace Website. If you require assistance or are experiencing issues, please contact Vizient for support: Email: Connect@VizientInc.com and Phone: 866-600-0618.

GE Healthcare

NM/CT 850

Data Sheet

DOC2076212 Rev. 1

Overview

NM/CT 850 system is a hybrid SPECT/CT imaging system combining a nuclear imaging camera with a hybrid-dedicated low-dose CT subsystem. It has an all-purpose, dual-detector, free-geometry integrated nuclear imaging camera that features the advanced Elite NXT detector technology, slim gantry, cantilevered patient table, an Acquisition station, Smart Console[6] digital processing workstation and the Xeleris* processing and review workstation, now combined with a Revolution ACTs CT that has been adapted specifically for low-dose hybrid-dedicated use within the NM/CT 850 imaging system.

The Elite NXT detectors feature 3/8" or 5/8" thick detectors for all-purpose nuclear imaging.

The adapted low-dose hybrid-dedicated Revolution ACTs is an 8-Slice CT with short geometry designed gantry, 2.0 MHU tube anode heat storage capacity, maximum power of 24 kW and New Clarity panel detector HiLight™ scintillator with DAS on detector (DoD) and other advanced OptiDose* dose management features.

Key features of the free-geometry NM/CT 850 design include:

- Slim-profile, wide-bore, robotic gantry design
- 180° and 90° orientations of the NM detectors for high SPECT and WB scanning efficiency
- Rapid, simultaneous multi-axis gantry motions
- Upright and horizontal detector orientations for exceptional clinical versatility, including patients that are in a hospital bed, standing or sitting during scan
- Multi-functional, dual-axis imaging table
- Automatic "home" positioning enables easy setup of the gantry and the table using pre-programmed detector geometries and imaging modes
- Real-time automatic body contouring
- User-friendly, intuitive Linux-based user interface
- CT imaging sub-system for low-dose Hybrid SPECT/CT applications including attenuation correction and localization
- Smart Console™[6] provides automated processing, connectivity, and user collaboration tools, for enhanced workflow and accessibility.
- Ignite integrated workflow with Xeleris processing and review workstation designed to help enhance departmental productivity

Primary Benefits

- Excellent image quality based on advanced Elite NXT detector technology with SPECT-optimized design
- NM dose reduction without compromising image quality, enabled by Evolution[1] family of advanced reconstruction algorithms
- Innovative CT Smart Dose technologies such as OptiDose and Q.AC
- Exceptional productivity enabled through half-time SPECT scans using Evolution[1], fast and flexible robotic gantry motions for maximal clinical versatility and Ignite streamlined workflow
- Low-dose CT scans as part of hybrid SPECT/CT protocols for attenuation correction and anatomical localization purposes
- Advanced, integrated Xeleris workstation clinical applications with remote PC and PACS processing and review solutions

System Components

Elite NXT NM Detectors

NM/CT 850 NM image quality is based on two Elite NXT slim, large field-of-view rectangular digital detectors, performing the following five corrections on each detected event in real time, even at high count-rates:

- Uniformity
- Linearity
- Energy
- Isotope decay
- Center-of-Rotation (COR)

3/8" NM Detector

- 59 circular PMTs - 53 x 3" (76 mm) and 6 x 1.5" (38 mm)
- Crystal thickness: 3/8" (9.5 mm)
- One ADC per PMT, 30.0 MHz sampling rate
- UFOV: 21.25" x 15.75" (54 x 40 cm)
- Energy range: 40 - 620 keV

5/8" NM Detector

- 59 circular PMTs - 53 x 3" (76 mm) and 6 x 1.5" (38 mm)
- Crystal thickness: 5/8" (15.9 mm)
- One ADC per PMT, 30.0 MHz sampling rate
- UFOV: 21.25" x 15.75" (54 cm x 40 cm)
- Energy range: 40 - 620 keV

NM Gantry

NM/CT 850 70 cm wide-bore gantry combines a slim NM gantry with a CT compact design. It enables acquisition of SPECT, Whole Body Planar, Whole Body SPECT, Gated Planar and Gated SPECT studies in various geometries, combined with multi-slice CT scanning specifically for attenuation correction and localization, for a wide patient population.

Key features include:

- Automated detector radial motion (in/out), rotation around the ring, transitions between 180° and 90° geometries or other orientations
- Flexible design enabling a variety of orientations to enable scanning of patients that are sitting upright, standing or lying prone on a stretcher
- A stationary gantry secured to the floor for tomographic center-of- rotation precision
- Camera setup performed interactively by the remote-control handset and via user-definable, pre-programmed acquisition-specific "home" positions
- A gantry display unit showing current status of the gantry's moving parts and the patient table
- Real-time, infrared-based Automatic Body Contouring (ABC) designed to enhance scanning efficiency and resolution in 90° and 180° SPECT and whole-body procedures and help minimize patient-detector distance and maximize image quality

Patient Table

NM/CT 850 features a dual-axis cantilevered table, used for planar, whole body, SPECT and other scanning procedures performed in a horizontal patient orientation.

Key features include:

- Maximum patient weight - 500 lbs. (227 kg)
- Whole body scan range - 78.7” (200 cm) or 88.6” (225 cm) with optional table extender
- Minimum table height - 59 cm (23.2”) - facilitating patient loading and unloading from a wheelchair or stretcher
- Dual-axis cantilevered table with a dual-position CT-NM telescopic transporter for precise SPECT-CT registration
- Low attenuation carbon fiber tabletop includes mattress pad with straps for patient comfort
- Automated positioning simplifying setup
- Interactive bedside touch-ruler for easy setup of scan range
- Manual emergency patient egress
- Mobile design enabling easy swiveling of the table away from the gantry around a pivot point which facilitates fast dual-collimator exchange and scanning of patients who are either seated or on a hospital bed/stretcher
- Optional EKG trigger integrated in the patient-table to enable easier patient setup
- Firm anchoring to the floor with locking pins and floor plates allowing for free access from both sides for patient loading/unloading with IV, EKG or other devices
- Optional accessories such as a head holder, table extender, arm support, leg support, infant scan support and table pads/straps

Acquisition Station

The integrated SPECT-CT acquisition console employs a Graphic User Interface for exam scheduling, scan acquisition, CT reconstruction and scan QC as well as utilities for protocol editing, routine quality control and analysis and networking, including:

- Universal connectivity via DICOM 3.0 (as per DICOM conformance statement) and Interfile 3.3 TCP/IP based protocols
- HIS-integrated workflow including DICOM Worklist and MPPS which creates and updates a Modality Performed Procedure Step report whenever scans are successfully completed, for streamlined hospital diagnostic imaging billing management
- The Revolution ACTs desktop environment, available for CT imaging*** including: localization and attenuation correction protocols definition, networking and archiving.

Smart Console[6]

Smart Console™ is a Nuclear Medicine digital processing and review platform which augments the SPECT-CT acquisition console featuring automated image reconstruction and on-console image pre-review. Designed with productivity in mind, it can help enhance workflow, increase SPECT/CT data accessibility and provide powerful collaboration tools to the clinical imaging department.

Display

- 1080 x 1920 true-color display
- Threshold and windowing control in multiple window settings
- Cinematic display of dynamic and all multi-frame datasets
- Online, live display of acquired data and imaging parameters

Main Features

Acquisition

The NM/CT 850 acquisition station is based on the Linux operating system with an icon-based graphical user interface shared with the Xeleris workstation.

Data acquisition may be performed in any of the following imaging modes: static, dynamic, multi-gated, whole body, SPECT and gated SPECT.

Operation of the NM/CT 850 is done with the interactive, graphical GE Common User Interface (CUI). The CUI is designed to help maximize flexibility and productivity and includes the following features:

- Pre-defined or user-configurable protocols for rapid recall and setup
- On-the-fly digital linearity, energy and uniformity corrections
- Energy spectrum histogram (PHA) display with 16 windows per detector ensuring acquisition into a correct energy window for a given isotope(s)
- Acquisition termination by preset time, preset count or manual stop
- Pan/zoom and rotate modes
- Ability to resume paused acquisitions for whole body, SPECT and gated SPECT
- The CT acquisition is activated as an option of SPECT and gated SPECT scans
- Ability to create NM radiopharmaceuticals dose structured report according to DICOM standard

Utilities

Acquisition software includes control of camera maintenance activities including:

- Disk space management
- Pulse Height Analysis (PHA)
- Center-of-Rotation (COR)
- Single isotope uniformity correction map for all isotopes
- Single isotope energy, sensitivity and linearity maps for all isotopes
- Daily/periodic QC including gantry calibrations
- Customizable system parameters
- Definition and setup of acquisition sequences
- Use of preset acquisition protocols

NM/CT 850 is capable of acquiring single or multi-isotope scans in the following acquisition modes:

Static Acquisition

- Single frame image
- Frame sizes: 32^2, 64^2, 128^2, 256^2, 512^2,1024^2
- Optional bi-lateral detector motion with Pinhole collimator, motion range: 13.8” (35 cm)

Dynamic Acquisition

- Frame sizes: 32^2, 64^2, 128^2, 256^2
- Maximum frame rate: 50 frames/sec

Whole Body Scanning

- Infrared-based real-time Automatic Body Contouring
- Sequential multi-spot ("step-and-shoot") or continuous scanning modes
- Maximum scan range-78.7" (200 cm) or up to 88.6" (225 cm) with optional table extender
- Minimum WB continuous scan speed: 1.97"/min (5 cm/min)
- Maximum WB continuous scan speed
  - Standard: 11.8"/min (30 cm/min)
  - Optional: 78.7" (200 cm/min)
- Simultaneous anterior/posterior dual view scan
- Image matrix: 256 x 1024

SwiftScan Planar[6]

Static and Whole-Body scanning using "Clarity 2D" post processing bundled with LEHRS collimator for improved small lesion detectability[2] and up to 25% time or dose reduction[3]

Multi-Gated Acquisition

- Equi-time and equi-phase gating modes with real-time irregular beat rejection
- ECG display during acquisition
- On-line R-to-R histogram display
- Multi-gated acquisition capacity: 8, 16, 24, or 32 frames per cycle

SPECT Acquisition

- Infrared-based on-line Automatic Body Contouring system
- Step-and-shoot mode with: 2°, 3°, 5°, 6°, 9°, 10°, 12°, 15°, 18°, 30°, 36°, 45°, 60° and 90° angular steps
- Continuous mode with 3°, 4°, 5° or 6° angular sampling
- Step and Shoot Continuous mode bundled with LEHRS collimator
- Maximum scan range – 78.7" (200 cm) + noncontinuous 15.7" (40 cm) with tabletop extender
- Consecutive multiple SPECT scans combined with table translation enable Volumetrix pasting of up to 7 FOVs
- Either 90° ("L-mode") or 180° ("H-mode") geometries
- Matrix size: 64 x 64, 128 x 128, 256 x 256

Gated SPECT Acquisition

- Gated tomography with real-time irregular beat rejection
- User-modified R-R acceptance window
- An extra bin sums all data, both accepted and rejected, securing non-gated study completion in case of an exceptionally irregular heart rate
- Number of frames per R-R interval may vary between 4, 8, 12, 16 and 24

Dynamic SPECT Acquisition (option)

- SPECT scan time: Minimum – 1 min/360°
  Maximum – 15 min/180°
- Up to 40 consecutive SPECT scans in H-mode
- Continuous mode acquisition & angular sampling: 3°, 4°, 5°, 6°
- Supports pan and zoom
- Supports multi-isotope and multi-peak energy settings

SwiftScan SPECT[6]

SPECT and Gated SPECT scanning using the "Step and Shoot Continuous" mode bundled with LEHRS collimator for improved small lesion detectability[4] and up to 25% time or dose reduction[5]

Hybrid SPECT/CT Acquisition

Any supported SPECT and CT single or multiple exams may be combined to create hybrid protocols.

- Hybrid scans may be performed for attenuation correction or for anatomical mapping purposes
- CT modes include: Scout, Axial and Helical scans
- Scan range defined on persistence (SPECT first) or CT scout image (CT first)
- Consecutive multiple SPECT scans followed or preceded by multiple CT scans combined with Volumetrix enable pasting of up to 5 Hybrid SPECT/CT FOVs.
- Maximum SPECT/CT scan range: 159 cm with an additional 32 cm acquisition from a separate scan with head holder

Ignite

The Ignite feature for NM/CT 850 and Xeleris is designed to help streamlines clinician workflow via three simple steps:

- Select the patient in worklist
- Set up patient and utilize auto-home positioning
- Click once to begin acquisition of scan and automatic transfer and processing of results on Xeleris

NM Data Processing and Review

- The NM/CT 850 acquisition station allows networking to local area networks.
- Data acquired on the NM/CT 850 is transferred under Ignite workflow, a one-click productivity solution, to Xeleris processing and review workstations via DICOM 3.0 standard for processing, archiving, reporting and hard copying.

Basic Features

- Data Export - Data Export allows you to store images on a CD-R or FTP or USB device as JPEG, PNG, AVI, MPEG, or MOV formats. The JPEG, PNG, AVI, MPEG, or MOV files can be viewed from a PC3 or laptop Windows™ 2000 or XP operating system using Internet Explorer 5.5 or later.
- Automatic Exposure Control utilizing AutomA and SmartmA - AutomA is an automatic tube current modulation function. This function can perform the necessary mA adjustment. Its accuracy far exceeds the manually estimated value for the patient. Having this kind of volumetric knowledge before you scan allows you to personalize protocols and optimize dose for every patient – large and small. During the scan, real-time, AEC can provide a desired level of image quality/noise at a lower patient dose than would be possible with a fixed scanner radiation output.

Compatible options includes:

- Copy Composer - CD/DVD/USB interchange is used to write or recall images from a CD-R or DVD-R in a DICOM format

Standard Selectable Items

- Local language kits including user's manuals and local keyboard layout

Options

High Precision Collimators

NM/CT 850 features a choice of optional collimators which cover a comprehensive selection of applications in a wide range of energies including fan beam and pinhole collimators. A detailed list of collimators is provided on pages 11 and 12.

Pinhole & LEHR Collimator Cart

An optional collimator cart is available, including:

- Pinhole collimator (for Detector 1)
- LEHR collimator (for Detector 2)

Enhances workflow by enabling successive Thyroid / Parathyroid acquisitions without the need to change collimators between scans.

Volumetrix Suite

Optional software for Volumetrix MI that expands the review capabilities of NM/CT 850 and offers extended display and reporting flexibility.

Volumetrix MI

Volumetrix MI is a tomographic data viewing and processing package that is a consolidated application for SPECT and PET data processing with or without anatomical data (CT or MR), capable of multi-SPECT sessions pasting, follow up on multiple studies and input of anatomical oblique slices. Its integrated SPECT reconstruction and correction algorithm includes interactive selection of optimal image reconstruction parameters and Hybrid QC (ACQC) tools to help improve alignment of SPECT and CT data sets for accurate attenuation correction and localization.

- Inputs anatomical oblique slices and features on-the-fly for oblique creation/manipulation
- Facilitates dual isotope and studyfollow-up reading and accepting multiple SPECT, PET, CT and MR datasets
- Supports standard uptake value (SUV) calculation and display mode for PET (LBM, BSA and BW methods)
- Flexible and user-customized layouts
- Auto Condense mode to automatically condense slices to fit on one screen for printing or filming
- Multiple fusion modes, including weighted fusion, which allows the user to adjust the contribution of the NM and CT images to the fused results
- Both the anatomical and the functional images retain resolution
- Fast CT scroll

Volumetrix 3D

Optional software package, integrating 3D Fusion into the nuclear medicine workflow, bringing together the benefits of advanced 3D visualization with the productivity of traditional 2D image analysis.

- 3D VR of fused SPECT-CT, PET-CT or MR images
- NM segmentation tools to include or exclude portions of either volume in the 3D rendered images, including removal of the table from the CT image and threshold based semi-automatic segmentation
- Clip & Cut Planes to integrate traditional Axial, Sagittal and Coronal slices simultaneously into the 3D rendered objects

Volumetrix IR

Optional software which provides a choice of DICOM 3.0 CT data sets to be registered to NM or PET data sets in the NM workflow:

- Rigid registration of NM to CT or MR
- Manual adjustment via shift/rotate
- Full or regional registration (fusion and collect supported)
- Auto accept or user intervention are allowed

MDC - Motion Detection and Correction

- Automated cardiac and general purpose SPECT motion correction
- Sinogram and linogram images for QC analysis
- Tools for manual adjustment and correction

SPECT Reconstruction

- Adjustment of any of the reconstruction settings
- On-the-fly image correction setup including resolution recovery (option), attenuation and scatter
- Filter selection with filter gallery review to determine the most effective filter and filter parameters-2D Hanning, Metz, Butterworth, Hamming and Wiener filters are available for FBP reconstruction. 3D Butterworth, Hanning and Gauss filters are available for OSEM reconstruction

QC Package for Hybrid NM/CT Studies

This package enables effective alignment of hybrid NM and CT data sets in order to minimize potential inter-study misalignments. It can help reduce the potential need for study retakes and features:

- Automatic Hybrid QC (user overridden) of the NM FOV relative to Hybrid CT FOV
- Confirm or reject each FOV separately
- Correct or generate attenuation maps

Multi-FOV Pasting

- Automatic pasting (user overridden) up to 7 FOVs (covering the whole body)
- Preview pasted volume on SPECT/CT (NM & fused available – up to two FOVs)

Registration

- Manual adjustment via shift/rotate
- Single landmark registration
- Regional registration
- Fusion and spots collection are supported on registered images
- Auto accept or user intervention are allowed at any one of the above packages

Attenuation Correction

Using CT transmission maps for reducing SPECT scans attenuation artifacts, NM/CT 850 provides a highly effective cardiac and general purpose SPECT attenuation correction system. Imported CT transmission data can be used in both 90° and 180° detector geometries.

Xeleris Evolution for Bone[1]

This is an optional iterative reconstruction with resolution recovery well-suited for Bone SPECT studies. The Evolution for Bone algorithm, which was developed at John Hopkins University and UNC Chapel Hill, models the collimator-detector response, improves

Bone SPECT resolution and signal-to-noise ratios and reduces noise variability.

Use of the option enables:

1. Improved resolution of Bone SPECT studies acquired over standard acquisition time or
2. Non-inferior image quality with up to 50% reduction in count density, enabling:
   a. Imaging at half the acquisition time compared to standard Bone SPECT protocols or
   b. Imaging at half the dose compared to standard Bone SPECT imaging protocols or
   c. Various combinations of (a) and (b).

Xeleris Evolution Toolkit[1]

Optional package enabling improved resolution and reduced noise for SPECT studies of Tc-99m, I-123, In-111, I-131 and Ga-67 by the use of the Evolution reconstruction technique with resolution-recovery. Compared to standard FBP or iterative reconstruction, Evolution Toolkit can enable improved visual clarity.

Xeleris Evolution for Bone Planar[1]

Optional add-on feature to Whole Body and Spots Bone Review application. Evolution for Bone Planar is an Adaptive Structure Matching Non-Local Filter which preserves the fine structures in the image. It employs an effective noise-reduction algorithm, well-suited pixel size and optimal energy window settings. Evolution for Bone Planar enables up to 50% reduction in count density compared to standard protocol, delivering any of the following:

1. Improved WB planar image quality (in terms of SNR and lesion contrast) for the same scan time
2. Shorter WB planar scan time while preserving image quality
3. Reduced injected dose of the same scan time while preserving image quality

Evolution for Bone Planar should not be used in conjunction with SwiftScan Planar.

Evolution for Cardiac[1]

This is an optional OSEM resolution recovery reconstruction algorithm which models the collimator-detector response developed at John Hopkins University and UNC Chapel Hill. It improves cardiac SPECT resolution, signal-to-noise ratios and noise variability.

The package provides non-inferior image quality with up to 50% reduction in count density of Cardiac SPECT studies, enabling:

1. Imaging at half the acquisition time compared to standard MPI protocols or
2. Imaging at half the dose compared to standard MPI protocols or
3. Various combinations of (1) and (2).

Xeleris Cardiac Morphing

Optional software providing the following performance:

- Delivers enhanced perfusion image quality for Gated SPECT data
- Overcomes non-uniform blurring of the myocardium due to cardiac motion, enhancing the visual clarity of the images
- Based on elastic summation of tomograms representing all bins in a cardiac cycle – rescaled to match end-diastolic LV size

Quantitation

Advanced quantitation and CT AC enhancement options include:

- **Xeleris Dosimetry Toolkit** optional application enabling quantification of changes in radiopharmaceutical absorption at multiple body organs over time through analysis of SPECT or planar WB studies and a hybrid SPECT/CT scan. The results may help in radiotherapy treatment planning. The quantification algorithm includes:
  - Aligning multiple planar WB and/or SPECT studies to each other and to a registered hybrid SPECT/CT scan of the same patient
  - Delineating organ VOIs through CT segmentation
  - Applying the VOIs for organ uptake quantification in a series of NM scans acquired over time resulting in calculated residual time per organ

- **Xeleris Q.Volumetrix MI** option, employing SPECT and CT segmentation tools for quantifying radiopharmaceutical uptake using patient demographics information and the same methods that are currently used to calculate SUV for PET images to quantify the following parameters:
  - Radiotracer uptake in Bq/ml
  - % of injected dose
  - Total uptake assessment in segmented organs/lesions

Xeleris Q.Volumetrix MI SUV measurements achieve an accuracy of equal or higher than 90% on spherical volumes higher than 11.5 ml[7]. To support quantitative workflow the camera provides the following capabilities:

  - Ability to include the required information for quantitative SPECT in the DICOM files sent from the camera to Xeleris. This information includes:
    - Camera sensitivity
    - Patient demographics
    - Radiopharmaceutical Administration information
    - Guided workflow for measuring camera sensitivity.

- **Q.AC** option, for maintaining AC quality at low CT dose. Its unique CT reconstruction and processing algorithms provide SPECT attenuation correction that maintains quantitative SPECT measurements accuracy even at very low CT dose.
- **WideView*** option for reduced CT clipping artifacts, enabling CT attenuation correction of SPECT scans throughout the entire reconstructed SPECT field-of-view.

Other Options

Additional options include:

- Carbon fiber axial head holder for brain SPECT scans
- External IVY R-Wave Trigger with and without ECG chart recorder
- Integrated EKG
- Table Leg Extender
- QA bar phantom
- Rectangular Co-57 flood (Site license required)
- Butterfly arm support
- Leg support
- Infant Scan Support
- A variety of Uninterruptible Power Supply (UPS) models
- Flat Floor Plate

Siting Requirements

Minimum Room Size

- Exam Room Size: 19' 6.6"×10' 11.9" (5.96m × 3.35m)
- Control Room Size: 9' x 14' (2.74 m x 4.27 m)
- With single desktop table: 15'5" x 8'11" (4.7 m x 2.4 m)

These values meet minimum clearance requirements under U.S. Federal Regulations and National Standards: 29 CFR 1910 (OSHA), NFPA 70E (Standard for Electrical Safety in the Workplace) and NFPA 101 (Life Safety Code). Specific room requirements may also need to comply with local and regulatory requirements.

Power Requirements

Power conditioning is incorporated into the primary power supply of the system. The system can operate on line voltage based on local conditions and codes.

380-480 VAC nominal, 3 phase Delta or Wye, 50/60 Hz. Power consumption is 40 kVA peak, 8.8 kvA average.

Operating Conditions

Parameter	Maximum	Minimum	Maximum Change Rate
Temperature	26° C (79° F)	18° C (64° F)	3° C/hr (5° F/hr)
Humidity	60% non-condensing relative	30% non-condensing relative	5 % / hr

Cooling Requirements

- The cooling requirements do not include cooling for the room lighting, personnel or non-NM/CT equipment present. Cooling requirements are listed by subsystem to allow planning for each room of the NM/CT suite.
- Cooling requirements are given for minimum, recommended and growth allowance scenarios.
- The minimum cooling figures assume patient throughput of 3 patients per hour and 75 scan rotations per patient
- The recommended cooling requirements assume patient. throughput limited by the tube-cooling algorithm.
- The suite cooling can be sized for future developments by using the growth allowance figures. This cooling will accommodate more patients per hour and/or potential future system enhancements.

	Minimum Allowance (± 10%)	
Subsystem	Watts	BTU/hr
Gantry	4,820	16,445
Table	200	682
PDU	700	2,389
Operator Console	600, 900 with SmartConsole	2048, 3072 with SmartConsole

Regulatory Compliance

This product is designed to comply with applicable safety standards. It complies with the requirements of IEC 60601-1 and relevant collateral, UL 60601-1, Safety Standards for Medical Electrical Equipment.

GE Healthcare has been certified to be ISO-13485 compliant.

Warranty

Please contact your sales representative for information.

NM/CT 850 Mechanical Specifications

Patient Table	Specification
Table weight	1228 lbs, 557 kg
Maximum patient load capacity	500 lbs. (227 kg)
Maximum NM WB scan length	78.7” (200 cm) + 9.9” (25 cm) with tabletop extender
Maximum SPECT scan range	78.7” (200cm) + 15.7” (40 cm) SPECT FOV with tabletop extender
Maximum CT scan length	6.2" (188 cm) with head holder or tabletop extender
Maximum hybrid NM/CT scan length	5'1.4" (156 cm) + non-continuous 12.6” (32 cm) with head holder
Table width	24.0” (61 cm)
Tabletop width	15.8” (40 cm)
Table length	9’2” (280 cm)
Height	Minimal: 23.2” (59 cm) Maximal: 39.4” (100 cm)
Attenuation	<10% for 140 keV gamma rays <15% for 120 kVp X-rays
Maximum pallet height at center	34.1” (86.7 cm)
Vertical travel time (full range)	Slow: 34 sec Fast: 26 sec
Horizontal speed (manual, handheld controller)	Slow: 0.98”/s (24.8 mm/s) Fast: 3.94”/s (100 mm/s)

NM/CT Gantry	Specification
Depth (length)	86.6” (220 cm)
Width	75.9” (193 cm)
Height	83.1” (211 cm)
Gantry bore size (diameter)	27.6” (70 cm)
Weight	6786 lbs. (3078 kg) without collimators
NM Rotational (Axial) Motion Speed	0.033 to 3.0 rpm automatically; 1.0 or 3.0 rpm manually
NM Independent Radial Motion Speed	19.7” or 29.5”/min (50 or 75 cm/min)
Emergency stops	3
NM rotation range	540°
NM Gantry Orientations SPECT Planar	90° and 180° opposing, Horizontal 0° Planar, Vertical 180° Planar
NM Swivel Tilt Range	0° to 180° about detector axis
NM Caudal/Cephalic Tilt Range	Each detector can swivel independently ± 45° (available only on hospital bed/gurney)
NM Detector Scan Radius (With LEHR Collimators)	Minimum: 3.9” (10 cm) radius/7.8” (20 cm) diameter Maximum: 13.8” (35 cm) radius/27.6” (70 cm) diameter
NM Lateral Motion Speed	19.7” or 29.5”/min (50 or 75 cm/min)

Main programmed orientations of NM/CT 850 gantry

NM/CT 850 NM Features Summary

SUBSYSTEM	KEY FEATURE	USER/PATIENT BENEFIT
NM Elite NXT 3/8" or 5/8" Detectors	2 rectangular digital detectors with real-time corrections for sensitivity, linearity, energy, isotope decay and COR	High resolution large FOV detectors with excellent image quality and stability
	Slim detectors	Low gantry load for excellent mechanical precision and wide detector clearance for wide referral population
	Real-time Automatic Body Contouring	Automatically follows the contour of the patient for both SPECT and whole-body imaging, maintaining minimal patient-to-detector distance for high resolution images; minimizes time-to-position patients
	Energy range: 40 - 620 keV	Optimized for wide energy range and multiple isotope studies
Collimation	Collision sensitive pads on collimators surface and on body contouring device	Protect against collision with patient body: automatically halt detector/table motions for patient safety
	High Precision Collimators	Maintain excellent image quality in all applications
	Dual-collimator cart combines storage and exchange functions	Productivity, ease of use and safety; both collimators removed/replaced during one exchange session
Dual Axis Imaging Table	Single table for all study types with automatic setup of table positions	Ease of use and productivity: fast and easy planar Whole Body, SPECT, SPECT/CT and CT procedures setup and acquisition
	Telescopic transporter design provides solid support for the tabletop in both the NM and the CT scanning positions	Improves SPECT/CT registration precision by minimizing potential table-sagging-induced NM-CT misalignments
	Patient weight load of up to 500 lbs. (227 kg)	Accommodates greater portion of the scanned population compared with previous GE NM camera models
	Tabletop longitudinal travel accommodates 6'7" (200 cm) patient	Accommodates greater portion of the scanned population compared with previous GE NM camera models
	Table vertical travel range: Minimal: 23.2" (59 cm) Maximal: 39.4" (100 cm)	Ease of patient transfer from wheelchair or stretcher; well suited for geriatric and pediatric patients
	Mobile design pivots on rear floor pin	Study flexibility for seated and stretcher patients, as well as collimator exchange; reduces tripping hazards
	Curved profile, low attenuation carbon-fiber tabletop	Patient comfort on wide table can help reduce patient movement and, therefore, improve image quality
	Touch ruler for scan range delineation	Fast and simple, may enhance operator productivity
	Hand grips on sides and cradle release on rear of table	Ease of table positioning and fast patient egress (cradle release) in case of emergency
	Accommodates head holder	Fixed patient positioning for high quality brain SPECT studies
	Accommodates wide arm support straps	Patient comfort and user productivity
	Accommodates tabletop extender	Ability to image taller patients in legs-in position and extend WB scan range from standard 200 cm to 225 cm
	Accommodates Infant Scan support	Ability to image infants with improved detector-patient proximity scanning due to narrow accessory pallet.
NM Handheld Controller	Icon-based design	Ease of use for simple patient setup
	Pole-mounted hand-held controller on top of gantry	User can operate controller from either side of the gantry for flexibility; user can start exam without leaving the patient's side

SUBSYSTEM	KEY FEATURE	USER/PATIENT BENEFIT
NM Gantry	Exam Room Size: 19'6.5" x 10'11.7" (5.96 m x 3.35 m)	Minimal room layout requirements
	Detectors shape optimized for 90° geometry (valid for LEHS, LEUHR, LEHR, LEHRS and ELEGP)	Shaped detector edges fit together tightly during 90° cardiac mode, minimizing dead space for high sensitivity and resolution
	Secured position on floor	Gantry does not move on rails, providing for mechanical stability and reliability; reduces tripping hazards
	Automatic study “Home” positions	Ease of use and quick patient setup with factory home positions of: collimator exchange, 180° SPECT, 180° Brain SPECT, 180° Whole Body, Vertical orientation facing out, 90° Cardiac SPECT, 90° SPECT Spine and Stretcher
	Externally mounted dual detectors	Patient friendly; ease and speed of patient positioning
	Emergency Stop buttons	Stops all system motions upon emergency for patient safety
	Motorized radial detector movement in 90° position	Highly flexible patient positioning for cardiac imaging; COR stability and reproducibility
	Free geometry capability of various 0°, 90° and 180° configurations	High throughput configurations for cardiac SPECT and whole body imaging, as well as providing flexibility of a single-head camera
	Flexible detectors positioning including upright standing or seated patients and hospital bed scanning	High clinical utility including “single-head positioning flexibility”
	Rapid transition between the various gantry geometries	Technologist productivity; ease and speed of study set-up
NM Acquisition Station	Graphical user interface with Xeleris workstation	Facilitates ease of use
	Standard high-end Windows PC running a real-time multi-tasking interface	May enhance productivity with multi-window, multi-tasking system
	Linux operating system	Parallel operations allow simultaneous acquisition and display to help enhance productivity
	Fully-integrated SPECT/CT workflow solution with Ignite	Workflow productivity for streamlined imaging procedures including camera/patient setup, acquisition, processing and archiving
	Networks to Smart Console[6] and Xeleris Processing & Review	Non-proprietary communication protocols; open system
DICOM Connectivity	Networks to DICOM-compliant systems	Communicates with 3rd party DICOM-compliant workstations
	DICOM Modality Worklist	Streamlines patient admittance and scheduling

Elite NXT NM Detector Performance Specifications** Summary

SPECIFICATION	PARAMETER		RANGE	DATA (3/8" Crystal)	DATA (5/8" Crystal)
Field-of-View	UFOV	Length	=	54 cm	54 cm
		Width		40 cm	40 cm
Intrinsic Energy Resolution (Tc-99m @ 20 kcps)	UFOV	FWHM	≤	9.5 %	9.5 %
Intrinsic Spatial Resolution	CFOV	FWHM	≤	3.7 mm	4.5 mm
		FWHM	≤	6.8 mm	8.5 mm
	UFOV	FWHM	≤	3.8 mm	4.6 mm
		FWHM	≤	6.9 mm	8.7 mm
Intrinsic Uniformity	CFOV	Differential	≤	2.1%	2.1%
		Integral	≤	3.0%	3.0%
	UFOV	Differential	≤	2.3%	2.3%
		Integral	≤	3.6%	3.6%
Intrinsic Spatial Linearity	CFOV	Differential	≤	0.2 mm	0.2 mm
		Absolute	≤	0.4 mm	0.5 mm
	UFOV	Differential	≤	0.2 mm	0.2 mm
		Absolute	≤	0.4 mm	0.5 mm
Multiple Window Spatial Registration			≤	0.5 mm	1.0 mm
Intrinsic Count Rate	Maximum Count Rate		≥	460 kcps	460 kcps
	Maximum @ 20% window		≥	400 kcps	400 kcps
	20% loss @ 20% window		≥	250 kcps	250 kcps
SPECT Reconstructed Spatial Resolution with Scatter (LEHR Collimators)	Central		≤	9.9 mm	10.3 mm
	Radial		≤	9.9 mm	10.3 mm
	Tangential		≤	7.5 mm	7.9 mm

Evolution for Bone SPECT Performance Specifications

SPECIFICATION	PARAMETER	RANGE	FULL TIME	HALF TIME
Evolution for Bone[(1)] SPECT Reconstructed Spatial Resolution with Scatter[§] (LEHR Collimators) Note: reconstructed without post-filtering	Central	≤	6.4 mm	7.0 mm
	Radial	≤	5.7 mm	6.0 mm
	Tangential	≤	5.1 mm	5.4 mm

NM/CT 850 Parallel Hole Collimators

DESCRIPTION	NAME	CATALOG NUMBER (a)	RECOM-MENDED ISOTOPE	FIELD OF VIEW (cm) (b)	CALCULATED PENETRATION (%)	SYSTEM SENSITIVITY (cpm/µCi) @100 mm 3/8"/5/8" Per Detector (c)	SYSTEM SENSITIVITY (cps/MBq) @100 mm 3/8"/5/8" Per Detector (c)	SYSTEM RESOLUTION FWHM (mm) @100mm 3/8"/5/8" (d)	TYPE OF HOLE	HOLE DIAMETER (mm)	SEPTAL THICKNESS (mm)	HOLE LENGTH (mm)	WEIGHT (kg/lb) 1 pcs
Low Energy[f] High Resolution Sensitivity[6]	LEHRS	H3909AD	Tc99m	54 x 40	2.3 (Tc-99m)	206 / 210[e] (Tc-99m)	92 / 94[e] (Tc-99m)	7.4/7.7[e] 6.1[g]	hex	1.43	0.13	32	43/95
Low Energy[f] High Sensitivity	LEHS	H2506TY	Tc99m	54 x 40	5 (Tc-99m)	470 / 484[e] (Tc-99m)	211 / 217[e] (Tc-99m)	10.8/11[e]	hex	2.31	0.152	34	60/132
Low Energy[f] Ultra-High Resolution	LEUHR	H2506TH	Tl-201/ Tc99m Studies	54 x 40	0.3 (Tc-99m)	83 / 86[e] (Tc-99m)	38 / 39[e] (Tc-99m)	6.1/6.3[e]	hex	1.22	0.15	38	80/176
Low Energy[f] High Resolution	LEHR	H2506TB	Tl-201/ Tc99m Studies	54 x 40	0.3 (Tc-99m)	160 / 165 (Tc-99m)	72 / 74 (Tc-99m)	7.4/7.7	hex	1.5	0.2	35	60/132
Extended[f] Low Energy General Purpose	ELEGP	H2506TD	I-123/ Kr-81 Studies	54x 40	0.3 (I-123) 2.3 (Kr-81)	320 / 330 (Tc-99m) 224 / 245 (I-123)	144 / 148 (Tc-99m) 101 / 110 (I-123)	10.3/10.6	hex	2.5	0.4	40	62/136
Medium Energy General Purpose	MEGP	H2506TC	Ga-67/ In-111 studies	54 x 40	2.0 (Ga-67)	144 / 150 (Ga-67)	65 / 67 (Ga-67)	9.4/9.8	hex	3	1.05	58	103/227
High Energy General Purpose	HEGP	H2506TE	I-131 studies	54 x 40	2.0 (I-131)	97 / 165 (I-131)	43 / 73 (I-131)	12.0/12.5	hex	4	1.8	66	131/289

a. Each commercial item includes 2 collimators mounted on a cart
b. Collimator field-of-view
c. Measured with 20% window using relevant isotope for each collimator, with ±10% tolerance
d. Measured at 100 mm distance from collimator face with ±4% tolerance
e. Calculated
f. L-mode SPECT (90° detectors geometry) is effective with low energy collimators (LEUHR, LEHR, LEHS, LEHRS and ELEGP)
g. Measured on 3/8'' configuration with Clarity2D 40% blending

NM/CT 850 Pinhole Collimators

DESCRIPTION	NAME	CATALOG NUMBER	RECOM-MENDED ISOTOPE	FIELD OF VIEW (cm) (b)	WEIGHT (kg/lb)	INSERT HOLE DIAMETER (mm)	SYSTEM SENSITIVITY[h] (cpm/µCi) @100 mm 3/8"/5/8" Per Detector (b)	SYSTEM SENSITIVITY (cps/MBq) @100 mm 3/8"/5/8"	SYSTEM RESOLUTION FHWM (mm) @100 mm 3/8"/5/8" (i)
General Purpose Pin Hole (3 inserts)	GPPH(g)	H2506TF	Thyroid/Tc99m, I123, I131	200 diameter	98/216 – 1 pcs. 169/370 – 2 pcs.	2 4.45 8	43/47 200/216 570/ 600	19/20 90/95 258/268	3.8/4.2 6.5/7.1/11.4/12.1

a. Commercial item includes a single pinhole collimator mounted on a cart or single pinhole collimator with LEHR parallel hole collimator, mounted on the same cart.
b. Sensitivity measured with Co57 (point source at 100 mm from insert center with PSD cover, 20% window) extrapolated to Tc-99m with ±10% tolerance
c. Resolution measured with ±4% tolerance

NM/CT 850 Fan Beam Collimator

The optional Fan Beam Collimator enables higher efficiency brain SPECT studies compared to LEHR collimator.

Description	Name	Catalog Number (j)	Recommended Application/ Isotope	Field Of View (mm) @ (k)	Calculated Penetration (%)	Type of Hole	Hole Diameter (mm)	Septal Thickness (mm)	Hole Length (mm)	Volume Sensitivity (l) 3/8"/5/8"	Spatial Resolution	Weight (kg/ lb) 1pcs
Fan Beam	Fan Beam	H2506TG	Brain/ Tc99m	540 x >=250	0.1 (Tc99m)	hex	1.5	0.2	40	39,960 [cpm/µCi/ cm^2] 18,000 [cps/MBq/ cm^2]	Central 8.0/8.2 mm Peripheral Radial 8.5/8.7 mm Peripheral Tangential 6.7/7.0 mm	64/140

a. Commercial item includes 2 collimators mounted on a cart
b. Collimator field-of-view
c. Sensitivity measured on two detectors, Tc99m with 15% window, with ±10% tolerance
d. SPECT resolution measured with ±4% tolerance

Notes:

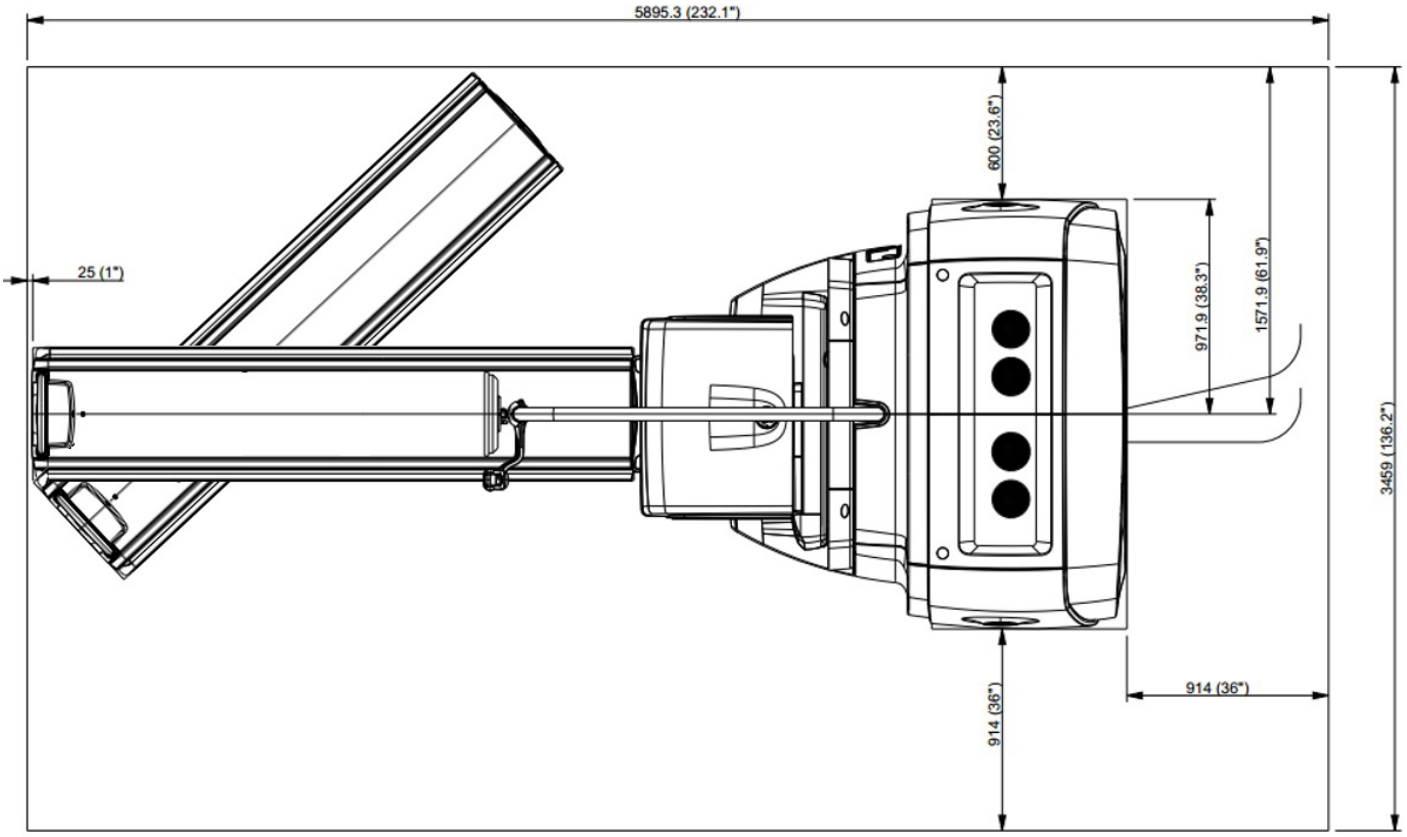
- Recommended brain scan radius is 14-16 cm
- Focal distance from collimator surface is >=350 mm
- Effective collimator thickness is approximately 57 mm

NM/CT 850 8-slice CT Key Specifications

CT Features	NM/CT 850 CT Performance
Gantry	
Aperture	70 cm
Scan Field	50 cm (up to 70 cm with WideView option)
Rotation Time	0.98, 1.0, 1.2, 1.5, 2.0, 3.0, 4.0 seconds
Data Acquisition System	
Maximum Number of Slices/Rotation	8
Number of Physical Detector Rows	8
Axial Acquisition Modes	1 x 5 mm, 1x 10 mm, 2 x 2.5 mm, 2 x 5 mm, 4 x 1.25 mm, 4 x 2.5 mm, 8 x 1.25 mm
Helical Acquisition Modes	4 x 1.25 mm, 8 x 1.25 mm
Tube Assembly	
Tube	GE MX135CT
Tube Current (max)	200 mA (limited to 30 mA for clinical use)
Tube Voltage	80, 100, 120, 140 KV
Tube Anode Heat Storage Capacity	2.0 MHU
Heat Dissipation (max)	6200W (500KHU/min)
Focal Spot Size According to IEC 60336/1993	0.8 mm (W) x 0.6 mm (L)

CT Features	NM/CT 850 CT Performance
Generator	
Maximum Power	24 kW (limited to 4.2 kW for clinical use)
Axial Acquisition	
Reconstructed Slice Widths	1.25, 2.5, 5, 10 mm
Scan Times Full Scan (360°)	0.98, 1.0, 1.2, 1.5, 2.0, 3.0, 4.0 s
Multi-slice Helical Acquisition	
Reconstructed Slice Widths	1.25, 2.5, 3.75, 5, 7.5, 10 mm
Scan Times Full Scan (360°)	0.98, 1.0, 1.2, 1.5, 2.0 s
Reconstruction Increment	0.1 mm
Pitch Factor	0.625:1, 0.75:1, 0.875:1, 1.35:1, 1.5:1, 1.675:1
Spiral Scan Time (max)	90 s (single helical scan)
Scan Length (max)	150 cm (continuous)
Low-Contrast Detectability (CATPHAN Phantom measured in both helical and axial scans)	
Helical at 1.8 mGy (Smooth filter)	5 mm @ 0.60%
Axial at 1.58 mGy (Smooth filter)	5 mm @ 0.60%
High contrast resolution - Axial / Helical	
Standard Algorithm	4.0 lp/cm @ 50% MTF 6.5 lp/cm @ 10% MTF 18.96 lp/cm @ 1% MTF (theoretical)
Hi-Res Algorithm	8.5 lp/cm @ 50% MTF 13.0 lp/cm @ 10% MTF
Helical Dose, CTDI100 Values	
Head	19.61 mGy/100mAs - Center 19.74 mGy/100mAs - Surface
Body	5.98 mGy/100mAs - Center 12.2 mGy/100mAs - Surface

NM/CT 850 Minimal Room Layout: 19’6.5” X 10’11.7” (5.96 m x 3.35 m)



Note: the minimal room layout enables a CT scan length of 1467 mm (57.8”).

The floor plan of minimum room layout above (19’6.5” X 10’11.7” / 5.96 m x 3.35 m) meets the following egress and service clearance requirements under U.S. Federal Regulations and National Standards:

- 29 CFR 1910 (OSHA), NFPA 70E (Standard for Electrical Safety in the Workspace)
- NFPA 101 (Life Safety Code)

Specific room layouts may be subject to additional local and regulatory requirements. For non-U.S. installations, specific installations are subject to country, local and regulatory requirements. For more information, please contact your local GE representative.

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**Per NEMA NU-1 2012

***See Revolution™ ACTs Data Sheet for more detail

§ (1) Evolution Disclaimer:

- In clinical practice, Evolution options (Evolution for Bone, Evolution for Cardiac, Evolution for Bone Planar) and Evolution Toolkit are recommended for use following consultation of a NM physician, physicist and/or application specialist to determine the appropriate dose or scan time reduction to obtain diagnostic image quality for a particular clinical task, depending on the protocol adopted by the clinical site.
- Evolution claims are supported by simulation of count statistics using default factory protocols and imaging of Tc-99m based radiotracers with LEHR collimator on anthropomorphic phantom or realistic NCAT – SIMSET phantom followed by quantitative and qualitative images comparison.
- Evolution Toolkit claims are supported by simulation of full count statistics using lesion simulation phantom images based on various radiotracers and collimators and by showing that SPECT image quality reconstructed with Evolution Toolkit
- provides equivalent clinical information but has better signal-to-noise, contrast and lesion resolution compared to the images reconstructed with FBP/OSEM.
- Evolution is supported with LEHR, LEHRS, MEGP, HEGP, ELEGP and LEHS collimators.

SwiftScan Planar Disclaimer:

(2) As demonstrated in phantom testing using a model observer. Compared to using the LEHR collimator without Clarity2D.

(3) Compared to using the LEHR collimator without Planar Clarity 2D. As demonstrated in phantom testing using a bone scan protocol and a model observer. Because model observer results may not always match those from a human reader, the actual time/dose reduction depends on the clinical task, patient size, anatomical location and clinical practice. A radiologist should determine the appropriate scan time/dose for the particular clinical task.

SwiftScan SPECT Disclaimer

(4) As demonstrated in phantom testing using a model observer. Compared to using the LEHR Collimator and a SPECT Step and Shoot acquisition.

(5) Compared to using the LEHR collimator with SPECT Step & Shoot scan mode. As demonstrated in phantom testing using a bone scan protocol, Evolution processing, and a model observer. Because model observer may not always match those from a human reader, the actual time/dose reduction depends on the clinical task, patient size, anatomical location. and clinical practice. A radiologist should determine the appropriate scan time/dose for the particular clinical task.

Configuration Disclaimer (H3907AH)

(6) Smart Console, SwiftScan Planar and SwiftScan SPECT are not available with the ES configuration (H3907AH) of NM/CT 850.

Q.Metrix Disclaimer

(7) Using the NEMA IEC Body Phantom, loaded with spheres having different volumes and 8:1 target to background ratio of Tc99m.

About GE Healthcare

GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality and more affordable healthcare around the world. GE (NYSE: GE) works on things that matter - great people and technologies taking on tough challenges. From medical imaging, software & IT, patient monitoring and diagnostics to drug discovery, biopharmaceutical manufacturing technologies and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.

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Imagination at work

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