

SHIP TO:
ON-SITE WAREHOUSE B90079
V.A. Medical Center
WAREHOUSE BLDG 1
2215 FULLER ROAD
ANN ARBOR, MI 48105

P.O.# 506 - B90079

Qty	Item Description
1	Symbia Evo The Symbia Evo is a variable angle dual detector SPECT imaging system with an open gantry designed to maximize patient comfort and fast data acquisition. Equipped with Foresight Digital detectors, the Symbia Evo offers the industry's leading image quality for general purpose imaging as well as dedicated Cardiac SPECT applications. The Symbia Evo can be upgraded to Symbia Intevo Excel, Intevo 2, 6, or 16. The Symbia Evo comes equipped with a user-friendly software interface which is seamlessly integrated with the Windows 7 operating system.
2	Low Profile 3/8 Detectors The low profile high resolution, digital detector assembly includes a .95 cm (3/8 in.) thick NaI (TI) crystal.
1	Caudal Tilt Caudal tilt on Detector 2 allows for precise positioning of static and dynamic acquisitions.
2	Low Energy High Res Collimator Low energy (140 keV), high resolution, parallel hole collimator
2	Medium Energy Collimator Medium energy (300 keV), parallel hole collimator
2	High Energy Collimator High energy (364 keV) parallel hole collimator
1	Pinhole Collimator Pinhole collimator with a 4mm aperture
1	6mm Aperture The 6 mm aperture is a high sensitivity insert for the pinhole collimator.
1	8 mm Aperture The 8 mm aperture is a high sensitivity insert for the pinhole collimator.

Qty	Item Description
1	<p>Symbia Integrated CollimatorChanger</p> <p>The integrated collimator changer mounts beneath the patient bed on the Symbia Intevo and Evo camera systems. The changer saves time and effort when changing collimators.</p>
1	<p>Collimator Cart</p> <p>The collimator cart is designed to hold collimators and allows collimator exchange without pivoting the bed.</p>
1	<p>Symbia Automatic Collimator Changer</p> <p>This feature automates the exchange of collimators that are housed in the integrated collimator changer.</p>
1	<p>Internal ECG for Symbia</p> <p>The internal ECG gating system provides ECG triggering for the nuclear subsystem for nuclear cardiology examinations. In addition, for Symbia Intevo Excel, 2, 6 and 16, and T2, T6, and T16 cameras, the internal ECG gate provides ECG triggering to the CT subsystem for CT applications that require ECG gating.</p> <p>The ECG gate is built into the Symbia patient bed and is controlled by the Symbia acquisition workplace. The leads are AHA (American standard) color coded. They connect near the head of the patient bed and travel with patient, thus never interfering with scanning.</p> <p>The ECG waveform is displayed on the touch-screen Patient Positioning Monitor.</p>
1	<p>Extra Hand Controller</p> <p>Provides an extra hand controller for the scanner.</p>
1	<p>UPS for Symbia Camera Systems</p> <p>Uninterruptible power supply option that provides 10 minutes of back up power to the SPECT gantry enabling the proper shut down in the event of a power loss. Also provides noise filtering and transient suppression.</p> <p>Specifications:5.0 KVA Input configuration: 200-240 VAC, 50/60 Hz, L6-30P Output configuration: 208 VAC, L6-30R</p>
1	<p>UPS for e.soft/c.cam (60 Hz)</p> <p>Uninterruptible power supply option that provides 10 minutes of back up power enabling the proper shut down of the system in the event of a power loss.</p>
1	<p>PHS Extended Pivot</p> <p>The PHS extended pivot option extends the range of pivot for the patient bed in gurney mode.</p>
1	<p>Monitor, 19 LCD DICOM</p> <p>The 19 DICOM Calibrated LCD monitor is designed to meet the demanding requirements of medical imaging. The display features high contrast even under high ambient light conditions that can be encountered in nuclear medicine viewing environments. The gamma curve is exactly matched to CIE/DICOM recommendation, enhancing the ability to display both color and gray scale images. Light output stability is ensured by continuous backlight control throughout the display's lifetime.</p>
1	<p>4 Quadrant Phantom</p> <p>A 4 quadrant 2.0-2.5.30.3.5 mm standard pattern slightly modified for use with Symbia Imaging Systems</p>
1	<p>Additional System Manuals</p> <p>Additional user manual for the above selected MI system.</p>
1	<p>Organ Processing for Symbia</p> <p>This upgrade will add organ processing capabilities to your acquisition workplace.</p>

Qty	Item Description
1	<p>Planar 1/2 Time Imaging</p> <p>Planar 1/2 Time Imaging provides shortened Planar acquisition times.</p>
1	<p>Oncology Engine</p> <p>The Oncology Engine facilitates lesion detection by enabling the visualization, volumetric analysis, and fusion of SPECT studies as well as registration of images from other, independently acquired modalities (e.g., CT, MR).</p>
1	<p>Cardiology Engine Cedars</p> <p>The Cardiology Engine Cedars assists in the diagnosis and quantitative assessment of coronary artery disease by enabling the visualization of SPECT studies as well as quantified perfusion assessment.</p>
1	<p>Syngo Security Package</p> <p>The syngo Security Package provides enhanced security features including user management and audit trail functionality.</p>
1	<p>Remote Diagnostic Services</p> <p>Smart Remote Services. A broadband VPN connection is required for full remote service functionality and optimal system uptime.</p>
1	<p>Under Floor PHS Cable SPECT</p> <p>This option includes a kit for installing the cable between patient bed and the Symbia gantry under the floor.</p>
1	<p>SPECT US Installation</p> <p>This option includes the mechanical installation of the Symbia Evo series scanners.</p>
1	<p>Elevate O Symbia S HD</p> <p>Elevate is a Siemens Healthineers customer care program that helps you get the most from your investment. As a valued customer, MI Elevate offers customers a wide range of solutions and benefits for your existing installed Siemens Healthineers MI system.</p> <p>As you consider the options for replacing your existing SPECT system, Siemens Healthineers is committed to helping you find the solution that best fits your needs and enable a smooth transition to your next-generation SPECT or SPECT/CT system. Allowing you to stay competitive with the latest technology in healthcare.</p>
1	<p>teamplay Basic</p> <p>Healthcare professionals, come together in teamplay's rich Digital Marketplace to access both the metrics from their own imaging fleet and a vast shared pool of imaging data. As a community, you connect and collaborate in a secure environment with high data privacy and security standards. teamplay BASIC applications include Dose, Usage and Image data management functionalities free-of-charge.</p> <p>Its easy onboarding allows you to register on teamplay's digital platform and download the needed software to set it up in your institution: Click > Try for free at www.siemens.com/teamplay</p>
1	<p>Initial onsite training 32 hrs</p> <p>Up to (32) hours of on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. Training will cover agenda items on the ASRT approved checklist. Uptime Clinical Education phone support is provided during the warranty period for specified posted hours. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.</p>
1	<p>GOV'T ONLY - MI SPECT Training Class</p> <p>Tuition for (1) government attendee to attend a classroom course of choice at one of the Siemens training centers. This educational offering must be completed (12) months from</p>

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1	GOV'T ONLY - MI SPECT Training Class Tuition for (1) government attendee to attend a classroom course of choice at one of the Siemens training centers. This educational offering must be completed (12) months from install end date. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.
1	MI SPECT Project Management A Siemens Project Manager (PM) will be the single point of contact for the implementation of your Siemens equipment. The assigned PM will work with the customer's facilities management, architect or building contractor to assist you in ensuring that your site is ready for installation. Your PM will provide initial and final drawings and will coordinate the scheduling of the equipment, installation, and rigging, as well as the initiation of on-site clinical education.
1	Symbia Evo Excel Gantry Class Complimentary Biomed Training This educational offering includes system training tuition for 1 clinical engineering professional on the Symbia S, EVO, or Excel system, and the syngo multimodality workstation as applicable. The training curriculum depends on and is limited to the system purchased and may include multiple courses including classroom training in USA or an international site, and/or virtual and web-based training. Additional modality basics training may be required as a prerequisite to these courses and must be purchased separately. This system training includes a 15% discount. Travel and lodging are not included. This educational offering must be completed by the later of (12) months from purchase or install end date; if training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund. This forfeiture does not apply to Federal government agencies.

Offse	mplimentary Biomed Training (
Offse	Additional System Manuals
Initial	2 hrs Gov Offset (
Elev	

Net Total of Incidental Services:

Net Total of System including Incidental Services:

Detailed Technical Specifications

Symbia Evo

Description

The Symbia Evo has the following base features:

- Gantry
- Patient Bed
- Acquisition Workplace
- SPECT Acquisition Features

Gantry

The gantry has two Variable Angle SPECT detectors and an, open design with 102 x 78 cm patient opening. The two Foresight Digital SPECT detectors can be configured for a myriad including 76° or 90° for cardiac applications and at 180° or numerous other configurations for body and general protocols. The unobstructed gantry base permits planar imaging of seated patients and patients on wheelchairs, or on standard imaging tables, gurneys and hospital beds. The caudal tilt of one detector allows for optimum detector positioning of static and dynamic acquisition. The contemporary design of the gantry incorporates Siemens-typical design elements.

The gantry supports circular orbits and non-circular orbits using autocontour. Autocontour, time body contouring, is a standard component which minimizes patient to collimator distance (inches) in Whole Body and SPECT noncircular orbit acquisition modes.

All motorized motions of the patient bed, gantry and detectors are controlled from the hand console plugged into either side of the gantry.

The Patient Positioning Monitor (PPM) is a touch screen flat panel display monitor which can provide wide range user access and visibility. It is used for the following functions:

- Patient Positioning with window and persistence adjustment
- Acquisition Parameter display (elapsed time, time remaining, view number, count rate)
- Detector and bed position information
- Gantry Control (reconfiguration, collimator change, offset zoom)

Patient Bed

The patient-oriented design of the imaging bed consists of 40.0 cm (15.8 inch) wide and 2.6 aluminum pallet, supporting patient weights up to 227 kg (500 lbs). Minimum bed height is 5 feet for easy patient access. Programmable table positions for wheelchairs and gurneys minimize efforts of patients and staff. Integrated rulers on each side of the patient bed, allow for quick measurement. The patient bed can easily be removed for rail-free access of sitting/standing patients, wheelchairs, gurneys and hospital beds.

A fully integrated source holder is provided for quick and convenient quality control.

Since patient comfort plays an important role in high quality medical imaging, the Symbia Evo provides the following comfort accessories:

- a head holder to support and stabilize the head during brain SPECT examinations
- a SPECT armrest to support upper arms and hands during SPECT examinations
- a whole body armrest to support the arms and keep them within the detector field of view for whole body examinations
- a set of patient support straps to help patient lie still on bed

Acquisition Workplace

The syngo-based high performance acquisition workstation provides a wide range of clinical protocols utilizing a graphical user interface, keyboard and mouse.

Description

SPECT Acquisition Features

SPECT Acquisition Modes:

- Planar static and dynamic
- Whole Body
- SPECT
- Gated SPECT
- Dynamic SPECT
- Whole Body SPECT

Workflow Features:

The system combines acquisition, post-processing (optional), and display into user customizable workflows that automate many clinical routines, remembering parameters for each clinical protocol, the workflow will automatically print, archive, and distribute your results to other devices on your network.

Quality Control:

Automatic and manual motion correction features aids in the improvement of the quality of the acquired images. Besides correcting for motion, gated studies can be beat normalized and quality control images such as sinograms and linograms created to document the results.

3D Orientation:

Reorient acquired SPECT volumes interactively to achieve the desired image orientation. Cardiac and general orientations are supported. If desired, the orientation applied to one volume can be automatically applied to up to 3 additional volumes.

Image Registration:

Multiple techniques provide accurate registration of acquired images including translation and rotation in three primary planes, optional automatic registration and landmark registration. The choice of output matrix size is a standard feature.

Reconstruction:

The reconstruction engine can reconstruct up to 5 volumes concurrently. Standard SPECT as well as wholebody, dynamic and gated cardiac volumes can be created. An advanced technique that provides high image quality comes standard with our system.

Flash 3D is a 3D iterative image reconstruction solution which offers the best reconstruction resolution in the market today following NEMA requirements. Flash 3D reconstruction uses a measured 3D collimator beam model in the iteration process. Correct modeling of the collimator distributes the activity over the slices for more accurate reconstruction. With Flash, the spatial resolution of the collimator is modeled to maintain the precise shape of the lesion. As a result, images are reconstructed with more counts in the correct volume, increasing image contrast.

The key components behind Flash 3D technology are:

- Ordered Subset Expectation Maximization (OSEM) reconstruction algorithm using 3D collimator modeling to increase resolution and decrease noise, while maintaining the exact shape of organs and lesions, when compared to filtered back projection reconstruction.
- Scatter Correction that uses patient specific scatter projection estimates to form a generalized dual-or triple energy window method to compensate for scatter during the iterative reconstruction process.

Symbia utilizes energy independent low profile digital Foresight detectors.

Detector assembly technical specifications:

- True rectangular FOV of 38.7 x 53.3 cm (15.25 x 21 in.)

Description

- 59 photomultiplier tubes – 53, 7.6 cm (3 in.) and 6, 5.1 cm (2 in.) diameter tubes
- .95 x 59.1 x 44.5 cm (3/8 x 23 x 17.4 in.) NaI (TI) crystal material

The Low Profile Digital Foresight Detector features:

- Balanced performance between energy resolution and spatial resolution
- One, 10-bit high-speed flash ADC per PMT
- Variable PMT selection ensures high resolution for all multi-energy and multi-peak applications
- Optimized dynamic digital integration time to improve high count rate capability
- Individual PMT pile-up correction for improved performance at high count rates
- Energy independence maintains clinical performance at all energies including multi-peak and dual isotope studies
- Location independence maintains consistent spatial resolution across the field of view
- Crystal variation correction for optimal uniformity and linearity across all energies

Single source (Co-57 or Tc-99m) tunes the detector for all energies

The low energy high resolution collimator has the following technical specifications:

- 148,000 hexagonal holes
- Sensitivity: 202 cpm/microCurie
- Resolution: 7.5mm at 10 cm
- Weight: 22 kg (49 lbs)

The medium energy collimator has the following technical specifications:

- 14,000 hexagonal holes
- Sensitivity: 275 cpm/microCurie
- Resolution: 12.5 mm at 10 cm
- Weight: 64 kg (140 lbs)

The high energy collimator has the following technical specifications:

- 8,000 hexagonal holes
- Sensitivity: 135 cpm/microCurie
- Resolution: 13.4 mm at 10 cm
- Weight: 125 kg (275 lbs)

Due to the weight of these collimators, it is recommended that an individual collimator cart containing only the 2 high energy collimators be utilized.

The pinhole collimator with 4 mm aperture has the following technical specifications:

- 1 round hole
- Sensitivity: 123 cpm/microCurie for 99m Tc
- Resolution: 6.6 mm at 10 cm
- Weight: 80 kg (177 lbs)

SPECT imaging with a pinhole collimator is not allowed.

The pinhole collimator occupies the upper 2 locations on a collimator cart; Therefore, only an additional 2 collimators (1 pair) can be stored on the same cart.

The 6 mm aperture has the following technical specifications:

- Sensitivity: 271 cpm/microCurie for 99m Tc
- Resolution 9.5 mm at 10 cm

Description

The 8 mm aperture has the following technical specifications:

- Sensitivity: 478 cpm/microCurie for 99m Tc
- Resolution: 12.5 mm at 10 cm

The unit can hold two sets of low or medium energy collimators including SMARTZOOM collimators.

The integrated collimator changer also supports an optional automatic collimator exchange feature.

The collimator cart is automatically clamped to the patient bed once positioned by the user. The clamping mechanism allows precise collimator exchange to occur.

The collimator cart is designed to hold 2 sets of collimators, or 1 set in combination with a pinhole collimator.

Due to the weight of the high energy collimators, it is recommended that an individual collimator cart contains only 1 set of high energy collimators.

The automatic collimator exchange is initiated via the patient positioning monitor. Once started, the entire process is fully automated. The integrated collimator changer is a prerequisite and only those collimators housed in the integrated changer are available for automatic exchange.

The Symbia scanner comes standard with a single hand controller that can be plugged into either side of the gantry. This option adds an additional hand controller for added efficiency in accessing the motorized motions for the patient bed, gantry, and detectors.

Specifications:

1.4 KVA

Input configuration: 120 VAC, 5-15P

Output configuration: 120 VAC, (6) 5-15R

The extended pivot increases the range from 33 degrees to 45 degrees to allow better handling of wide hospital beds.

Additional features include:

- 19" TFT panel
- minimum of 170 degree horizontal and vertical viewing angle
- Optimal picture resolution of 1280 x 1024
- Contrast ratio 450:1
- Maximum luminance 280 cd/m2
- Anti-glare panel surface

Organ processing provides generic tools for the manipulation of NM images. In addition, it provides dedicated processing protocols for the many different types of exams performed in nuclear medicine departments. Features provided are:

- Cardiac: Planar Gated Blood Pool, First Pass, Shunt
- Lung: Perfusion, Ventilation, V/Q
- Thyroid
- Renal: GFR, ERPF, MAG3, Transplant, TER, Ace Inhibitor
- Gastric

Description

- Hepatobiliary
- Brain: Patlok, Lassen, IMP, IMP-ARG, NIMS
- GSA Liver
- Parathyroid: Scaled subtraction
- Image manipulation tools: Series Filter, Series Arithmetic, Series Reformat, and Series ROI and Curve
- Manual Fusion

The Planar ½ Time Imaging package is based upon a statistical, adaptive de-noising and de-blurring process for planar imaging. It can be used to:

- Shorten the acquisition time of planar imaging, and/or
- Reduce the dose administered to the patient, and/or
- Enhance the image quality of statistically poor imaging results

Oncologic diagnosis demands a volumetric visualization technique that provides fused anatomical and functional volumes into orthogonal planes using multiple layout views or full screen mode. This engine provides tools to evaluate and display SPECT (and independently acquired CT) images and results, enabling customized user defined formats, image reorientation in any axis, an array of color look-up tables, and filming options. Standard features include: viewing of SPECT and CT DICOM images including image fusion display for registered series; common display tools such as correlated cursors, quantitative color bar and interactive pixel value; default CT image windows; display of CT Maximum Intensity Projections (MIP); 3D Reorientation of volume data; region of interest (ROI) and volume of interest analysis and visualization.

Applications include: Volumetric Analysis

The Cardiology Engine provides the Cedars Cardiac SPECT Suite, a comprehensive set of quantitation programs for the evaluation of SPECT Myocardial Perfusion Imaging

The engine calculates a comprehensive set of cardiac parameters including ejection fractions, volumes, wall motion including right ventricular free wall motion in QBS, wall thickening, perfusion (%). QPS allows for the quantitation of prone SPECT data and of serial perfusion changes. Both 20 and AHA-17 segment scoring models are available. In addition to calculating an Eccentricity Index, QGS also calculates a more regional measure of LV shape known as the Shape Index. Displays include gated slices with contours, a motion frozen display which results in better resolution and contrast by eliminating motion of the cardiac cycle, interactive 3D images, and polar maps. Manual over-ride of contours and DICOM compatible output are additional features. Outputs include DICOM secondary capture files, result files as well as the ability to generate an AVI file format. The Cedars application is an OEM product developed and supported by Cedars Sinai.

Applications include: Cedars SPECT Suite

Enhanced user management, including:

- User authentication to prohibit unauthorized access
- Privileges to define user/role based functionality
- Permissions to control data access
- Audit trails to log system and data access.

A broadband connection is required for full remote service functionality and optimal system uptime. The Smart Remote Service option allows for remote access to your networked workstations. Hardware may need to be purchased.

Features include:

- Image Transfer
- Remote updates including Virus Protection
- Error log retrieval
- Remote Workflow revisions
- Remote configuration

Description

- License management
- Remote workstation control via netmeeting

This option does not include the cost of any room modifications for sub-floor installation of the cable.

Installation includes:

- Complete system assembly
- Alignment
- System startup
- Calibrations
- Performance verification to factory specifications

teamplay BASIC applications provide a locally installed teamwork Receiver software with web-based data analytics capabilities in the area of Dose, Usage and Image data management.

teamplay Dose BASIC application and teamwork Usage BASIC application are restricted to datasets produced by Siemens modalities.

Its easy onboarding allows you to register on teamwork's digital platform and download the needed software to set it up in your institution: Click > Try for free at www.siemens.com/teamplay

teamplay Receiver software

teamplay Receiver software is a DICOM gateway that is installed on the local institution network to manage communication of data between hospital systems and teamwork servers and manage conformity with local data privacy regulations.

Functionalities of the teamwork Receiver software:

- DICOM fetch and receive (Query/Retrieve and C-STORE)
- Choice of three data privacy levels
- Automatic software updates

The teamwork Receiver software can be installed on hardware or virtual machines provided by the customer meeting the minimum requirements listed below.

- Windows 64-bit server or client operating system
(at least Windows server 2012 R2 or Windows server 2016 is recommended for a production environment although Windows 10 may be used):
min. dual core CPU system
min. 4 GB memory
at least 200 GB free disk space (< 500 GB recommended)
- Recommendation for small sites (up to 50.000 procedures per year):
at least 4 core system
at least 8 GB memory
- Recommendation for medium sites (between 50.000 and 250.000 procedures per year):
at least 6 core system
at least 8 GB memory
- Recommendation for large sites (more than 250.000 procedures per year):
at least 8 core system
at least 16 GB memory
- At least 6 Mbit/s upload bandwidth to the Internet

The minimum hardware requirements are applicable when fetching data for teamwork Dose and Usage using DICOM Q/R. For scenarios where data will be actively sent to teamwork using DICOM C-Store the hardware requirements depend on the actual load and needs to be adjusted accordingly. Please contact the Siemens teamwork support for help

Description

teamplay Dose:

teamplay Dose provides easy access to dose data to support the quality assurance process for monitoring imaging radiation doses across the fleet of scanners in the institution.

teamplay Usage:

teamplay Usage provides an intuitive way to display an overview of the fleet utilization of all institutional diagnostic imaging scanners.

teamplay Images Research:

teamplay Images Research provides the functionality to receive imaging data from other teamwork members for research and education.

Caution: teamwork Images Research is not intended for clinical use.

teamplay Images:

teamplay Images provides the functionality to receive imaging data from other teamwork members.
