VAMC ALBUQUERQUE, NM
PO# 501-B30038

Symbia T16

All items listed below are included for this system: *(See Detailed Technical Specifications at end of Proposal.)*

Qty	Item Description
1	**Symbia_T16**
	The Symbia T16 is built on TruePoint SPECT•CT technology providing seamless integration of two equal modalities. The true integration of state-of-the-art SPECT and high quality sixteen slice CT gives this system full functionality for all SPECT-only, SPECT•CT, or stand-alone CT diagnostic applications in Oncology, Neurology, General Nuclear Medicine, and Advanced Cardiology.
2	**3/8" Hi-Resolution Detector**
	The high resolution, digital detector assembly includes a .95 cm (3/8 in.) thick NaI (Tl) crystal.
1	**Detector Support with Caudal Tilt**
	Caudal tilt on Detector 2 allows for precise positioning of static and dynamic acquisitions.
2	**Low_Energy_Hi_Res Collimator Symbia**
	Low energy (140 keV), high resolution, parallel hole collimator
2	**Medium Energy Collimator Symbia**
	Medium energy (300 keV), parallel hole collimator
2	**High Energy Collimator Symbia.**
	High energy (364 keV) parallel hole collimator
1	**Productivity Package**
	B-Text The productivity package automates collimator exchange and quality control to improve the productivity of the Symbia S and Symbia T camera systems.
1	**AQC Web Based Training**
	AutoQC web based training is available on the Siemens training website.
1	**AutoQC Source Registration Kit**
	Source registration kit for Symbia Automatic Quality Control option. This kit contains information on updating site radioactive materials license, contact information for source vendor, and user instructions.

Qty	Item Description

1   AutoQC source kit

This source kit contains includes 1 - Gd-153 line and 1 - Co-57 point source required for the automatic quality control option.

1   Symbia Collimator Cart

The collimator cart is designed to hold extra collimators and allows collimator exchange without removing the bed.

1   Internal ECG for Symbia

The internal ECG gating system provides ECG triggering for the nuclear subsystem for nuclear cardiology examinations. In addition, for Symbia T2, T6, and T16 cameras, the internal ECG gate provides ECG triggering to the CT subsystem for CT applications that require ECG gating. The ECG gate is built into the Symbia patient bed and is controlled by the Symbia acquisition workplace. The leads connect near the head of the patient bed and travel with patient, thus never interfering with scanning. The ECG waveform is displayed on the touch-screen Patient Positioning Monitor.

1   PHS Extended Pivot

The PHS extended pivot option extends the range of pivot for the patient bed in gurney mode.

1   Under Floor PHS Cable

Kit for routing the cable between patient bed and the Symbia T Series gantry under the floor.

1   Extra Hand Controller

This option provides an extra hand controller for the Symbia T Series scanners.

1   e.media option

The e.media patient comfort and education package integrates high quality video and sound through the color touch screen patient positioning monitor.

1   e.media DVD Player

The e.media patient education and comfort package plays high quality video and sound through the color patient positioning monitor via a built-in commercial DVD player. The small size and compact shape of the e.media DVD player allows convenient storage and easy access for changing media.

1   HeartView CT & Calcium Scoring

This package combines the Heartview CT option for ECG-controlled acquisition and reconstruction of artifact-free images of the heart with the Calcium Scoring application for the quantification of calcifications in CT images.

1   syngo CARE Bolus

The CARE Bolus option automatically triggers the start of a CT spiral scan when contrast media appears in sufficient density at a user defined location.

1   Remote Diagnostic Services

Remote Diagnostic Services. A broadband connection is required for full remote diagnostic functionality and optimal system uptime.

1   Symbia T Series US Installation

This option includes the mechanical installation of the Symbia T Series camera system.

1   Symbia.net

Symbia.net is an economical solution for reading of SPECT and SPECT•CT studies. The system can be optionally configured with full MI processing capabilities. The Symbia.net can be configured as a client-server system by adding the Server Management option. PET functionality is available on multi-seat systems.

Qty	Item Description

1   **Monitor, 19" LCD DICOM**

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.

1   **First User**

The first user provides a singler user license to operate Symbia.net as a workplace solution.

1   **Oncology Engine Advanced**

The Oncology Engine Advanced facilitates lesion detection by enabling the visualization, volumetric analysis, and fusion of SPECT. studies as well as the automated or manual registration of images from other, independently acquired modalities (e.g., CT, MR).

1   **Cardiology Engine Cedars**

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.

1   **Organ Processing**

Processing software package that provides cardiac and other organ-based SPECT processing.

1   **Reconstruction Engine Advanced**

The Reconstruction Engine Advanced provides the ability to shorten SPECT and Planar acquisition times with optimized workflows based on Siemens' innovative Flash reconstruction techniques. This engine is suited to provide the best reconstruction for SPECT/CT scanners.

1   **English MI WP Lang Kit**

The language kit includes: e.soft Getting Started Manual, e.soft User Notes and customer letter.

1   **English Cedars Lang Kit**

1   **English MI WP Lang Kit**

The language kit includes: e.soft Getting Started Manual, e.soft User Notes and customer letter.

1   **English Cedars Lang Kit**

1   **4Quadrant Phantom for SymbiaS/T/Intevo**

A 4 quadrant 2.0-2.5.30.3.5 mm standard pattern slightly modified for use with the e.cam and Symbia Imaging Systems

1   **Initial onsite training 32 hrs**

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.

1   **MI_SYMB_FOLLOWUP**

Up to (32) hours of follow-up on-site clinical education training, scheduled consecutively (Monday - Friday) during standard business hours for a maximum of (4) imaging professionals. 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.

Qty	Item Description
1	**CT Cross Trainer (Printed Self Study)**
	CT Cross Trainer printed self study materials for (1) imaging professional. These materials will provide the user with basic CT knowledge by testing the participant periodically. Successful completion of the self study program will provide the participant with CE credits. CT Cross Trainer printed self study materials for (1) imaging professional. These materials will provide the user with basic CT knowledge by testing the participant periodically. Successful completion of the self study program will provide the participant with CE credits. 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 Siemen's 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	**Additional onsite training 16 hours**
	Up to (16) 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 if applicable. This educational offering must be completed (12) months from date of purchase order. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.
1	**Additonal onsite training 32 hours**
	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 if applicable. This educational offering must be completed (12) months from date of purchase order. If training is not completed within the applicable time period, Siemens obligation to provide the training will expire without refund.
1	**Medrad Single head PET/CT Inj. Ciel.**
1	**Low Contrast CT Phantom & Holder**
1	**Initial onsite training 32 hrs Gov Offse**
1	**English Symbia T Lang Kit**

Incidental Services Associated with this Quotation:

One complimentary biomedical tuition is included with the purchase of this system. This training must be completed before the end of the warranty period.
SPECT ELEVATE BONUS PROMO Elev Symbia S 1 G48
Offset Part 08719374 English Symbia T Lang Kit
Offset Part 10182968 English Cedars Lang Kit
Offset Part 08419207 English MIWP Lang Kit (
XX2SYNGO – syngo with Multimodality Workstation 5 Days

XX1RADSFVC- (8 Hrs) virtual radiation - Our NC RAM license requires that attendees have 8+hrs of Radiation Safety training within the last 3 yrs.

MI1SPEESSE- Service Essentials for Specht 5 Days

MI2ESOFTWS-ESOFT WORKSTATION 4 days

MI2SYMBIA SYMBIA Gantry Class 13 Days

MI1CTESSEN 5 Days

MI2CTEMO   5 Days

Lodging for Complimentary Biomedical Training for one engineer for 31 nights

Airfare for Complimentary Biomedical Training for one engineer from ABQ - RDU for 4 roundtrips

Lodging for Additional Biomedical Training for one engineer for 31 nights

Airfare for Additional Biomedical Training for one engineer from ABQ - RDU for 4 roundtrips

Lodging for 2 Service Essentials for 2 engineers for 20 nights

Airfare for 2 Service Essentials Biomed for 2 engineers from ABQ - RDU

Additional Rigging/Out of Scope Scrap of Existing E.cam

Detailed Technical Specifications

Symbia T16

/ Product	Description
Symbia_T16	The Symbia T16 system consist of the following integrated TruePoint SPECT•CT features: - Gantry - Patient Bed - Acquisition Workplace - SPECT Acquisition Features - CT Acquisition Features **Gantry** Variable Angle, open design with 70 cm (27.6 in.) patient opening. The two High Definition Digital SPECT detectors can be configured at 76° or 90° for cardiac applications and at 180° for all other whole body and general protocols. Optional caudal tilt of one detector allows for optimum detector positioning of static and dynamic acquisitions. The Ultra Fast Ceramic multislice spiral CT detector rotates at 120 RPM (0.5 sec per revolution). The contemporary design of the gantry incorporates Siemens-typical design elements like translucent cover materials and a fresh stripe décor. The unobstructed gantry base permits planar imaging of seated and standing patients and patients on wheelchairs, or on standard imaging tables, gurneys and hospital beds. The gantry supports circular and non-circular orbits. .Autocontour, with infrared real-time body contouring, is a standard component which minimizes patient to collimator distance to 1.2 cm (0.45 in.) in Whole Body and SPECT non-circular orbit acquisition modes. All motorized motions of the system are controlled from hand controller which can be plugged into either side of the gantry. The Patient Positioning Monitor is a touch screen flat panel which can be rotated for a wide range of 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, etc.) - Camera information (detector and bed positions) - Gantry control (reconfiguration, collimator change, offset zoom, and adjusting the CT acquisition limits.) A fully integrated source holder is provided for quick and convenient quality control. **Patient Bed** The patient-oriented design of the imaging bed consists of 35.6 cm (14 in.) wide and 15 mm (0.6 in.) thin, carbon fiber pallet, supporting patient weights up to 227 kg (500 lbs). Minimum bed height is 53 cm (21 in.) for easy patient access. Programmable table positions for wheelchairs and gurneys minimize the transport efforts of patients and staff. Integrated rulers on each side of the patient bed allow for quick whole body set up. The bed also provides automatic, uninterrupted table feed for multi-rotation continuous CT volume scanning The patient bed can be easily pivoted to the side for rail-free access of sitting/standing patients, wheelchairs, imaging tables, gurneys and hospital beds. **Acquisition Workplace** The syngo-based high performance workstation provides a multi-modality graphical user interface, keyboard and mouse. SPECT and CT acquisition, quality control, and display are integrated in a single workplace.

/ Product	Description

(Continued)
 	
Symbia_T16
	Workflows for a wide variety of clinical protocols are included. The workplace offers customizable displays and full DICOM archiving and printing functionality.
	
	Hardware:
	- Single Quad-Core 2.54 GHz Xeon CPU
	- 4 GB RAM
	- 4 X 300 GB SAS Hard Drives
	- Integrated DVD-R RW
	- Workflow-based Architecture
	
	SPECT Acquisition Features
	
	SPECT Acquisition Modes
	- Planar static and dynamic
	- Whole Body
	- SPECT
	- Gated SPECT
	- Dynamic SPECT
	- Whole Body SPECT
	
	SPECT Features
	
	Workflow Features:
	The system combines acquisition, post-processing (optional), and display into user customizable workflows that automate many of your clinical routines. Besides remembering and storing your parameters for each clinical protocol, the workflow will automatically print, archive, and distribute your results to other devices on your network.
	
	Quality Control:
	Use the automatic and manual motion correction features of the system to aid you in the quality of your acquired images. Besides correcting for motion, you can beat normalize your gated studies and create quality control images such as sinograms and linograms to document your results.
	
	3D Orientation:
	Reorient your acquired SPECT volumes interactively to achieve the desired patient position. 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 are available for accurate registration of your acquired images. Translations and rotations in all 3 planes provide a foundation for accurate registration. The optional automatic registration technique can often assist you in those hard-to-register cases. A landmark registration feature rounds out the available techniques. Triple registration and the choice of output matrix size are also standard features.
	
	Reconstruction:
	The reconstruction engine supports up to 5 multi-isotope studies concurrently. Standard SPECT as well as wholebody, dynamic and gated cardiac volumes can be created. Advanced techniques that provide high image quality comes standard with our system:
	
	- <u>Flash Iterative Technologies</u>
	  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.
	- <u>CT Attenuation Correction</u>
	  Creates very precise attenuation maps from the high quality CT data to correct for attenuation and increase reading accuracy.
	- <u>Scatter Correction</u>
	  Uses patient specific scatter projection estimates form a generalized dual-or triple energy window method to compensate for scatter during the iterative reconstruction process.

/ Product	Description

(Continued)
 	
Symbia_T16
	CT Acquisition Features
	
	  CT Acquisition Modes
	
	    - Topogram, scanning perspectives: anterior-posterior (ap), posterior-anterior (pa), lateral (lat)
	    - Spiral CT, continuous volume scanning technique with uninterrupted table feed in the multi-rotation mode
	    - Sequential CT, incremental, slice-by-slice imaging mode with no table movement during data acquisition
	
	  CT Features
	
	  CARE Dose 4D:
	This software feature provides automatic, real-time x-ray dose management for all scan modes. The minimal x-ray dose level needed to obtain optimal image quality is determined from extensive computer analysis of the Topogram image and also from the data collected during every slice scanned, on a real time basis. This dual stage automatic approach ensures optimal image quality at the lowest possible x-ray dose.
	
	With this method of dose control, the initial or starting tube current for every axial slice position is determined from the Topogram image. Then, during the data acquisition for each axial slice, the x-ray attenuation values are closely monitored and the tube current is adjusted, on a real time basis, to optimize the x-ray dose level for the specific organs and anatomy in the x-ray path.
	
	Several clinical benefits are achieved with CARE Dose 4D:
	    - Significant x-ray dose reduction (up to 66 %) possible for all body regions scanned compared with standard sequence or spiral scanning
	    - Consistent, optimal image quality with the x-ray dose level unique for every patient and for every anatomical region
	    - Thinner axial slices and/or longer scan ranges possible because of reduced tube loading
	    - Ultra-low dose examinations for pediatric patients
	
	SureView™ – Multislice Image Reconstruction System
	    - Excellent Image Quality and no slice broadening at any pitch – IQ is kept constant for all scan speeds, independent of the selected range and scan time.
	    - Up to 20% dose savings in spiral mode.
	
	Workstream4D
	4D workflow with direct generation of axial, sagittal, coronal, or double-oblique images from standard scanning protocols. Elimination of manual reconstruction steps. Reduction of data volume up to a factor of 10, since virtually all diagnostic information is captured in 3D slices. Fast image reconstruction of up to 16 images/s in 512 matrix is provided.
	
	Asynchronous Recon:
	Asynchronous Recon allows for multiple image reconstructions and reformats, parallel to scanning. With this feature, up to eight reconstruction job requests can be loaded into a scan protocol. Immediately upon completion of the scan acquisition, these reconstruction jobs are automatically executed in the background without delaying the start of next patient examination.
	
	Image reconstruction:
	Reconstruction using raw data zoom with the possibility of freely selecting the image center either before scanning (prospectively) or retrospectively.
	
	Image display:
	CT value scale for window setting -1024 to +3071 HU. For very dense objects the CT value scale can be extended from -10240 to +30710 HU.
	
	Multiplanar Reconstruction (MPR)

/ Product	Description
(Continued) **Symbia_T16**	Real-time MPR for real-time reconstruction of secondary slices. Slice orientation: coronal, sagittal, irregular as well as multi-planar with SIR and Oblique. Cutlines can be determined using the reference tomogram or in sagittal reformatted images (SRI). 512 x 512 reconstruction matrix.
3/8" Hi-Resolution Detector	The Symbia utilizes energy independent high definition digital detectors. Detector assembly technical specifications: - True rectangular FOV of 38.7 x 53.3 cm (15.25 x 21 in.) - 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 (Tl) crystal material The HD Detector features include: - 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
Low_Energy_Hi_Res Collimator Symbia	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)
Medium Energy Collimator Symbia	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)
High Energy Collimator Symbia.	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.
Productivity Package	The productivity package includes the following features: - Integrated Collimator Changer - Automatic Collimator Exchange - Automatic Quality Control **Integrated Collimator Changer**

/ Product	Description
(Continued) **Productivity Package**	Innovative collimator exchange system that is mounted beneath the patient bed. Saves time and effort when changing the most frequently used collimators. Holds two sets of low or medium energy collimators. **Automatic Collimator Changer** Fully automated changing of collimators within the integrated collimator changer. Collimator removal or exchange is initiated from the patient positioning monitor. **Automatic Quality Control** Automatic quality control is performed via self-shielding Gd-153 line and Co-57 point sources. The sources are housed in the patient bed and are extended automatically as part of the camera's quality control procedures. The daily, weekly, and monthly procedures are customer scheduled and performed automatically without manual intervention.
AutoQC source kit	The useful life of the 370 MBq (10 mCi) Gd-153 line, used for daily extrinsic floods and monthly multi-head registration procedures, is 2 years. The useful life of the 1.85 MBq (50 µCi) Co-57 point, used for intrinsic floods, is 1 year. Sources that have been replaced are returned to the source vendor for disposal. Return shipment costs are not included in the purchase price.
Symbia Collimator Cart	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 containing only the 2 high energy collimators be utilized.
PHS Extended Pivot	The extended pivot opens the range from 40 degrees to 45 degrees to allow better handling of wide hospital beds.
Extra Hand Controller	The Symbia T series 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.
e.media option	Hospital promotional videos, patient procedure information, relaxation videos, and music CDs are just a few examples of the material that can be experienced with e.media. The DVD player, which must be purchased locally outside of Region 1 (United States, U.S. Territories, and Canada), must meet the following minimum specifications: - Media: DVDs and Audio CDs - Video Format: NTSC, PAL or SECAM - Audio: DVD per DVD PCM Standard - CD per Redbook Standard - Outputs: Audio L/R, Phono Jack - Power: 100-240 VAC 50/60 HZ - Power consumption: < 8 w max
HeartView CT & Calcium Scoring	This package provides the following features: - Heartview CT - Calcium Scoring **Heartview CT**

/ Product	Description
(Continued) **HeartView CT & Calcium Scoring**	Scanning technique and program for ECG-controlled data acquisition and image reconstruction for the Symbia T6 and T16 TruePoint SPECT•CT systems. This option supports prospective ECG-triggered sequence scanning and retrospective ECG-gated spiral scanning to obtain CT images of the heart in defined phases of the cardiac cycle. ECG-controlled imaging techniques are the basis for both the quantification of coronary calcifications (calcium scoring) and 3D reconstructions of cardiovascular anatomy. Retrospective ECG gating also allows functional imaging of the heart. Moreover, these techniques suppress pulsation or motion artifacts in the lung and in vessels close to the heart (e.g. ascending aorta). **Calcium Scoring** The calcium scoring application supports volumetric processing of the data and treats individual calcified lesions as 3D objects. For effective visualization, axial images are displayed together with fast, interactive MIPs. Processing is as simple as marking calcified regions visualized in the coronary arteries. The application offers the following features: - Agatston scoring, volumetric scoring and calcium mass quantification. - Overlapping slice compensation. - User configurable threshold for identifying coronary calcifications - Semiautomatic selection of coronary calcifications by "3D picking" functionality - User-defined assignment of lesions to one of the four arteries (LM, LAD, CX, RCA) or to other lesions or structures - 3D editing of lesions - Generation of a configurable report
syngo CARE Bolus	This option automates the start of the acquisition to ensure the optimum utilization of the contrast medium bolus in its "plateau" phase in the target anatomic volume. The system monitors user-defined regions of interest and as soon as the contrast media reaches a predefined threshold in the monitored area, a spiral scan is triggered as quickly as possible.
Remote Diagnostic Services	A broadband connection is required for full remote diagnostic functionality and optimal system uptime. The Remote Diagnostic Services option allows for remote access to your networked workstations. This service includes all the necessary hardware, software and configuration required to access your equipment remotely for the purposes of remote diagnostics. Features include: - Image Transfer - Access to automatic Virus Protection updates - Error log retrieval - Remote Workflow revisions - Remote configuration - License management - Remote workstation control via netmeeting
Symbia T Series US Installation	Installation includes: - Complete system assembly - Alignment - System startup - Calibrations - Performance verification to factory specifications This option is required for all US Installations
Symbia.net	Symbia.net is a clinical workplace that offers:

/ Product	Description
(Continued) **Symbia.net**	System Features: - Workflow based architecture - DICOM networking, printing - User configurable displays - 3D Orientation - Image Fusion Server Hardware - Microsoft Windows XP SP3 - Dual Xeon multi-core CPUs - 12 GB Memory - Dual Monitor option Access to reading capabilities from anywhere (requires Server Management option) - Any standard PC, Mac, or iPad with a network connection can be set up as a client - Up to five concurrent users can access the clinical network simultaneously Easy installation and operation - Symbia.net easily integrates with existing cameras, RIS and PACS - A virtually unlimited number of client computers can be installed remotely (requires Server Management option) - Designed for the needs of nuclear medicine with a user friendly interface and advanced automation features Optional Extensions - Server Management option - Supports up to 5 concurrent users - 1 seat at the workplace - Up to 4 floating client licenses - Cardiology Engines - Oncology Engines - Neurology Engines - MI Processing Engine - Advanced SPECT/CT Reconstruction - MI Cardiac Process Engine
Monitor, 19" LCD DICOM	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
Oncology Engine Advanced	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.

/ Product	Description
(Continued) **Oncology Engine Advanced**	As MPR, MIP, SSD or VRT are different visualization modes possible with the same dataset, the user can arbitrarily switch between these modes as well as switch the actual display segment to full-screen mode. All modes can be registered and linked so the image manipulations including interactive slice browsing and image rotation are viewed in synchronization. The integrated editing package allows segmentation of 3D datasets either with manual contour creation, thresholding, or volume growing operations. Dataset confinement is possible either using a ClipBox or a variable editing slab. Image quality can be improved with morphological operators such as Erosion and Dilatation. Applications include: Volumetric Analysis and Advanced Image Fusion Most features of Advanced Image Fusion are provided via the syngo 3D Taskcard. This taskcard is only available from the server seat and is therefore not accessible via a client connection. However, the automatic image fusion option is also provided via the Image Registration activity which is available to all seats.
Cardiology Engine Cedars	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
Organ Processing	**Cardiac Processing (Autocardiac Activity) Features** - Process up to 4 series simultaneously - Mixed Non-Gated, Gated, Profile series simultaneously Profile simultaneous AC and Non-AC Multi-Isotope support (6 per series) - Separate reconstruction parameters per series / isotope 3D Elliptical Masking - Filtered Backprojection, Iterative-W, OSEM 2D, or OSEM 3D (optional) Reconstructions - Coincidence Reconstruction - True 3D Reconstruction Zoom - Trial Mode Reconstruction - Interactive Filter Tool - Interactive Masking / Centering **General Reconstruction (TOMO Reconstruction Activity)** - Process up to 5 series simultaneously - Multi-Isotope support (6 per series) - Standard Tomography and Dynamic Tomography reconstructions - Separate reconstruction parameters per series / isotope - 3D Elliptical Masking - Filtered Backprojection, OSEM 2D or 3D (optional) Reconstructions - 3D Reconstruction Zoom - Trial Mode Reconstruction - Interactive Filter Tool Interactive Masking / Centering - Chang's Attenuation Correction **Quality Control (Quality Control Activity) Features**

/ Product	Description
(Continued) **Organ Processing**	- Sinogram, Linogram, and Summed Image - Cine with reference line - Automatic and Manual Motion Correction - Static X / Y / Copy / Paste - Dynamic X / Y / Copy / Paste - Gated Histogram Review - Tomo X / Copy / Paste - Dynamic Tomo Repeat X / Copy / Paste - Dynamic Tomo X / Copy / Paste / Repeat Rejection **Image Fusion** - Automatic adjustment based on pixel size - Volume translation and rotation operations - Manual, interactive volume manipulations - Manually enter desired tranlation and rotation parameters - Adjustable alpha blending display - Selectable viewing angles - Choice of output matrix size (64, 128, or 256) - Landmark registration technique **Organ Based Processing** **3D Reorientation** - Free angle reorientation of reconstructed series - Process up to 4 series simultaneously - Process 1 series to create 3 different series, each in a different plane **Cardiac Planar Gated Blood Pool** - Left and Right Ventricular EF Analysis - Regional EF Analysis - Automated Image Filtering - Automatic or Manual ROI determination - Functional Image Creation - Curve Analysis - Filling and Emptying Rate Analysis **Shunt Analysis** - Automatic Composite Creation - Curve Smoothing and Fitting Options - Integral Calculation for Patient and Shunt Curve - Shunt Qp/Qs via Area Method - Shunt Qp/Qs via Height Method **Lung Analysis** - Total or Segmented analysis - Perfusion Quantitation - L/R Lung Comparison - Geometric Mean Calculation - Single Lung Processing **Thyroid Analysis** - Automatic or Manual ROI determination

/ Product	Description
(Continued) **Organ Processing**	- Uptake, Countrate, Area and Volume Calculations - Single Lobe Processing - 6 and 24 Hour Uptake **Renal Analysis** - Automatic or Manual ROI Determination - Gates GFR - Oberhausen ERPF - Itoh ERPF - Oriuchi MAG3 - MAG3 without Blood Sample - Transplant - Captopril Comparison - Curve Analysis - R/L Ratio - Bubeck (TER) Processing **Gastric Emptying Analysis** - Automatic or Manual ROI Determination - Dual Isotope / energy window support - Geometric Mean Calculation - Curve Fitting Routines - Liquid / Solid Processing - Emptying Calculations **Hepatobiliary** - Automatic or Manual ROI Determination - EF Calculations - Dynamic and Static Methods supported - User Defined Interval EF Processing **Brain Analysis** - ROI Quantitation and Ratio Analysis - Bloodflow Analysis - Patlok Plot & Cerebral Bloodflow - Lassen Method - IMP - IMP-ARG - NIMS **Image Manipulation** - Series Filter - Series Arithmetic - Series Reformat - Series ROI & Curve
Reconstruction Engine Advanced	The Reconstruction Engine Advanced a three dimensional iterative reconstruction method with resolution recovery, scatter correction, and attenuation correction. It also includes statistics-based adaptive de-noising and de-blurring of planar images and longitudinal whole body bone scans. It can be used to shorten the acquisition time of planar images, bone scans or SPECT studies without loss in image quality. This reconstruction method can also improve overall image quality with better contrast, higher resolution, and decreased image noise when used to reconstruct full-time studies. This packages provides syngo MI Workflows with half-time acquisition parameters and optimized reconstruction settings and filters, specifically designed to acquire whole body SPECT scans in the time of a

/ Product	Description
(Continued) **Reconstruction Engine Advanced**	conventional whole body bone scans and to increase the scan speed of whole body bone scans to shorten scan time. Applications include: Flash3D, Scatter Correction, and CT Attenuation Correction for general and cardiac exams as well as Planar ½ Time Imaging.