

Qty	Description
1	<p>Senographe Essential Gantry Base System</p> <p>Senographe Essential Diagnostic System Senographe Essential full field digital mammography system provides a comprehensive breast care solution that includes screening, diagnostic and interventional capabilities, with advanced ergonomic design for the technologist, exceptional patient comfort and seamless workflow connectivity. Senographe Essential features the innovative 24x31cm detector, designed to offer enhanced breast coverage in a single image and a fast and efficient workflow. Smaller breasts are also easily imaged in any view with paddles that can slide to both sides of the detector. Senographe Essential offers enhanced image quality for increased diagnostic confidence because of the excellent detector performance at a low dose. Ergonomic design for technologists</p> <ul style="list-style-type: none">• Intuitive user interface• One touch access to preset angulations for quick and easy positioning• Two speed motorized movements for fast and precise operation• Sliding compression paddles can move to the side of the detector for excellent compression of any breast in any view Enhanced patient comfort• Patient friendly design• Easy wheelchair access• Ergonomic integrated bucky Outstanding Image Quality• Enhanced Detective Quantum Efficiency (DQE)• Molybdenum/Rhodium dual track tube• Automatic Optimization of Parameters (AOP) transparently selects all exposure parameters based on breast radiological properties• Three AOP modes enable more flexibility in dose management• Enhanced views with Fine View and improved contrast with Premium View Seamless digital workflow connectivity• Automated Quality Control• Integrated Repeat and Reject Analysis function Senographe Essential Technical Specifications Image Quality Detector DQE• DQE typical values: 70% at 0lp/mm, 61% at 2.0lp/mm, 24% at 5.0lp/mm• Measurement conditions: Mo anode track, Mo filter, 28kV, 8.5mR detector entrance dose, 4.2cm PMMA Detector• Detector size: 24x30.7cm• Pixel size (pitch): 100 um• Acquisition dynamic range: 14 bits• Image size (XxY):

Qty	Description
	<ul style="list-style-type: none"> - 3062x2394 pixels (large image size) approximately 14MB per image - 2294x1914 pixels (regular image size) approximately 9MB per image • Patented needle structure Csl scintillator single piece construction • Closed loop liquid cooling Tube Technology • X-Ray tube type: Apollon • Anode target materials - Dual track: Molybdenum (Mo), enriched with Vanadium and Rhodium (Rh) • Four focal spots: 0.1 and 0.3 IEC on each target • Target angle: 0 degrees • Maximal high voltage: 49kV • Tube current: <ul style="list-style-type: none"> - Molybdenum target: 100 mA from 25 to 30kV on large focal spot 40 mA from 25 to 30kV on small focal spot - Rhodium target: 62mA from 25 to 30kV on large focal spot 35mA from 25 to 30kV on small focal spot • Anode size (tracks diameter): 100mm • Anode heat storage capacity: 250kj (340kHU) • Anode maximum dissipation: 500W (40kHU/min) • Max casing continuous dissipation: 150W (12 kHU/min) at 104 degrees fahrenheit • Permanent filtration: 0.69mm Beryllium • Weight: 15.4 pounds • X-ray tube assembly: self-encased X-ray tube oil free, lead free, air-cooled head • Tube protection: software monitoring of tube load Grid/Breast Support • Ergonomic breast support for patient comfort • Motorized installation and removal of the grid and breast support for geometric magnification • Breast support material: low attenuation carbon fiber composite • Grid ratio: 5:1 • Grid frequency: 36 lines/cm • Optimized grid motion ensuring no grid structure artifacts in image • Detector to breast support edge-to-edge distance less than or equal to 5mm Automatic Exposure Automatic Optimization of Parameters (AOP) Fully automatic mode • AOP is a fully automatic exposure system that selects all exposure parameters based on radiological density of the breast for exceptional and consistent image quality: track (Mo or Rh), filter (Mo or Rh), kV, mAs • The system identifies the most dense part of the breast to select the appropriate exposure

Qty	Description
	<p>parameters</p> <ul style="list-style-type: none"> • Three AOP modes are available for more flexibility: <ul style="list-style-type: none"> - "Contrast": dose to patient comparable to screen/film mammography - "Dose": priority is given to dose reduction - "Standard": balances low noise and dose reduction Manual Mode • Manual selection of all parameters: track, filter, kV and mAs Collimator Filters: Molybdenum: 0.030mm; Rhodium: 0.025mm • Field of View (FOV) in detector plane, in cm <ul style="list-style-type: none"> - For standard contact views: 24x31 maximum FOV or 19x23 regular FOV (centered or off-centered left and right based on the paddle inserted) • Field of View (FOV) selection: automatic and manual • FOV size: selected automatically based on paddle or geometric magnification platform used, can be modified manually by using the collimation size button on the tube head • FOV location (left, right, center): selected automatically based on the tube arm angle, can be modified manually by using the collimation position switch on the tube head • Compression and exposure are prevented if the FOV and compression paddle sizes or locations are not consistent • Light centering device: a light automatically switches on when a preset position is reached, at compression start or at paddle insertion; can be turned on with the collimation switch buttons located on the tube head Compression • Compression modes: <ul style="list-style-type: none"> - Motor driven compression up to 20 daN - Manual compression possible up to 30 daN • Dual foot-pedals for column height and compression adjustments • User defined motorized compression force limit: 4 to 20 daN • Minimum force for AOP: 3 daN • Compression speed: 2 speed levels • User can select automatic decompression after exposure to minimize patient time under compression • User-defined maximum decompression height Safety • Gantry locked when compression force applied Positioner • Isocentric arm with motorized rotation and vertical movement • Source to image receptor distance: 660mm • Floor to image receptor distance: from 65cm to 150cm • Rotation angle: - 165/185 degrees • Ergonomic handles: two on both sides of the tube arm and two additional handles at the

Qty	Description
	<p>detector level User Interface</p> <ul style="list-style-type: none"> • Four sets of dual speed switches for rotation and lift movements • Four sets of preset position buttons for quick and easy positioning in CC and MLO • Automatic stop at +/-90 degrees for lateral positions • Collimation buttons on the tube head for field of view size and location • Parameters display <ul style="list-style-type: none"> - Tube arm support rotation angle - Compressed breast thickness (in mm) - Compression force (in daN) - Ergonomic control console - Controls exposure - Provides information on system status - Gives access to advanced parameters for system set-up • Patented automatic view names marking based on breast laterality • View name can be edited at any time before the examination is closed Acquisition Workstation • Small footprint • Time to display processed image (average): 14 seconds • Time between exposures (typical): 12 seconds • Dose calculated and displayed on the image after every exposure (Entrance Skin Dose and Average Glandular Dose) • Dual core HP workstation <ul style="list-style-type: none"> - Memory: 1GB RAM + 4MB L2 cache - Hard disk: 1 internal 250 GB disk, 7200 RPM - Image storage: 15000/25000 large/regular field of view - Port: one Ethernet port 10/100 Mbits - DVI video board • Display (standard) <ul style="list-style-type: none"> - High performance black and white LCD 1MP - monitor - 48cm (19") medical grade - 1280x1024 pixels (landscape) - 8 bits display - High luminance - up to 500 Cd/m2 - Contrast ratio: 500:1

Qty	Description
	<ul style="list-style-type: none"> - Viewing angle: 170 degrees - Weight: 6.4kg (14.9lbs) - Mounted on a rotating arm for easy in-room access • Image Presentation <ul style="list-style-type: none"> - Fine View processing provides sharp images with enhanced conspicuity, based on detector physics - 2 options for primary image processing: 1. Thickness Equalization which provides a "film-like" aspect with improved visibility of the skin line 2. Premium View* enhances local contrast - Automatic windowing (window level and window width) - Other features: zoom, roaming, inversion, flip, rotation of images, window width and level setting, annotations and measurement • Un-interruptible Power Supply (UPS) allows to close the examination without loss of information in the case of a power failure Connectivity • DICOM 3.0 platform: <ul style="list-style-type: none"> - Modality Worklist User - Storage Provider - Storage Commitment User - Query/Retrieve User - Basic Grayscale Print User - Verification Provider - DICOM-compliant CD-RW Data Interchange • Connectivity features: customizable Autopush to multiple DICOM databases, Autoprint, Autodelete based on Storage Commitment • Modality Perform Procedure Step User • Connectivity to GE Service for remote diagnostic capability Quality Assurance • Complete quality control program • Automation of quality control tests: Flat Field, MTF, AOP, SNR, CNR • Data can easily be exported for data tracking • Automated Repeat and Reject Analysis Radiation Shield • Stand alone or integrated to control console High Voltage Generator 0 Generator type: high frequency single phase power supply • Ripple: <4% from peak to peak • Power: 5kW max • mAs range: 4 to 500 mAs (depending on track, filter and kV) • kV range: 22 to 49kV, in 1kV steps

Qty	Description
	<ul style="list-style-type: none"> • Generator protection: software monitoring of generator and tube load Power Supply • Input frequency: 50Hz/60Hz • Input voltage: single-phase 200/208/220/240V • APC Smart-UPS 750 VA Standard Configuration • Motorized isocentric gantry • X-ray tube with rotating Mo/Rh anode • 24x31cm flat panel detector • Acquisition workstation <ul style="list-style-type: none"> - CD-RW - LCD display - X-ray protective shield - Control console - UPS • Pair of dual foot-pedals • High-frequency generator and conditioner • Face shield • 24x31cm bucky with grid • 24x31cm paddle • 19x23cm sliding paddle • 24x31cm ergonomic sliding paddle that conforms to the breast • 1.5 and 1.8 magnification stands with dedicated paddles (19x23cm, round spot, square spot) • Square spot sliding compression paddle • Round spot sliding compression paddle • Quality control toolkit • User manual and technical documentation

1

USA ICAD Powerlook AMP

USA PowerLook AMP iCAD 7.2

PowerLook Advanced Mammography Platform (AMP) is iCAD digital mammography CAD platform offering radiologists the flexibility to choose the products and functions that best fit their reading environment. A wide range of tools for disease detection and analysis provide users with workflow enhancements that improve overall efficiency.

Multi-vendor CAD server allows for easy practice expansion. PowerLook AMP includes a multi-vendor CAD server that provides consistency across all digital mammography systems.

Qty	Description
	<p>PowerLook AMP allows hospitals and imaging facilities to:</p> <ul style="list-style-type: none"> • Process cases using a single server • Connect up to 4 connections from any combination of supported mammography acquisition devices • Eliminate the need to purchase a separate server for each digital mammography system • Reduce hardware and service costs <p>In the U.S., supported vendors are GE, Siemens, Fujifilm Im, or Hologic (Selenia). Outside of the U.S., additional vendors are available, including Philips Microdose, IMS Giotto, Philips CR and DR, Planmed, and Agfa.</p> <p>PowerLook promoted by GE is offering CAD 7.2 CAD 7.2 algorithms analyze mammography images using methodologies that are complementary to the radiologist. Potential cancers are identified using patented artificial intelligence and pattern recognition technology to analyze images and identify patterns. Sophisticated mathematical analysis identifies and marks suspicious areas without obscuring the underlying image, enabling fast and accurate reading.</p> <p>Clinical Performance:</p> <ul style="list-style-type: none"> • Detects up to 72% of actionable missed cancers in an average of 15 months earlier than screening mammography alone* • 90-96% sensitivity with 2.0 or 2.9 false positives per 4-view study * Brem RF, Baum J, Lechner, M Kaplan, S Souders, S Naul L. Gill, Hoffmeister, J. Improvement in Sensitivity of Screening Mammography with Computer-Aided Detection: A Multi-institutional Study. AJR 2003; 181: 687-693 <p>CAD markers:</p> <ul style="list-style-type: none"> • CAD marks highlight suspicious lesions with out obscuring underlying structures • Marks densities with ellipses and microcalcifications with rectangles that surround the region of interest <p>Seamless DICOM integration enhances clinical workflow. PowerLook Digital platform provides powerful and flexible DICOM connectivity solutions - for optimal digital workflow and enabling seamless integration with acquisition systems, review workstations, and PACS from leading vendors. Flexible integration options enable CAD results to be viewed on workstations or sent to a printer.</p> <ul style="list-style-type: none"> • Analyses unlimited views per studies • Processes CAD on up to 30 four-views studies per hour • CAD server supports up to four FFDM system <p>Flexible DICOM Connectivity</p> <ul style="list-style-type: none"> • Supports multiple DICOM outputs including: <ul style="list-style-type: none"> - Mammography CAD Structured Reporting

Qty	Description
	<ul style="list-style-type: none"> - DICOM 6000 Overlay - Secondary Image Capture - RTSS - Grayscale Presentation State - Encapsulated PDF • Sends CAD results to multiple destinations in different formats simultaneously • Automatic send/receive or manual push of CAD results • 10/100/1000 Base T Ethernet connectivity • Remotely accessible <p>CAD server Processor: Intel i3 Chassis: Desktop with pedestal to convert to tower configuration Hard Drive: 250 GB Network Adaptor: Up to 1000 base T Operating System: Windows 7 Embedded 64 bit</p>
1	<p>SENOCLAIRE LLH1 CART</p> <p>The cart is an option of the MTD, (Motorized Tomosynthesis Device), that helps the operator insert, remove, transport and store the device when not in use.</p>
1	<p>DBT License</p> <p>The SenoClaire license is required only in France, Germany, Netherlands, Japan and USA.</p>
1	<p>SENOCLAIRE LLH1 PREMIUM V</p> <p>Enhancement of the Premium View software to display dark and bright images, such as implants</p>
1	<p>SENOCLAIRE FOR USA CAN</p> <p>SenoClaire (3D imaging) is an exciting innovation in breast cancer screening and diagnosis. Breast Tomosynthesis is a three-dimensional imaging technology that uses a low dose short X-ray sweep around a compressed breast. The acquired projection images are processed electronically in order to reconstruct a 3D representation of the entire breast. This imaging technique is designed to separate the tissues and to reduce the overlapping of structures , which represents a limiting factor in standard 2D mammography.</p> <p>SenoClaire is an option of the Senographe* Essential platform that generates 3D and 2D images. The dose of SenoClaire view is designed to be equivalent to the dose of a 2D standard acquisition of the same view.</p> <p>Specifications</p> <p>Senographe Essential SenoClaire option kit</p>

Qty	Description
	<ul style="list-style-type: none"> • Versatile add-on to Senographe Essential full-field digital mammography system • Quick set-up for 2D and 3D capability • Large field of view for easy patient positioning • Carbon cover, ergonomic design and removable paddles make cleaning easy <p>Compatibility</p> <p>SenoClaire is compatible with the Senographe Essential platform. Already upgradeable with Contrast Enhanced Spectral Mammography (SenoBright) and Stereotaxy, the Senographe Essential platform continues to demonstrate GE Healthcare's commitment in bringing breast care solutions without having to replace the original gantry and keeping the same interface.</p> <p>SenoClaire ergonomic design for technologists</p> <ul style="list-style-type: none"> • SenoClaire is a simple plug and play option on Senographe Essential imaging system with an ergonomic handling design • SenoClaire acquires the tomosynthesis images for each view with a simple action of the X-ray exposure control • The projection images are displayed at the acquisition station for quality control • Removable paddles for easy cleaning • SenoClaire AEM (Automatic Exposure Management) and manual mode available • 3D visual indications given at the acquisition workstation and on the Tomosynthesis device • Flexibility in the acquisition workflow definition • Two compression modes: manual and motorized • SenoClaire is taking advantage of the Senographe Essential ergonomic design. <p>SenoClaire Patient Comfort</p> <ul style="list-style-type: none"> • Ergonomic handles for arm rest during the exam • Typical acquisition time is <10 sec (average breast of 4.5cm) • Manual adjustment of the compression • Possibility to automatically decompress after exposure to minimize patient time under compression <p>SenoClaire Data Management</p> <ul style="list-style-type: none"> • SenoClaire designed to allow exporting tomographic data sets with DICOM Breast Tomosynthesis Storage class. • SenoClaire is designed to work with compatible IDI Workflow Solution. • Image compression capability • Tomo-planes spacing: 0.5mm.

Qty	Description
	<p>SenoClaire Innovative Technology</p> <ul style="list-style-type: none"> • SenoClaire tomographic parameters: sweep angle is 25 with 9 projections • The innovative "Step and Shoot" tube motion stops for each exposure to avoid image blur • Mo and Rh tube tracks create very narrow x-ray spectra, exactly where the dose efficiency is for thin (Mo) and medium and thick breasts (Rh) • Senographe Essential detector, 100 microns (no binning) • SenoClaire uses ASiRDBT, an iterative reconstruction algorithm • The dose of a SenoClaire view is designed to be equivalent to the dose of a 2D standard acquisition of the same view.
1	<p>Quality Control A dedicated quality control protocol is used for GE Breast Tomosynthesis</p> <p>Flexible and Ergonomic 24 x 31cm Compression Paddle</p> <p>Flexible and Ergonomic compression paddle 24 x 31cm for Senographe Essential</p> <p>The optional ergonomic 24x31 cm sliding paddle provides tilting and flexibility for better compression uniformity from chest wall to nipple.</p> <p>Positioning is made easier especially in MLO position for large pectoral muscle and in CC when chest wall and nipple side show large thickness variation.</p> <p>Patient comfort is improved by requiring less compression on pectoral muscle or chest wall to achieve proper compression on the whole breast.</p>
1	<p>Sliding Flexible and Ergonomic 19 x 23 cm Compression Paddle</p> <p>Sliding Flexible and Ergonomic compression paddle 19 x 23 cm for Senographe Essential</p> <p>The optional ergonomic 19x23 cm sliding paddle provides tilting and flexibility for better compression uniformity from chest wall to nipple. It is used in combination with the 19x23 field of view.</p> <p>Positioning is made easier especially in MLO position for large pectoral muscle and in CC when chest wall and nipple side show large thickness variation.</p> <p>Patient comfort is improved by requiring less compression on pectoral muscle or chest wall to achieve proper compression on the whole breast.</p>
1	<p>Standard Radiation Shield</p> <p>Additional Stand-alone Radiation Shield (MAVIG) This radiation screen is a stand-alone shield validated for fixed configurations only.</p>

Qty	Description
1	<p>2d Biopsy Optical Localiser</p> <p>2D Biopsy Optical Localizer Includes:</p> <ul style="list-style-type: none"> • 2D Cross-hair • 2D Large localization paddle • 2D Spot localization paddle
1	<p>Set of Plexiglass Plates for Quality Control</p> <p>Set of Plexiglass Plates for Quality Control</p> <p>These plexiglass plates are used for quality assurance procedures for Senographe DS or Senographe Essential.</p>
1	<p>System Power Supply Cable</p> <p>System Power Supply Cable</p>
1	<p>MONIT LCD 3MP EIZO RX340</p> <p>3MP LCD Monitor The monitor is mounted on a rotating arm to the characteristics:</p> <ul style="list-style-type: none"> • High performance color TFT 3MP monitor • 54cm (21.2") • 2048 x 1536 pixels (landscape) • Brightness: 1000 Cd/m2 • Contrast ratio: 1400:1 • Viewing ratio: 170 degrees
1	<p>Mammography Accessories Cabinet</p> <p>GE Mammography Accessories Cabinet</p> <p>FEATURES/BENEFITS</p> <ul style="list-style-type: none"> • Holds 9 Paddles, Mag Stand, QC Phantoms and more • Can be wall mounted or floor standing <p>SPECIFICATIONS</p> <ul style="list-style-type: none"> • Dimensions (L x W x H): 30.5" x 15.5" x 40.5" • Weight: 48 lbs.
1	<p>ACR Breast Phantom - RMI 156</p> <p>Mammography Breast Phantom - ACR Gammex 156</p> <p>The Mammographic Accreditation Phantom is designed to test the performance of a</p>

Qty	Description
	<p>mammographic system by a quantitative evaluation of the system's ability to image small structures similar to those found clinically.</p> <p>Objects within the phantom simulate calcifications, fibrous calcifications in ducts, and tumor masses.</p> <p>The phantom is also designed to determine if a mammographic system can detect small structures that are important in the early detection of breast cancer.</p> <p>Test objects within the phantom range in size from those that should be visible on any system, to objects that will be difficult to see even on the best mammographic system.</p> <p>Breast phantom is compatible with analog and digital equipments.</p> <p>Approved by ACR for Mammography.</p> <p>SPECIFICATIONS</p> <ul style="list-style-type: none"> • Height: 1.75 in. (4.5 cm) • Width: 4 in. (10.2 cm) • Depth: 4.25 in. (10.8 cm)
1	<p>2 Day SenoClaire TiP Applications Onsite Training</p> <p>2 Day SenoClaire TiP Applications Onsite Training</p> <p>Two day onsite visit focused on onsite training. A professional TiP application Lead will work with the customer to provide onsite training on the SenoClaire mammography system. Training will meet the FDA 8 hour didactic requirements.</p> <p>Applications onsite training is provided from 8 AM to 5 PM, Monday through Friday. Includes T&L expenses.</p> <p>This Applications onsite training program must be scheduled and completed within 12 months after the date of product delivery.</p>
1	<p>2 Days MM TiP Onsite Training</p> <p>2 Days MM TiP Onsite Training</p> <p>Two Day MM Onsite Training provided from 8AM to 5PM, Monday through Friday. Includes T&L expenses. Days provided consecutively.</p> <p>This training program must be scheduled and completed within 12 months after the date of product delivery.</p>
1	<p>3 Days MM TiP Onsite Training</p> <p>3 Days MM TiP Onsite Training</p>

Qty	Description
1	<p>Three Days MM Onsite Training provided from 8AM to 5PM, Monday through Friday. Includes T&L expenses. Days provided consecutively.</p> <p>This training program must be scheduled and completed within 12 months after the date of product delivery.</p> <p>Seismic Senographe 800T</p> <p>Mammography (Senographe) Seismic Anchorage</p>

Options

(These items are not included in the total quotation amount)

Qty	Description
1	<p>DBT MED RADIOLOGIST TRNG</p> <p>8-HOUR DIGITAL BREAST TOMOSYNTHESIS (DBT) TRAINING PROGRAM FOR Qty. (1) RADIOLOGIST</p> <p>Developed in cooperation with Daniel B. Kopans, M.D., FACR Professor of Radiology - Harvard Medical School Senior Radiologist Breast Imaging Division - Massachusetts General Hospital</p> <p>R. Edward Hendrick, Ph.D., FACR Clinical Professor of Radiology University of Colorado - Denver</p> <p>The following are the objectives and course outline for providing radiologists with 8 hours of training in Digital Breast Tomosynthesis to comply with FDA requirements.</p> <p>Objectives: The radiologist completing this course will:</p> <ul style="list-style-type: none">• Understand the basic principles of image formation and display in digital breast tomosynthesis (DBT)• Know the fundamental differences between DBT and 2D digital mammography• Know the design options for DBT and the specific choices made in design of the GE SenoClaire DBT system• Understand the clinical role of DBT in breast imaging, including the specific labeling of the GE SenoClaire system• Know the ACR accreditation and FDA certification requirements for DBT, including image archiving requirements Understand imaging trade-offs on in DBT - reconstructed plane thickness and other issues• Be familiar with basics of image acquisition using the MTD (motorized tomosynthesis device) on the GE Senographe Essential digital mammography system• Be familiar with the basics of image transfer and storage of DBT images (file sizes and storage requirements of DBT compared to 2D digital mammography)• Understand the important elements of image display and image interpretation in digital breast tomosynthesis

- Know the key diagnostic features for the display, detection, and diagnosis of lesions appearing as masses, calcification groups, asymmetries and architectural distortions, including both similarities and differences between interpretation of these findings on digital mammography and DBT.
- Understand and see examples of DBT image quality compared to 2D digital mammography.
- Understand DBT doses compared to those of 2D digital mammography

Content Outline: Introduction to DBT - 1 hour

- Basic principles of DBT
- Differences between DBT and 2D digital mammography
- DBT design elements
- Specific design choices in the SenoClaire DBT system
 - Step and shoot vs continuous motion
 - Choice of acquisition angles and number of views
 - Spatial resolution of DBT images
 - 2D and DBT field-of-view and view options
 - Image reconstruction and artifact reduction
 - Patient breast doses on the SenoClaire DBT system
- QC on the SenoClaire DBT system and the roles of the QC technologist, medical physicist, and radiologist Using the DBT workstation - 1 hour
- Display features of the DBT workstation
 - Planes & slabs
 - Image display options
 - Viewing tools
- Options in reviewing cases with DBT
 - Image search strategies - planes, slabs, and viewing methods
 - Search for masses
 - Search for pleomorphic calcifications in clusters, linear branching, or segmental
 - use of slabs
 - Search for architectural distortions
 - Search for asymmetries
 - Comparison to prior mammograms
- Locating lesions by laterality, x-y coordinates & plane number

Appearance of Normal Anatomy and Assessment of Breast Density - hour

- Normal Anatomy on DBT
- Assessing Breast Density on DBT
 - Density 1: Mostly fatty

-Density 2: Scattered Fibroglandular Structures -Density 3: Heterogeneously dense -Density 4: Extremely dense
 -Assessing the Male Breast

Masses on DBT - 1 hour

- Shape -Round -Oval -Lobulated -Irregular -Architectural distortion.
- Margins (These modify the shape of the mass)
 -Circumscribed (well defined or sharply defined) margins.
 -Microlobulated margins -Obscured margins. -Indistinct (ill-defined) margins -Spiculated margins
- Special cases -Asymmetric Tubular Structure/Solitary dilated duct -Intramammary lymph nodes -"Global Asymmetry" "Asymmetric breast tissue" -Focal Asymmetric Density - a density that cannot be accurately described using the other shapes. It is visible as asymmetry of tissue density. It could represent an island of normal breast, but its lack of specific benign characteristics may warrant further evaluation. Additional imaging may reveal a true mass or significant architectural distortion.
- Density of lesions (attenuation) -High density -Equal density (isodense to fibroglandular tissue) -Low density (lower attenuation than an equal volume of fibroglandular tissue but not fat containing) -Fat containing (radiolucent)

Calcifications on DBT - 1 hour

- Typically benign -Skin calcifications -Vascular calcifications -Coarse or popcorn-like calcifications -Large rod-like calcifications -Round calcifications -Spherical or lucent-centered calcifications -Rim or eggshell calcifications -Milk of calcium calcifications -Suture calcifications -Dystrophic calcifications -Punctate calcifications
- Intermediate concern calcifications are indistinct or amorphous
- Higher probability of malignancy -Pleomorphic or heterogeneous calcifications (granular) -Fine linear or branching calcifications
- Distribution modifiers -Grouped or clustered. -Linear

-Segmental -Regional -Scattered or diffuse -Multiple groups

Superposition Findings on DBT: Locations that appear to be of concern, but which appear normal on DBT. - hour

- Clustered Calcifications
- Mass
- Architectural distortion

Associated Findings on DBT: Used with masses or calcifications or may stand alone as findings when no other abnormality is present - hour

- Skin retraction.
- Nipple retraction
- Skin thickening
- Trabecular thickening
- Skin lesion
- Axillary adenopathy

Hands-on DBT interpretation - 2 hours

- Training Cases
- Difficult Cases
- Test Cases

Summary and Questions and Answers

hour

- Reporting DBT results
- Important take-home points
- Questions and answers

1

DBT MED PHYSICIST TRNG

8-HOUR DIGITAL BREAST TOMOSYNTHESIS (DBT) TRAINING
PROGRAM FOR (1) MEDICAL PHYSICIST

Developed in cooperation with R. Edward Hendrick, Ph.D., FACR
Clinical Professor of Radiology University of Colorado ? Denver

Objectives: To ensure that medical physicists:

- Understand the principles of digital breast tomosynthesis (DBT)

- Know the design options of DBT and the specific choices made in design of the GE SenoClaire DBT system.
- Understand the clinical role of DBT in breast imaging, including the specific labeling of the GE SenoClaire system.
- Know the ACR accreditation and FDA certification requirements for DBT
- Are familiar with the MTD (motorized tomosynthesis device), its installation and use on the GE Senographe Essential digital mammography system
- Understand the operation of the SenoClaire DBT system, including performance of the quality control (QC) tests specific to DBT and those shared in common with FFDM
- Understand image transfer, storage, and display requirements for DBT
- Participate in hands-on performance of all DBT-specific QC tests on the SenoClaire system
- Understand how to interpret QC test results for DBT
- Understand data reporting procedures for QC tests and their results

Training Materials and Equipment:

- SenoClaire Mammography System
- IDI Review Workstation with DBT training cases
- GE Breast Tomosynthesis Operator's Manual
- GE QC Manual for DBT Option

Course Elements: Module 1 / Duration: 1h30min / Logistics: in class / Trainer: Medical Physicist

- Principles of DBT
- Design Choices in DBT in general, those made specifically for the GE SenoClaire DBT system and by other DBT manufacturers
- Comparison of DBT and FFDM (technical perspective)

Module 2 / Duration: 1h / Logistics: in class + demo on IDI review workstation / Trainer: Medical Physicist Clinical Role of DBT, Labeling, and Indications for Use Example Cases Comparing DBT to FFDM

- Masses
- Calcifications
- Architectural distortions
- Asymmetries
- Lymph nodes
- Clinical image review on DBT compatible workstations

Module 3 / Duration: 1h30min / Logistics: in class / Trainer:
Medical Physicist Technical Parameters for Assessing DBT
Performance

- DBT image reconstruction
- In-plane spatial resolution
- Depth resolution
- Artifacts and artifact correction in DBT
- Image display (slices, slabs, other display techniques)
- Image transfer, image storage, and PACS with DBT QC
Procedures on the GE SenoClaire system
- Test tools
- QC tests in common with FFDM -Technologist's Tests
-Medical Physicist's Tests
- QC tests specific to DBT -Technologist's Tests -Medical
Physicist's Tests
- Analysis of QC test results
- Reporting QC results

Module 4 / Duration: 1h / Logistics: demo on a SenoClaire
system / Trainer: DBT technologist or applications specialist
Clinical Operation of the GE SenoClaire system (with MTD in
place)

- 2D acquisitions
- DBT acquisitions
- Display options
- Image transfer and storage, PACS
- Demonstration of Technologist's QC Tests (2D and DBT)

Module 5 / Duration: 2h30min / Logistics: Hands-on with a
SenoClaire system / Trainer: Medical Physicist

- Hands-on Demonstration of QC Testing on the GE

SenoClaire system on the UNIT

- Physicist Hands-on Performance of QC Tests - on the UNIT

Module 6 / Duration: 30min / Trainer:

Medical Physicist

- Reviewing Technologist's QC Tests
- Review of System Operation and Medical Physicist QC Test Procedures summary of what was covered in the hands-on sessions; review of important points
- Questions and Answers

INTL with Barco Coronis BB monitors

The MammoWorkstation features softcopy reading with integrated reporting and CAD display. The Workstation is suited for reading direct digital mammography (DR) and Computed Radiography (CR) images from all major manufacturers, as well as for viewing digitized screen film images.

The hardware is composed of Windows 7 x64 based HP Z800 computer coupled with 2x Barco Mammo Coronis 5MP LCD monitors and a 19" non-diagnostic LCD monitor.

Intended use

MammoWorkstation is designed to assist radiologists in conducting primary diagnostic review for diagnostic and screening mammography through flexible and interactive manipulation of multi-modality softcopy images. It provides image review, manipulation, analysis, post-processing and printing capabilities that support image management display needs in the medical environment.

MammoWorkstation is designed to give easy and economic access to and display of multi-modality softcopy images, structured reports, and CAD results through interfaces to various image storage devices using DICOM or similar interface standards. It supports creation of structured reports according to the DICOM breast imaging report templates.

MammoWorkstation supports teleradiology and teleconferencing providing access to multi-modality softcopy images and structured reports in multiple locations within and outside the hospital. Lossy compressed mammographic images

must not be used for primary diagnostic interpretation unless approved for use in digital mammography. Display monitors used for primary diagnostic interpretation of mammographic images must be approved for use in digital mammography. CAD display is also available in option.

1

INTL DICOM SHUTTLE HW/SW

DICOM Shuttle is a tool for fast transmission of medical image data. It connects DICOM enabled devices in different locations over a given - preferably secure - connection. DICOM Shuttle enables fast teleradiology transparent to connected DICOM devices leveraging JPEG2000 image compression.

1

1 Day Service Pre-install IDI Connectivity

1

IDI Professional Services (1 Day)

This item describes the services for a IDI Workflow Solution implementation provided by an IDI Specialist.

It corresponds to one day of work and includes travel & living expenses.

1

RIS/MIS Front-End Integration

Dedicated integration enables productivity gains ,reducing the rework and data mismatches among different applications.

1

Power Cord Kit 1 Set

One set of power cords for UK/USA/JAPAN/CHINA

1

TiP Onsite SenoBright or IDI Workstation Training 3 Days

3 Days SenoBright or IDI Workstation training

One 2 Day and one 1 day TiP Onsite Training for the SenoBright or IDI Workstation

Includes T&L expenses. Days provided consecutively.

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

1

1 Day MM TiP Onsite Training

1 Day MM TiP Onsite Training

One Day MM Onsite Training provided from 8AM to 5PM,
Monday through Friday. Includes T&L expenses.

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