

VAMC LOMA LINDA, CA  
PO# 605-B30012

Line #	Description	Qty
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1	<b>US2787 Bio IU22_IE33 CTC 4</b>	1
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iU22 & iE33 Ultrasound Systems

Course Number: US2787

Class Length: 3.5 days (excludes Saturdays, Sundays, and Philips holidays)

Delivery Method: Instructor-led

Modality: Ultrasound, General

Location: Philips Healthcare Academy, Best or Cleveland

Accreditation: Certified

Audience: Biomedical engineers, Hospital engineers

**DESCRIPTION:**

This course provides an introduction to supporting the iU22 and iE33 Imaging Systems. Students receive fundamental applications training required to understand some clinical uses of these systems. They learn how to image phantoms in order to assess system performance and how to minimally operate the system to better understand the needs of the Sonographer.

This course focuses upon equipment operation, maintenance, DICOM configuration and minor repair. Board level theory and system diagnostics are studied to facilitate repair. Hands-on labs train the student to verify proper equipment operation and learn diagnostic troubleshooting techniques. Philips support philosophy is explained to facilitate working successfully with our support professionals.

For course enrolment and course dates:

Please contact your local Philips representative.

**COURSE-WARE:**

Student Manual

All course materials are on CSIP level 1.

**PREREQUISITES:**

- . Basic analog and digital electronics knowledge
- . Ultrasound and Transducer knowledge

**COURSE AIMS:**

Upon completion of this course it is expected that the student will be capable of partnering with our service professionals to meet the servicing needs of the customer.

He/she will be able to:

- . Recognize (and scan phantoms) with standard views.
- . Minimally operate the Ultrasound Systems.
- . Isolate and repair minor system failures.
- . Run full system diagnostics (Normal User)

**KEY TOPICS:**

- . System mechanics

- . User presets backup and restore
- . Dicom setup

\* PHILIPS PROPRIETARY MATERIALS SUCH AS DIAGNOSTIC SOFTWARE AND SERVICE DOCUMENTATION ARE NOT INCLUDED IN THE TRAINING AND WILL NOT BE AVAILABLE FOR USE OUTSIDE OF THE TRAINING ENVIRONMENT. THE TRAINEE MUST RETURN ALL PROPRIETARY MATERIALS RECEIVED DURING THE TRAINING AT THE END OF THE TRAINING. CUSTOMER ACKNOWLEDGES AND AGREES THAT NEITHER CUSTOMER NOR TRAINEE WILL RECEIVE A LICENSE TO SUCH PROPRIETARY MATERIALS AND THAT THE TRAINEE MAY NOT BE ABLE TO FULLY UTILIZE THE TRAINING WITHOUT THE USE OF SUCH PROPRIETARY MATERIALS. (CERTAIN LICENSES MAY BE OBTAINED THROUGH PURCHASE OF AN ALLIANCE CO; OP AGREEMENT.) Course dates and location to be finalized by Philips. Philips shall attempt to accommodate Customer requested dates and training location. The price quoted includes course tuition. Travel and living expenses are not included, but may be purchased separately through Philips.

**IMPORTANT Notes Regarding Admission to Philips Customer Engineer Training Courses:**

1. Trainee must meet all prerequisites
2. Course expires one (1) year from equipment installation date (or purchase date if sold separately)
3. Customer must sign Philips Nondisclosure statement
4. Trainee must sign Philips Nondisclosure statement
5. Customer must sign Philips terms and conditions of training

Line #	Description	Qty
1	<p><b>iE33 V 2012 3D xMATRIX</b></p> <p><b>Intelligent Design</b></p> <p><b>Ergonomics:</b></p> <p>Unique human-centered design for comfort and convenience</p> <p>Fully articulating flicker-free 20-inch high resolution flat panel display with nearly infinite positioning adjustment</p> <p>Fully articulating control panel, including height, swivel, and slide</p> <p>Easy access transducer connectors and integrated cable storage</p> <p>Digitally enhanced 8 speaker high-fidelity stereo audio</p> <p>Integrated footrest</p> <p>Integrated storage shelves</p> <p>4 wheel swivel and swivel/brake lock control</p> <p><b>Architecture</b></p> <p>xSTREAM system architecture with capability of processing multiple data streams simultaneously built for</p> <p>2D, Panoramic, MPR, Live xPlane and Live 3D</p> <p>Next generation digital broadband acoustic beamforming, built for latest pulse shaping and coding techniques</p> <p>Dynamically scalable digital channels up to 144,000, designed to accommodate next generation of high frequency imaging and xMATRIX array configurations</p> <p>High-bit, low noise, digital circuitry with exclusive adaptive S/N achieves system dynamic range up to 180dB</p> <p>New Adaptive Broadband flow imaging automatically adjusts bandwidth for optimal flow sensitivity and resolution</p> <p>Advanced XRES Adaptive Image Processing for noise and artifact reduction to improve tissue conspicuity</p> <p>Fully independent, multiple mode Triplex operation</p> <p><b>Transducers</b></p> <p>Supports new Explora family of transducers that feature:</p> <p>Ergonomic designs with lightweight flexible cables and longer cables for some transducers</p> <p>New low-loss technology for better penetration with fewer artifacts</p> <p>Breakthrough frequency bandwidths and array configurations</p> <p><b>Intelligent Control Interface</b></p> <p>High resolution interactive graphical color touch panel with adjustment for various ambient light conditions</p> <p>Easy access primary controls with Tri-state back lighting and multi-function controls</p> <p>Control panel operation of on-board peripheral devices</p> <p>Pull out alphanumeric keyboard for manual data entry</p> <p>User interface configurable for languages</p>	1

**Automation**

iSCAN intelligent one-button optimization for adaptive gain compensation  
iFOCUS intelligent focusing capability for one-button optimization of focal range position  
iOPTIMIZE intelligent optimization for one-button push that automatically adapts system performance for:  
different patient size  
different flow states  
High-Q Automatic Doppler Analysis  
Intelligent Tissue Specific  
Applications Programs  
Application-specific and User  
Definable Quicktext Automatic  
Annotation  
QuickSAVE User Defined Programs (up to 45 per transducer)

**Data**

On-board workstation-class data management with thumbnail previews and storage of images, loops, and reports|  
NetLink/DICOM 3.0 provides network print and store, commit, modality worklist, DICOM Query and Retrieve, and structured reporting  
for echo, pediatrics and vascular  
Retrospective and prospective clip capture to internal drive or removable media  
Integrated DVD/CD burning capability for storage of DICOM images (includes DICOM viewer) or export in  
JPEG and .avi for PC compatibility  
DICOM 3.0 Print and Media Store capability to internal drive or DVD/CD, network devices.  
USB port for import/export of DICOM images (includes DICOM viewer) and export of PC files.

**Other Core Features**

Color Power Angio  
Tissue Doppler Imaging  
Cardiac Protocol - Stress Echo, with Defer Selection and Live Compare functions  
Tissue Harmonics and Pulse Inversion Harmonic Imaging  
2D, M-Mode, Pulsed, High PRF,  
Color Flow Doppler  
Duplex CW Doppler  
ECG capability  
Cineloop Image, M-Mode and Doppler Review  
High Definition Write Zoom and Read Zoom with pan features  
Chroma Imaging  
Measurement tools including: distance, depth, area, and circumference  
Volume Flow Measurements  
User Defined Calculations  
Application-specific Body Mark selections  
Alt Print Control to independently control 3 OEMs  
Advanced XRES adaptive real-time image processing  
SonoCT Real Time Compound Imaging  
Temporary ID

**Live 3D**

Provides true volume rendered, real-time 3D and Live xPlane imaging using supported xMatrix array transducers. Includes multiple vision settings to enhance image resolution and depth perception. Provides option to trade off volume size and frame rate. Education included with Live 3D software expires 1 year from equipment delivery.

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### **SmartExam**

SmartExam system-guided protocols with new features that include exam record and automatic mode switching to greatly improve workflow efficiencies

### **Compact Compatibility**

Compact Compatibility SW allows the iE33 system to recognize the Compact Adaptor and allows operation of the CX X7-2t transducer.

### **Auto Doppler**

Auto Doppler provides: auto placement of color flow box and steering angles in relation to vascular structures; auto sample volume placement in the area of greatest flow velocity and Auto angle correction. Auto Doppler works on all linear transducers.

**2**

## **Performance Clinical Bundle**

**1**

Includes Pediatric, Adult and Vascular clinical options

### **Pediatric Echo clinical option**

- Tissue Specific imaging software for specific transducers in pediatric cardiac ultrasound applications
- Display optimization software with Tissue Specific presets for pediatric cardiac imaging and Doppler applications
- Unique Analysis software package includes a dedicated pediatric cardiac imaging protocol and report, as well as fetal echo analysis
- Allows operation of S8-3, S12-4, S5-1, C5-1, C5-2, D2cwc, D5 cwc, S7-3t MiniMulti TEE and X7-2 transducers

### **Adult Echo clinical option**

- Tissue Specific imaging software for specific transducers in adult cardiac ultrasound applications
- Display optimization software with Tissue Specific presets for adult cardiac imaging and Doppler applications
- Analysis software package includes a cardiac imaging protocol and report
- Allows operation of S8-3, S12-4, S5-1, L11-3, X3-1, X7-2, X7-2t, S7-2omni, Omni III, S7-3t, MiniMulti, D2cwc, D5cwc and L15-7io transducers

### **Vascular clinical option**

- Tissue Specific imaging software for specific transducers in vascular ultrasound applications
- Display optimization software with Tissue Specific presets for vascular imaging and Doppler applications, including TCD and trans-orbital
- Analysis software package includes a vascular imaging protocol and report.
- Provides vascular reporting and allows operation of L8-4, L11-3, L9-3, C5-1, C5-2, C8-5, S5-1 D2cwc, D5cwc, D2tcd and L15-7io transducers

**3**

## **3D Quantification Adv Bundle**

**1**

Includes Cardiac 3DQ Basic Plug-in and Cardiac 3DQ Advanced Plug-in

#### Cardiac 3D Quantification (3DQ) Plug-in

Provides easy access to Live 3D, 3D Zoom, Full Volume and 3D Color data sets from the Philips Live 3D systems;

Offers viewing, cropping, slicing and quantification including distance measurements, area, Bi-plane LV Volume, Ejection Fraction (EF) and LV Mass calculations;

3DQ also provides Multiplanar Reconstruction (MPR) views for unlimited anatomical planes from 3D volume and new 3D iCrop tools.

#### Cardiac 3DQ Advanced Plug In

Provides display & manipulation of dynamic three-dimensional rendering and left ventricular (LV) volumes from the Philips Live 3D systems;

Displays 3D Full volume renderings in grayscale or advanced colorization (map H);

MultiPlanar Reconstruction (MPR) views provides unlimited anatomical planes from 3D volume;

New iSlice generation run in the 3D viewer and is compatible with all Philips Live 3D dataset including color data, provides highly flexible short and long axis slicing tool and display up to 4x4 equally spaced MPR views to facilitate LV function visualization assessment;

Measurements of LV endocardial Volumes, Stroke Volume (SV) and true 3D ejection fraction (EF) using a semi-automated border detection in 3D space;

iCrop is also available allowing easy to use controls to access the structural information within the dataset;

Computes global and regional LV volumes based on ACC 17 segments model;

Displays global LV volume waveform and provides selective display of 17 regional volume waveforms;

Offers timing assessment for each 17 minimal regional volumes and determine a synchronicity index for all volume segments or a user-selectable group of volume segments;

Provides comprehensive report with summary of synchronicity indexes and displays regional Timing and Radial Excursion Parametric Images in Bull's eye representation.

**4**

### **2D Quantification Adv Bundle**

**1**

Includes: ROI Plug-in, IMT Plug-in, CMQ Plug-in and Strain Quantification Plug-in

#### Region of Interest (ROI) Quantification Plug-in

Designed to increase the consistency and reliability of acoustic measurements, while reducing the effort required to successfully carry out ROI analysis for contrast imaging, tissue analysis and color Doppler. On compatible files calculates Color Mean and Standard Deviation, Echo mean and Standard Deviation, VI, FI, VFI. Enables user to apply motion compensation algorithm.

#### Intima Media Thickness (IMT) Quantification Plug-In

Provides automated measurements of intima media thickness in carotids and other superficial vessels;

Eliminates the laborious process of manually positioning cursors, minimizing the time needed to complete an IMT study.

#### Cardiac Motion/Mechanics Quantification (CMQ) Plug-in

Cardiac Motion Quantification (CMQ) is based on 2D speckle tracking technology, CMQ provides a method for assessing global and regional cardiac function. It offers a suite of measurements and parametric displays to analyze trans-myocardial mechanics without Tissue Doppler imaging angle dependency limitations. Using the 17-segment ASE left ventricular model, CMQ provides additional information for many clinical applications such as ventricular wall motion and mechanical synchrony assessments.

The excellent 2D image quality provided by PureWave crystal technology allows robust multi-cycle tracking of ventricular transmural layers. You can place and observe tracking points and edit them individually at any time. Multi-directional strain computations can be derived from longitudinal,

circumferential, and radial strain measurements.

CMQ also offers the unique “free strain” feature. This easy, quick, and accurate method provides the ability to assess user-defined local velocities, displacement, and deformation using an unlimited directional chords display technique. Cardiac Motion Quantification (CMQ) is based on 2D speckle tracking technology, CMQ provides a method for assessing global and regional cardiac function. It offers a suite of measurements and parametric displays to analyze trans-myocardial mechanics without Tissue Doppler imaging angle dependency limitations. Using the 17-segment ASE left ventricular model, CMQ provides additional information for many clinical applications such as ventricular wall motion and mechanical synchrony assessments.

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CMQ also offers the unique “free strain” feature. This easy, quick, and accurate method provides the ability to assess user-defined local velocities, displacement, and deformation using an unlimited directional chords display technique.

The CMQ plugin also provides TMAD (Tissue Motion Annular Displacement). TMAD provides you with a validated, ultrafast, reproducible and image-quality independent method to assess global left ventricular systolic and diastolic function.

#### Strain Quantification (SQ) Plug-in

Used in the evaluation of regional myocardial function;

Measures the myocardial velocity TDI data set and derives the displacement, strain and strain rate along user-defined M-Lines;

Includes ability to overlay opening and closing of aortic and mitral valves on SQ curves to evaluate Left Ventricle mechanical events;

User-selectable waveform display makes SQ curves easier to read.

5	<b>D2cwc Static Transducer</b>	1	Non-imaging 2 MHz PW/CW Doppler transducer for cardiac applications.
6	<b>X5-1 xMatrix Transducer</b>	1	Latest generation xMATRIX transducer with PureWave Crystal Technology. xMATRIX transducer with 5 to 1 MHz extended operating frequency range for adult echo applications in 2D, Live xPlane and Live 3D modes. Highly-functional, ergonomic design that operates in all common imaging modes, making it practical for everyday use.
7	<b>Compact X7-2t Transducer</b>	1	The Compact X7-2t transducer is a high frequency xMatrix sector array transesophageal Transducer with PureWave Crystal Technology, designed for the Philips CX50 CompactXtreme Ultrasound System. This transducer is also fully functional on the iE33 system (requires a Compact Adapter and the iE33 system to have Compact Compatability Software, and Vision 2009 SW or higher), with 7 to 2 MHz extended operating frequency range that images in 2D, Live xPlane, Live 3D, 3D Zoom, Full Volume and 3D color modes. Includes M-Mode, PW Doppler, CW Doppler, harmonics, true electrocautery suppression, and adaptive autocool. Includes ECG interface cable, disinfection basin, and 1 disposable tip protector.  Includes 1 year warranty
8	<b>CX X7-2t Transducer Adapter</b>	1	Transducer adapter for compact connector transducers. Allows the CX X7-2t transducer to connect to the iE33 system. Includes Compact Compatability Software.
9	<b>English Manual</b>	1	Operation Manual



***This QLAB package is only provided if purchased in conjunction with an ultrasound system that includes a QLAB Plug-In. This encompasses QLAB Core Module, Intima Media Thickness (IMT) Quantification Plug-in, Region of Interest (ROI) Quantification Plug-in, Cardiac Parametric (PQ) Quantification Plug-in, Strain (SQ) Quantification Plug-in, Cardiac 2D Quantification (2DQ) Plug-in, Cardiac 3D Quantification (3DQ), Cardiac 3DQ Advanced Plug-in, Mitral Valve Quantification (MVQ) Plug-in, GI 3D Quantification (GI 3DQ) Plug-in Elastography Analysis (EA) plug-in and CMQ (Cardiac Motion /Mechanics Quantification Plug-in).***

Includes QLAB Core Module, Intima Media Thickness (IMT) Quantification Plug-in, Region of Interest (ROI) Quantification Plug-in, Cardiac Parametric (PQ) Quantification Plug-in, Strain (SQ) Quantification Plug-in, Cardiac 2D Quantification (2DQ) Plug-in, Cardiac 3D Quantification (3DQ), Cardiac 3DQ Advanced Plug-in, Mitral Valve Quantification (MVQ) Plug-in, GI 3D Quantification (GI 3DQ) Plug-in, MicroVascular Imaging (MVI) plug-in, Elastography Quantification (EQ) plug-in and CMQ (Cardiac Motion /Mechanics Quantification Plug-in).

#### **QLAB Core Module**

QLAB is designed for ultrasound clinicians who require sophisticated analysis of image data acquired on Philips ultrasound systems.

A large number of Plug-ins is available, offering a variety of powerful 2D/3D advanced quantitative capabilities.

All Plug-ins require the QLAB Core Module.

QLAB core module provides 2D viewer by default.

The 3D Viewer comes with the 3D plug-ins when ordered.

QLAB Core Module functions include review, deletion and quantification of Philips iE33, iU22, CX50, HD15, HD11, HD7, SONOS, HDI and EnVisor C.0 image files;

PC Graphic image/movie files creation in BMP, TIFF, JPEG and AVI;

Ability to remove patient information from QLAB all screens and prior exporting new PC files;

Export of quantification data into Excel-compatible spreadsheet formats;

Built-in on-line help in multiple languages.

Ultrasound data can be sent to QLAB via DICOM network connection, MOD/CD/DVD media or USB Flash Drive/Self-powered MiniDisk devices.

#### **Intima Media Thickness (IMT) Quantification Plug-In**

Provides automated measurements of intima media thickness in carotids and other superficial vessels;

Eliminates the laborious process of manually positioning cursors, minimizing the time needed to complete an IMT study.

Compatible with Philips iE33, iU22, HD15, HD11, HD7, EnVisor C.0, SONOS and HDI systems.

#### **Region of Interest (ROI) Quantification Plug-in**

On compatible files calculates Color Mean and Standard Deviation, Echo mean and Standard Deviation, VI, FI, VFI. Enables user to apply motion compensation algorithm. Provides basic trending capabilities (off cart only).

Compatible with Philips iE33, iU22, CX50, HD15, HD11, HD7, EnVisor C.0, SONOS and HDI systems.



**Cardiac Parametric Quantification (PQ) Plug-In**

Allows advanced review and analysis of contrast intensities within the heart;  
Provides color-coded representation of contrast intensity and replenishment rate based on either Log or linear scaling.

Compatible with iE33, SONOS and HDI systems.

**Strain Quantification (SQ) Plug-in**

Used in the evaluation of regional myocardial function; assessment of synchronicity and guidance during bi-ventricular pacing procedure;  
Measures the myocardial velocity TDI data set and derives the displacement, strain and strain rate along user-defined M-Lines.

Compatible with iE33, iU22, CX50, HD15, HD11, SONOS and HDI systems.

**2D Quantification (2DQ) Plug-in**

Display of 2D ultrasound images;  
Semi-automated border detection for cardiac chambers and vessel cavities;  
Computes Areas, Volumes and advanced parameters for LV systolic and diastolic function including, LV Ejection Fraction (EF) and Fractional Area Change (FAC);  
The Peak Ejection Rate (PER), Peak Rapid Filling Rate (PRFR) and Atrial Filling Fraction (AFF) are also reported;  
Color Kinesis (CK) tool for provides color-coded visualization of global and regional wall motion;  
TMAD allows visualization and quantification of Atrio-Ventricular Annulus planes Motion in order to assess cardiac global function in fast and reproducible way to facilitate trending report.

Compatible with Philips iE33, iU22, CX50, HD15 and HD11 systems.

**Cardiac 3D Quantification (3DQ) Plug-in**

Provides easy access to Live 3D, 3D Zoom, Full Volume and 3D Color data sets from the iE33, iU22 and SONOS 7500 Live 3D systems;  
Offers viewing, cropping, slicing and quantification including distance measurements, area, Bi-plane LV Volume, Ejection Fraction (EF) and LV Mass calculations;  
3DQ also provides Multiplanar Reconstruction (MPR) views for unlimited anatomical planes from 3D volume and new 3D iSlice generation.

Compatible with Philips iE33, iU22 and SONOS7500 systems.

**Advanced 3D Quantification (3DQA) Plug-in**

Extends the diagnostic power of Live 3D Echo by providing the first semi-automated, on-cart and off-cart analysis of true LV volumes—using all the voxels to generate a full 3D endocardial border;  
Cardiac 3D Quantification Advanced (3DQ Advanced) revolutionizes echo quantification and extends the diagnostic power of Live 3D echo by providing the first semi-automated, on-cart and off-cart analysis of true LV volumes—using all the voxels to generate a full 3D endocardial border. This is a true 3D border with higher accuracy and less dependency on LV shape assumptions than conventional methods, which rely on sparse view analysis.

3DQ Advanced waveform display provides accurate data for assessing global function based on LV volume, ejection fraction and stroke volume. Additionally, 3DQ Advanced allows simultaneous display of 17 regional waveforms, enabling temporal comparisons between segments.

MultiPlanar Reconstruction (MPR) views provides unlimited anatomical planes from 3D volume;  
New iSlice generation run in the 3D viewer and is compatible with all Philips Live 3D dataset including color data, provides highly flexible short and long axis slicing tool and display up to 4x4 equally spaced MPR views to facilitate LV function visualization assessment;

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Measurements of LV endocardial Volumes, Stroke Volume (SV) and true 3D ejection fraction (EF) using a semi-automated border detection in 3D space;  
Computes global and regional LV volumes based on ACC 17 segments model;  
Displays global LV volume waveform and provides selective display of 17 regional volume waveforms;  
Offers timing assessment for each 17 minimal regional volumes and determine a synchronicity index for all volume segments or a user-selectable group of volume segments;  
Provides comprehensive report with summary of synchronicity indexes and displays regional Timing and Radial Excursion Parametric Images in Bull's eye representation.  
iCrop capabilities with the 3D volumes.

#### **Mitral Valve Quantification (MVQ) Plug-in**

The Mitral Valve Quantification plug-in (MVQ) adds precise 2D and 3D quantification of the mitral valve anatomy and associated structures based on data acquired with Philips Live 3D Echo and the X7-2t transesophageal transducer;  
Based on the precise Live 3D TEE information, the MVQ plug-in provides a clinical decision support tool to improve diagnostic confidence, surgical planning, communication between clinicians and for the patient, and follow-up care.

Compatible with the Philips iE33 system and Live3D TEE Transducer.

#### **GI 3DQ Plug-In**

Review and display 3D data sets from the Philips iU22, iE33 and HD11 systems;  
Includes MPR (Multiplanar Reconstruction) capability;  
Can display as 1-up (full volume), 4-up (volume/MPR), or Direct iSlice display);  
Also provides MPR rotation, basic crosshair control, rotation and movement; crosshair and MPR border graphics controls, pan and zoom controls, and export of BMP, JPEG, TIFF and AVI files;  
Rotation speed control, Elevation resize for freehand volumes, Linear Measurements, Ellipse Measurements, Stacked Contour Measurements, Region of Interest (ROI) Analysis;  
Works with Matrix and Mechanical Volume Transducers.

#### **MicroVascular Imaging (MVI) Plug-in**

MVI uses specially designed post-processing software to map contrast agent progression. This software plug-in measures changes in the image from frame to frame, suppressing background tissue signals and capturing additional contrast data. The additional data obtained using MVI dramatically enhances vessel conspicuity.

#### **Elastography Quantification (EQ) Plug-in**

Perform parametric imaging and strain ratio analysis. Parametric imaging calculates relative strain with respect to a user defined reference region. Strain ratio allows calculation of relative strain of two regions of interest over time.

#### **Cardiac Motion/Mechanics Quantification Plug-in**

Based on 2D speckle tracking technology, CMQ provides a method for assessing global and regional cardiac function. It offers a suite of measurements and parametric displays to analyze trans-myocardial mechanics without Tissue Doppler imaging angle dependency limitations. Using the 17-segment ASE left ventricular model, CMQ provides additional information for many clinical applications such as ventricular wall motion and mechanical synchrony assessments.  
Compatible with the Philips iE33, iU22, CX50, HD15 systems files.

PC requirements for all QLAB plug-ins:

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- Processor: Intel Core 2/Xeon, AMD Athlon 64/Opteron or greater
- Operating System:
  - Windows XP Pro Service Pack 3, 32-bit
  - Windows 2003 Server, 32-bit
  - Windows 2008 Server R2, 32-bit
  - Windows Vista, 32-bit
  - Windows 7, 32-bit or 64-bit
- Memory: 2 GB RAM
- Graphics Card: 32 64 MB or greater with H/W accelerated OpenGL support and Pixel Shader 3.0 (Intel video cards may work but are not supported)
- Hard Drive: 80 GB HD with 7200 RPM
- Monitor: Minimum 1024 x 768 resolution (SVGA) and capable of 24-bit or 32-bit color display
- Media:
  - CD-ROM/DVD Drive for transferring files from iE33, iU22, HD11 XE, HD11, HD15, HD9, CX50 and EnVisor ultrasound systems
  - 640 MB 3.5-in magneto-optical drive for transferring files from HDI ultrasound systems
  - 1.2 to 2.3 GB 5.25-in magneto-optical drive for transferring files from SONOS ultrasound systems
  - USB port for transferring files from iE33, iU22, HD9, HD15, and CX50 ultrasound systems
- Mouse with a scroll wheel and a standard Microsoft keyboard

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#### 1 Day PAS Onsite

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**1 Day PAS Onsite** - Ultrasound system or upgrade onsite training provided by a PAS (Product Applications Specialist) for specific system applications or upgrades; not per modality. *Education is provided Monday - Friday during normal business hours.* Note: Philips Healthcare personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. The training sessions should be attended by the appropriate healthcare professional as identified by the department director. *Repeat training for staff non-attendance will not be accepted.* Site must be patient-ready to meet training expectations. All onsite training day expires within 90 days from system or upgrade installation date. Exceptions are for 3D Stress onsite training (which expires 9 months from system or upgrade installation date) and Fusion & Needle Navigation onsite training (which expires 180 days from system or upgrade installation date).

\*\*\*THE NUMBER OF ONSITE TUITIONS YOU RECIEVE MAY VARY BASED ON PURCHASED OPTIONS. PLEASE CONSULT YOUR SALES REPRESENTATIVE FOR FURTHER DETAILS\*\*\*

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#### 2 Day ENT ACT w/Travel

1

**2 Day Entitlement ACT with Travel**- The 2 Day Advanced Customer Training (ACT) course with travel consists of advanced intensive training on the selected ultrasound system and includes the corresponding travel package.

Entitlement Advanced Customer Training (ACT) Tuitions expire within 180 days from system or upgrade installment date. Due to travel and scheduling requirements, a twenty-one (21) day notification of cancellation is required or training / education entitlements will be forfeited. Curriculum is subject to change without notice.

Travel & Accommodations for one (1) registered attendee. Includes one (1) participant's airfare from a North American customer location to a Philips North America Ultrasound Clinical Education training location with modest lodging, ground transportation and meal expenses for 2 days. Breakfast/dinner are provided by the hotel and lunch/breaks are catered by Philips Healthcare. All other expenses will be the responsibility of the attendee (ie. Baggage fees, meals while traveling,

transportation to and from customer's home airport). Details are provided during the scheduling process.

\*\*\*TUITION IS ONLY VALID WHEN PURCHASING THE LIVE 3D(IE33) OR 3D/4D (IU22) CONFIGURATIONS.\*\*\*

opting out of any of these options will alter your education entitlements.

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**2 Day ENT TEE U w/Travel**

**1**

**2 Day Entitlement TEE University with Travel** - A variety of Live 3D TEE University course offerings are available to meet your educational needs. Live 3D TEE provides cardiologists, anesthesiologists, and cardiac surgeons novel and exiting realistic views to aid in patient care. The 2 Day ENT TEE University Tuition includes both the tuition and the corresponding travel package.

Entitlement University Tuitions expire within 365 days from system or upgrade installment date. Due to travel and scheduling requirements, a twenty-one (21) day notification of cancellation is required or training / education entitlements will be forfeited. Curriculum is subject to change without notice.

Travel & Accommodations for one (1) registered attendee. Includes one (1) participant's airfare from a North American customer location to a Philips North America Ultrasound Clinical Education training location with modest lodging, ground transportation and meal expenses for up to 2 days. Breakfast/dinner are provided by the hotel and lunch/breaks are catered by Philips Healthcare. All other expenses will be the responsibility of the attendee (ie. Baggage fees, meals while traveling, transportation to and from customer's home airport). Details are provided during the scheduling process.

\*\*\*TUITION IS ONLY VALID WHEN PURCHASING THE X7-2T TEE PROBE\*\*\*

opting out of this equipment will remove this education entitlement.

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**3 Day ENT 3DU w/Travel**

**1**

**3 Day Entitlement 3D University with Travel** - A variety of C/V, Vascular, GI and WHC University course offerings are available to meet your clinical educational needs. These courses range from one to three days in length and offer a wide range of content matter. Please refer to the course catalog for a complete listing of all university courses that you can choose from. The 3 Day ENT 3D University Tuition includes both the tuition and the corresponding travel package.

Entitlement University Tuitions expire within 365 days from system or upgrade installment date. Due to travel and scheduling requirements, a twenty-one (21) day notification of cancellation is required or training / education entitlements will be forfeited. Curriculum is subject to change without notice.

Travel & Accommodations for one (1) registered attendee. Includes one (1) participant's airfare from a North American customer location to a Philips North America Ultrasound Clinical Education training location with modest lodging, ground transportation and meal expenses for up to 3 days. Breakfast/dinner are provided by the hotel and lunch/breaks are catered by Philips Healthcare. All other expenses will be the responsibility of the attendee (ie. Baggage fees, meals while traveling, transportation to and from customer's home airport). Details are provided during the scheduling process.

\*\*\*TUITION IS ONLY VALID WHEN PURCHASING THE LIVE 3D(IE33), 3D/4D (IU22), AND OR ELASTOGRAPHY CONFIGURATIONS.\*\*\*

opting out of any of these options will alter your education entitlements.

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