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## **Epiq 7 3D xMatrix for CV**

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### **EPIQ 7 CV Ultrasound System**

EPIQ 7 is a new direction for premium ultrasound featuring an uncompromised level of clinical performance to meet the challenges of today's most demanding practices– the most powerful architecture ever applied to ultrasound imaging – touching all aspects of acoustic acquisition and processing allowing you to truly experience Ultrasound's evolution to a more definitive modality.

Supported by our family of proprietary xMATRIX transducers and our leading edge of Anatomical Intelligence, this platform offers our highest level of premium performance. Reinvention of the premium ultrasound user experience

- New tablet like interface revolutionizes how you interact with the system resulting in dramatic reduction of exam reach and exam steps. (11% reduction in total steps, 80% reduction in long reaches)
- Lightest premium system in its class (230 pounds) – 40% lighter than the heaviest competitive premium system.
- Large 21-inch high definition LCD display for easy viewing in virtually any environment
- Infinite articulation of control panel and monitor allows for perfect alignment whether sitting or standing (720 degrees of freedom) to scan ergonomically
- Almost silent when running (37-41bD) – equivalent to the sound of a library
- 4 transducer ports
- Ambient lighting of transducer connectors and the peripheral housing bay
- Integrated footrest
- Integrated storage shelves
- 4 wheel swivel and swivel/brake lock control

The most powerful architecture ever applied to ultrasound imaging

- Proprietary nSight architecture - a totally new way to form ultrasound images – all without compromise.

The combination of a new precision beamformer and massive parallel processing allow EPIQ 7 to receive and process an enormous amount of acoustic data allowing the system to focus down to the pixel level...all in real time.

- Up to 7,071,744 total digital channels (xMATRIX configuration)
  - Up to 4,718,592 total digital channels (non xMATRIX configuration)
  - Exclusive adaptive signal to noise ratio that achieves system dynamic range of up to 192 dB for improved 2D
  - Sixteen core processing computer with 1 Tbyte hard drive and 4 GByte graphics display
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- Philips Next Generation SonoCT Real-Time Compounding, with Widescreen capability and up to 9 beam-steered lines of sight that acquires more information and reduces angle-generated artifacts
- Philips next generation XRES Adaptive Image Processing for noise and artifact reduction to improve tissue and border definition
- Fully independent, multiple mode Triplex operation

### **Transducers**

Advanced MicroConnector technology offers pinless design for exceptional reliability and performance that feature:

- Ergonomic designs with lightweight flexible cables
- New low-loss technology for better penetration with fewer artifacts
- Breakthrough frequency bandwidths and array configurations

Supports array configurations up to 20 MHz – sector, linear, curved, tightly curved, TEE and xMATRIX volume transducers

### **Automation**

Designed with our most innovative tools to maximize efficiency

- Autoscan (real time iSCAN) automatically optimizes gain while imaging and TCG continuously to assure you are achieving an optimal image in 2D & Live 3D.
- Intelligent Tissue Specific Imaging
- Application-specific and user definable Quicktext Automatic Annotation
- QuickSAVE User Defined Programs (up to 45 per transducer)
- SmartExam system-guided protocols with new features that include exam record and automatic mode switching to greatly improve workflow efficiencies
- Vascular Auto Doppler automatically adjusts color box position and angle, as well as sample volume placement and angle. Also includes Auto Flow Tracking for automatic angle correction with sample volume movements
- Vascular High-Q Automatic Doppler provides real-time tracking of Doppler signal, automatically selecting the highest peak velocity and with the touch of a button, adding measurements to your report.

### **Data**

- Multi Modality Query Retrieve (Allows for the viewing of DICOM CT, iXR, NM, MRI and ultrasound images – you can review these images while you are live imaging)
  - NetLink/DICOM 3.0 provides network print and store, commit, modality worklist, DICOM Query and Retrieve, and structured reporting for adult and pediatric echo and vascular
  - DICOM 3.0 Print and Store capability to internal drive or DVD/CD
  - Integrated Wireless DICOM with WEP security
  - On-board workstation-class data management with thumbnail previews and storage of images, loops, and reports
  - Retrospective and prospective clip capture to internal drive or removable media
  - Integrated DVD/CD burning capability for storage of DICOM images or export in JPEG and .avi for PC compatibility
  - Ability to export QLAB native data
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## Other Core Features

- Tissue Doppler Imaging
- Cardiac Stress Echo, with Defer Selection and Live Compare functions
- 2D, M-Mode, Color Doppler, PW, High PRF PW, CW
- Temporary ID
- LVO Contrast
- Cineloop Image, M-Mode and Doppler Review
- High Definition Write Zoom and Read Zoom with pan features
- Measurement tools including: distance, depth, area, and circumference
- Volume Flow Measurements
- User Defined Calculations
- Application-specific Body Mark selections
- Color Power Angio

### Power Battery Pack

Highly recommended for portable ultrasound studies. Allows system to be placed in sleep mode and booted up in 20 seconds. Allows activation of the smart handle when not plugged in to central power.

### Region of interest Q-App (ROI)

Designed to increase the consistency and reliability of acoustic measurements while reducing the effort required to successfully perform ROI analysis for contrast imaging, tissue analysis and color Doppler.

### Intima Media Thickness Q-App (IMT)

Provides automated measurements of intima media thickness in carotids and other superficial vessels, and eliminates the need to manually position cursors, minimizing the time needed to complete an IMT study.

### Strain Quantification Q-App (SQ)

Measures the myocardial velocity from Color Tissue Doppler (aka TDI) datasets 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 display Left Ventricle mechanical events; and the user selectable waveform display makes SQ curves easier to read.

### xMATRIX xPlane and Live 3D

Provides a combination of functionality when using xMATRIX transducers in both 2D and Live 3D modes.

iRotate: ability to the 2D imaging plane without rotating the transducer. iRotate can be used in 2D and color flow. Can also be incorporated into 2D Stress Echo protocols to minimize acquisition times and improve reproducibility of images at different stages (X5-1 and X7-2t only). Live xPLANE: ability to image and acquire 2 orthogonal 2D images. The orthogonal plane can be tilted in the lateral or elevation plane as well as be rotated. Works in 2D and in color flow (all xMATRIX transducers).

Live 3D: ability to perform real time Live 3D (dynamic 3D) allowing assessment of structures and its relationship within the anatomy, in greyscale and color Doppler. Zoom functionality optimized for detailed Live 3D imaging of specific anatomic structures. (all xMATRIX transducers). Live 3D Full Volumes: ability to capture a large volume in Live 3D. Designed to encompass the entire

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heart. Can be performed in greyscale or with color Doppler. Multiple acquisition modes available, from 1 to 6 beats cardiac cycles.(X5-1 and X7-2t only).

## **EPIQ 7 DVD Option**

### **Clinical Education**

**EpiQ (CV) Clinical Education;** \*\*\*2 days of Implementation Onsite Training (expires 90 days after install, provided Mon-Fri during normal business hours) and an E-Learning subscription; Basic System Training course for two people (expires 180 days after install).

\*\*\*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.

**If you are purchasing Live 3D with a New System you will receive;** \*1 Day offsite Advanced Customer Training course for one (expires 180 days after install), a 3 Day offsite University (expires 275 days after install), A Post University Integration onsite class (expires 365 days after install), and one subscription to E-Echocardiography.com (must be activated within 90 days of code notification). All offsite training includes travel, see travel disclaimer\*\*

**If you are purchasing Live 3D as an upgrade you will receive;** \*\*\*1 day of Implementation Onsite Training (expires 90 days after install, provided Mon-Fri during normal business hours) and a \*1 Day offsite Advanced Customer Training course for one (expires 180 days after install). All offsite training includes travel, see travel disclaimer\*\*

\*If purchased with 2D Quantification Bundle, offsite advanced customer training tuitions must be used consecutively.

\*\*TRAVEL Disclaimer: Travel & Accommodations for registered attendees. Each tuition 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 the course duration. 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. Note: 21 day Cancellation/Rescheduling policy is strictly enforced.

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### **Automated 2D Quantification Q-App (a2DQ)**

Automatically draws a region of interest based on the selected anatomical view, (user can edit the ROI if desired) and generates LV Ejection Fraction (EF), End Systolic Volume (ESV) and End Diastolic Volume (EDV). Also provides an in-depth report displaying areas, volumes and advanced parameters for LV systolic and diastolic function including: LV Ejection Fraction (EF), Peak Ejection Rate (PER), Peak Rapid Filling Rate (PRFR) and Atrial Filling Fraction (AFF). TMAD allows visualization and quantification of Atrio-Ventricular Annulus planes motion in order to assess cardiac global function in an easy workflow that facilitates trending reports.

### **Automated Cardiac Motion Quantification Q-App**

Automatically draws a region of interest based on the selected anatomical view, (user can edit the ROI if desired) and generates measurements of the global and regional functions and reports them in a table, a 17-segment bull's eye, and a variety of waveform displays. It additionally computes LV Ejection Fraction (EF), End Systolic Volume (ESV) and End Diastolic Volume (EDV).

### **Clinical Education**

\*1 day offsite Advanced Customer Training course for one (expires 180 days after install). All offsite training includes travel, see travel disclaimer\*\*

\*If purchased with Live 3D, offsite advanced customer training tuitions must be used consecutively.

\*\*TRAVEL Disclaimer: Travel & Accommodations for registered attendees. Each tuition 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 the course duration. 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. Note: 21 day Cancellation/Rescheduling policy is strictly enforced.

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*All Tuitions must be registered prior to the expiration date. The course chosen must be taken within 90 days of expiration*

3	**	<b>Adult Echo Clinical Option</b>	1
		Tissue Specific Imaging software for specific transducers in Adult echo ultrasound applications - Display optimization software with Tissue Specific presets for Adult echo imaging and Doppler applications - Analysis software package includes a adult echo imaging protocol and report Allows operation of S5-1, X5-1, X7-2t ,S8-3, L15-7io and D2cwc transducers.	
4	**	<b>Mitral Valve Navigator Q-App (MVN)</b>	1
		The Mitral Valve Navigator uses Anatomic Intelligence and is designed to take a Live 3D volume of the Mitral Valve and turning it into an easy to interpret model in 6 guided steps –providing access to a comprehensive list of MV measurements and calculations. MVN guides you through the entire process using simple commands and clear graphics making this a much easier tool to use than previous mitral quantification tools. Results derived from MVN can be seen on the screen as they become available – speeding up the process of accessing the data required.	

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| 5  | ** | <b>Cardiac 3D Advanced<br/>Quantification Q-App (3DQ<br/>Adv)</b> | 1 |
| <p>Provides display and manipulation of dynamic three-dimensional rendering and left ventricular (LV) volumes. MultiPlanar Reconstruction (MPR) views provide unlimited anatomical planes from 3D volume. Measures 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-segment 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.</p> |    |   |   |
| 6  | ** | <b>CMQ Stress</b>   | 1 |
| <p>Designed to help objectify Stress Echo review, by using the latest 2D speckle tracking and user interface specifically designed for stress echo exams for stress Echo users. The CMQ Stress User Interface auto adapts to the Stress acquisition protocol facilitating navigation and workflow. It creates a comprehensive Summary page that reports LV 17 segments bulls-eye plots from each Stress stage side by side. Requires the purchase of aCMQ plug-in.</p>   |    |   |   |
| 7  | ** | <b>X5-1 Transducer Compact</b>                                    | 1 |
| <p>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 imaging modes, making it practical for everyday use.</p>  |    |   |   |
| 8  | ** | <b>X7-2t Transducer</b>   | 1 |
| <p>High frequency xMATRIX sector array transesophageal transducer with PureWave Crystal technology. Fully functional transducer 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, and 1 disposable tip protector.</p>   |    |   |   |

## Clinical Education

**X7-2T Clinical Education;** \*\*\*1 day of Implementation Onsite Training (expires 90 days after install, provided Mon-Fri during normal business hours), a 2 Day offsite TEE University (expires 365 days after install) and one subscription to E-Echocardiography.com (must be activated within 90 days of code notification). All offsite training includes travel, see travel disclaimer\*\*

\*\*TRAVEL Disclaimer: Travel & Accommodations for registered attendees. Each tuition 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 the course duration. 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. Note: 21 day Cancellation/Rescheduling policy is strictly enforced.

\*\*\*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.

9	**	<b>D2CWC Transducer</b>	1
		Non-imaging 2 MHz PW/CW Doppler transducer for cardiac applications.	
10	**	<b>English Manual</b>	1
		Operation Manual	
11	**	<b>Internal Color Printer</b>	1
		Internally mounted and controlled, medical grade, high resolution color printer for image documentation.	
12	**	<b>QLAB 10 System</b>	1
		The core software provides a Studies screen that allows the user to manage patient exams from a list and select them for viewing in a native or advanced viewer. Allows importing and opening exams from media or networked file shares and can export images or entire exams to media or network shares in DICOM and PC formats. Includes 3D viewers for Philips cardiac and general imaging volume datasets.	
		The View screen includes the ability to mask selected areas of the image and create DICOM secondary captures. User can create unlabeled distance, area, and angle measurements, and apply image annotations. Controls for contrast, brightness, pan, and zoom are available. Stress echo exams can be viewed by stage or view. Includes the ability to read adult echo, pediatric echo, and vascular DICOM SR files.	
		Includes Q-Assistant application for viewing and configuring options, media locations, connections to Ultrasound systems, backup and restore functions, diagnostics, and remote service.	
		The core software includes a serial number that allows 2 registrations. PC must meet minimum hardware and software specifications.	
13	**	<b>QLAB Core Module</b>	1
14	**	<b>English Manual</b>	1
		Operation Manual	
15	**	<b>2 Day ENT TEE U w/Travel</b>	1
		Includes one University tuition at a Philips classroom location. - A variety of one to two day C/V University course offerings are available to meet your clinical educational needs. These courses range from one to two 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.	
		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 details are provided during the scheduling process.	
16	**	<b>Off Cart QLAB Bundle</b>	1



Includes ROI, IMT, SQ, aCMQ, apps for 2 (two) registrations.

**ROI:** Designed to increase the consistency and reliability of acoustic measurements while reducing the effort required to successfully perform ROI analysis for contrast imaging, tissue analysis and color Doppler.

Compatible with Philips iE33, iU22, CX50, HD15, HD11, HD7, and EPIQ systems files.

**IMT:** Provides automated measurements of intima media thickness in carotids and other superficial vessels, and eliminates the need to manually position cursors, minimizing the time needed to complete an IMT study. Compatible with Philips iE33, iU22, CX50, HD15, HD11, HD7, and EPIQ systems files.

**SQ:** Measures the myocardial velocity from Color Tissue Doppler (aka TDI) datasets 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 display Left Ventricle mechanical events; and the user-selectable waveform display makes SQ curves easier to read. Compatible with the Philips iE33, iU22, CX50, HD15, and EPIQ systems files

**aCMQ:** Automated Cardiac Motion Quantification Q-App (aCMQ): Automatically draws a region of interest based on the selected anatomical view, (user can edit the ROI if desired) and generates measurements of the global and regional myocardial functions and reports them in a table, a 17-segment bull's eye, and a variety of waveform displays. It additionally computes LV Ejection Fraction (EF), End Systolic Volume (ESV) and End Diastolic Volume (EDV).

- PureWave sector transducers only (S5-1, S5-2, X5-1, X7-2t)

Compatible with the Philips iE33, iU22, CX50, HD15 and EPIQ systems files.

Includes the 3DQ and 3DQA apps for 2 (two) registrations.

**3DQ:** Provides easy access to Live 3D, 3D Zoom, Full Volume and 3D Color data sets; 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 the Philips iE33, iU22, CX50, HD15, and EPIQ systems files.

**3DQA:** Provides display and manipulation of dynamic three-dimensional rendering and left ventricular (LV) volumes from iE33 and EPIQ systems. MultiPlanar Reconstruction (MPR) views provide unlimited anatomical planes from 3D volume. Measures 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-segment 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. Compatible with Philips EPIQ, iE33 and CX50 systems.

**Mitral Valve Navigator Q-App (MVN):** The Mitral Valve Navigator uses Anatomic Intelligence designed to take a Live 3D volume of the Mitral Valve and turning it into an easy to interpret model in 6 guided steps –providing access to a comprehensive list of MV measurements and calculations. MVN guides you through the entire process using simple commands and clear graphics making this a much easier tool to use than previous mitral quantification tools. Results derived from MVN can be seen on the screen as they become available – speeding up the

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process of accessing the data required. Compatible with the Philips iE33, CX50 and EPIQ systems using the x7-2t Live3D TEE Transducer.

Automated 2D Quantification Q-App (a2DQ) : Automatically draws a region of interest based on the selected anatomical view, (user can edit the ROI if desired) and generates LV Ejection Fraction (EF), End Systolic Volume (ESV) and End Diastolic Volume (EDV). Also provides an in-depth report displaying areas, volumes and advanced parameters for LV systolic and diastolic function including: LV Ejection Fraction (EF), Peak Ejection Rate (PER), Peak Rapid Filling Rate (PRFR) and Atrial Filling Fraction (AFF). TMAD allows visualization and quantification of Atrio-Ventricular Annulus planes motion in order to assess cardiac global function in an easy workflow that facilitates trending reports. Compatible with the Philips iE33, iU22, CX50, HD15, and EPIQ systems files.

17	**	1st SVC Manual for Gov	1
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18	**	Training Note	1
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**\*\*Training Note:** *Onsite Clinical Education Training Hours can be substituted for Offsite Training. At the customer's request, Philips Training personnel will travel to the customer's equipment site to perform the Clinical Training.*