

Mammography Module

Full mammography toolset for reporting on any workstation.



Fully integrated with eRAD PACS, the Mammography Module provides a full toolset for breast imaging and eliminates the need for a dedicated mammography workstation—saving hours of productivity and thousands in support costs.

The time-consuming shuffle between one workstation and another can be a thing of the past. With eRAD's FDA-cleared Mammography Module, you can view 2D and 3D mammograms, ultrasounds, and MRIs all on the same workstation. Reading and reporting is from one system, and comparisons can be pre-staged or pre-cached to that workstation (even priors from third-party and legacy systems). Gain optimal productivity with functions assigned to any input device (mouse, keyboard, keypad, speech mike) and with eRAD's image auto-positioning features. Images can be oriented for mammography and loaded in the user's preferred layout(s), and eRAD can auto-fit a full resolution image by anatomy (skin-line detection) or image area. Clinicians don't waste clicks (in other words, time) adjusting every image.

FEATURES

► Multi-modality reads on the same workstation

Multiple modalities—CT, ultrasound, MRI, mammography, breast tomosynthesis (3-D mammography)—can be viewed side-by-side on the same workstation, eliminating the high cost and inefficiency of a dedicated machine.

► Tools to reduce clicks and support high-volume reading

Layouts are fast and flexible; pre-set mammography layouts are supplied, and users can quick-toggle between linked, custom layouts for alternate views. Assign macros to your mouse, keyboard, or speech mic for faster input. Auto-fit a full resolution image by anatomy (skin-line detection) or image area.

► AIE Image Enhancement Module

eRAD's AIE Image Enhancement Module assists in visualizing and evaluating subtleties in digital mammograms. Accuracy is improved by sophisticated processing algorithms that enhance the clarity of abnormalities in dense breast tissue.

► Advanced diagnostic tools

eRAD supports computer-assisted detection (CAD) and provides robust diagnostic tools such as mirrored image linking, and anatomical grayscale inversion.

► 3D Mammography support

eRAD technology is optimized to handle the storage capacity, archive costs, and distribution infrastructure necessary to support 3D mammography, enabling imaging groups to provide this innovative modality to patients.

DIAGNOSTIC TOOLS INCLUDE:

CAD support

Computer-aided detection in screening is supported, along with the ability to manage archived CAD objects differently from image objects.

Mirrored image linking

Action (such as pan, zoom, etc.) on one image is simultaneously performed on all displayed images, such that the tool works in concert with no duplicate adjustment necessary.

Anatomical grayscale inversion

Invert just the breast image to leave the rest of the image blank to make visualization easier.

Multiple views

Custom layouts can be set to initialize together, so that users can quick-toggle between them for alternate views of a study.

Viewer tools

eRAD's image manipulation tools can be leveraged for mammography, including Magnifying Glass, Quadrant View, Measurement, Annotations (Pointer, Line, ROI Ellipse, ROI Freehand, Text), Mag to 1:1 Pixel View, and Cine for Tomosynthesis.

eRAD also provides advanced diagnostic tools for mammography through the AIE Image Enhancement toolkit, which allows users to display and manipulate higher-clarity images of dense tissue.

UNDER THE HOOD

Mammography Module

Tomosynthesis

Breast tomosynthesis (3D Mammography) helps clinicians find early curable breast cancers via multiple slices of each breast from multiple projection views. The number of slices significantly increases study size, not including the capacity necessary for relevant prior studies. eRAD easily handles the storage requirements, archive costs, and distribution infrastructure necessary to support this type of study.

eRAD's Mammography Module supports smooth scrolling of tomosynthesis images, including Tomo Cine, and synchronization with contralateral and prior views. Users can annotate, set custom layouts, and pre-stage studies (such as priors for that day's appointments) to a certain workstation.

Integration with third-party reporting systems and eRAD technology.

Seamless integration with eRAD technology—including the pre-staging and pre-caching of priors, support for distributed environments, mammography tracking, cloud hosting, and speech recognition—extends the productivity gains for breast imaging.

AIE Image Enhancement

AIE's proprietary image enhancement software leverages signal processing technology originally developed from Navy research to locate undersea mines. In an expanded application, this technology enables physicians to extract more information from medical images. In a clinical study, researchers from Massachusetts General Hospital, Brigham and Women's Hospital, Newton-Wellesley Hospital, and Faulkner Hospital concluded that the AIE enhancement software provided a significant advantage for improving clarity of abnormalities in dense breast tissue and increased radiologists' confidence in determining their case management conclusions.

AIE's processing algorithms enhance morphological features in digital mammography images to create visually sharp and detailed images. Clinical trials have demonstrated this technology improves the conspicuity and detail of abnormalities and improved the clarity of detail in dense breasts. The plug-in module permits users to apply this processing to mammography images, then display and manipulate the results like any other image in the study. This module includes tools to automatically and manually enhance the mammography images, plus a Region Of Interest tool to display the resulting data.

eRAD has integrated the AIE image enhancement toolkit for mammography as an advanced image processing feature in the Mammography Module.