# Real Time Tomography, LLC

Improving Diagnostic Accuracy and Clinical Workflow

# Adara2D<sup>™</sup> Mammography Processing & Enhancement

Adara enhances the quality of digital mammograms for optimal tissue contrast and lesion conspicuity.



Unprocessed digital mammogram (left) and digital mammogram processed with the Adara software (right).

Adara is fast, flexible and easy-to-integrate into new and existing acquisition and reading workstation software.

#### Better Image Quality, Better Clinical Assessments.

### Now with AdaraGPU" & AdaraSharp"

Adara<sup>™</sup>, from Real Time Tomography, is advanced image processing and enhancement software for digital mammography. It provides optimal tissue contrast and lesion conspicuity without the introduction of artifacts.

Its speed, flexibility and ease-of-integration helps mammography and PACS workstation manufacturers accelerate the time to market of their next generation acquisition and PACS workstation systems.

Adara addresses the challenges of breast imaging including variations in thickness and tissue densities and the requirements for high spatial resolution and low dose.

Adara improves the quality of mammography images with optimized algorithms for:

- Breast segmentation
- Thickness equalization
- Tissue contrast enhancement
- Feature enhancement
- Noise suppression

Adara is independent of the acquisition system. It can process x-ray image data from Full-Field Digital Mammography (FFDM), Computed Radiography (CR) and film digitizers.

AdaraGPU uses the power of GPU technology for higher image processing performance. AdaraSharp facilitates integration of Adara products with other applications in the .NET framework.

FAST Adara enables higher throughput during screening and diagnosis, thereby accelerating clinical workflow. On the CPU, it only requires a few seconds for a standard size mammogram on a conventional workstation. On the GPU, processing speed can be up to 10 times faster on the GPU.

**FLEXIBLE** Adara's image processing is controlled and adjusted with software parameters for different breast types, views and reading preferences.

**EASY to INTEGRATE** Adara easily integrates into new and existing manufacturer software because it is implemented as a parameterdriven software library with a complete software development kit (SDK). Applications that incorporate Adara or AdaraGPU can be developed rapidly using AdaraSharp.

# The Adara Difference

#### The Adara Process



#### Software Development Kit (SDK)

Adara is a dynamically linked library with parameterized functions. The Adara SDK supports easy integration into the workstation application software (see figure above). It can be used alone or in concert with OEM pre- and/or post-processing. Adara SDK includes documentation and sample programs. AdaraSharp is available for applications using Windows .NET Framework.

#### Operation

Adara operates on images from memory to memory. After image processing, Adara facilitates initial image display and lookup table specification with window and level values suitable for the processed image.

#### Performance

Adara can process a standard mammographic image in a few seconds, depending on image size, parameter selections and available processors and memory. With AdaraGPU, processing performance can be up to 10 times faster.

#### System Requirements

The minimum system requirement for the Adara library is a workstation using the Microsoft® Windows® XP or Vista® operating system 32-bit or 64-bit. AdaraGPU requires a supported NVIDIA GPU card. AdaraSharp requires Windows .NET Framework 2.0 or greater.

#### Data Format

Adara supports up to 16-bit monochrome pixel data.

#### Licensing

The Adara software library operates with a valid software registration key obtained from Real Time Tomography.

#### **Quality Standards**

Real Time Tomography's development process is disciplined from many years of proven experience in developing medical systems software. Real Time Tomography's team follows quality engineering practices as defined by the FDA GMP.

#### **Customer Satisfaction**

The Real Time Tomography Adara team will work collaboratively with each customer's technical team for a seamless integration of the Adara software and with their clinical specialists to select the image processing parameters to achieve the desired image quality.



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