Field-proven CAD Technology
Optimal Clinical Flexibility

ImageChecker® 2D
Computer-Aided Detection

We understand the constantly changing digital environment and the need for a flexible, compatible CAD solution. ImageChecker® delivers proven performance and has been the leading CAD technology for more than a decade.

Using sophisticated software algorithms, ImageChecker searches digital mammograms for potential microcalcifications and masses—characteristics commonly associated with breast cancer. Marks are placed on the regions-of-interest to focus the radiologist's attention. The highly-evolved algorithms, refined to deliver extremely sensitive results without excessive false-positive marks, provide streamlined case review.

Advanced Technology

In addition to detecting regions-of-interest, the ImageChecker algorithms also incorporate anatomic correlation technology. This advanced technology analyzes corresponding findings in the contralateral breast and different views of the same breast.

Flexible Solutions

ImageChecker provides optimal flexibility by allowing you to select sensitivity settings, or operating points, that are most suitable for your needs. ImageChecker ranks findings in order of the prominence of features in a given region. A region will be marked only if the ranking falls above a chosen operating point. Clinical practices can select from three different operating points each for calcification and mass detection, for a total of nine combinations.

ImageChecker supports images from the following digital mammography systems:

Manufacturer	USA	Other
Hologic	Y	Y
GE Medical Systems	Y	Y
Siemens	Y	Y

ImageChecker operates on the Cenova™ server, providing complete compatibility with DICOM conformant networks.

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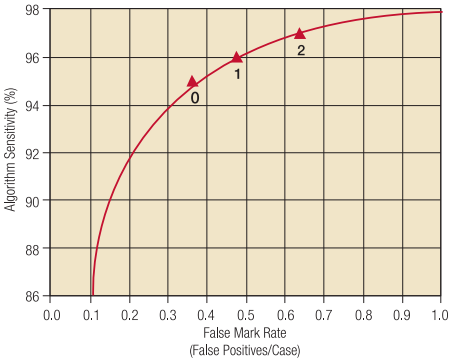
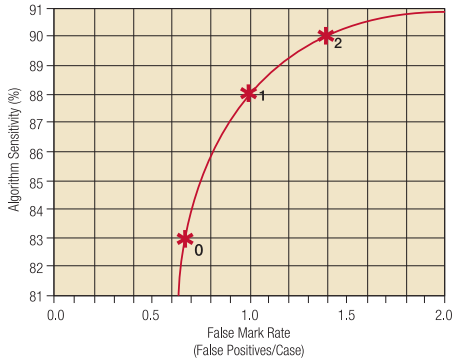
ImageChecker® 9.3 Algorithm Performance[1]

The following graphs show plots of algorithm sensitivity vs false-mark rate based on cases with the four standard screening views, with data points for each of the three operating points.



Calcification Performance



Mass Performance

An operating point of "0" corresponds to the lowest sensitivity and the fewest false-marks; an operating point of "2" corresponds to the highest sensitivity and the most false-marks. Practices may select separate operating points for calcifications and masses.

Operating Points

	Calcifications			Masses		
	0	1	**2**	0	**1**	2
Sensitivity[2]	95%	96%	**97%**	83%	**88%**	90%
False Marks[3]	0.36	0.48	**0.64**	0.68	**1.0**	1.4
			Default		*Default*	

Operating Point Combinations

Mass/Calc	0/0	1/1	2/2
Case specificity[4]	48%	35%	24%

Operating Environment

Operating Platform	Cenova™
Output Supported	PACS or DICOM workstations

Performance on Cenova

Maximum Number or Digital Ports	4 (optional)
Case Throughput (four-image)	30-60 cases/hr (nominal)[6]

Extended Features

RightOn™ CAD Marks — Assorted "shaped" markers indicate the types of features that were detected

Citra® Core[5]

- EmphaSize™ marks are scaled according to the prominence of features
- PeerView® Digital provides anatomic outlines of tissue
- LesionMetrics™ provide region specific information, such as lesion *Size, Distance to chest wall* and *Distance to nipple*

[1] Performance derived from analog data. ImageChecker CAD algorithms have been assessed using both digitized film mammograms and digital mammograms. Algorithm performance between the two has been shown to be comparable.
[2] Data based on 1355 biopsy proven breast cancers (767 mass and 588 calcification cases)
[3] Data based on 445 four-view normal cases
[4] Four film normal cases with no markers
[5] Available only on advanced SecurView workstations.
[6] Performance dependent on recommended hardware, network bandwidth and input rate of images

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