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World First Slim Cassette Type

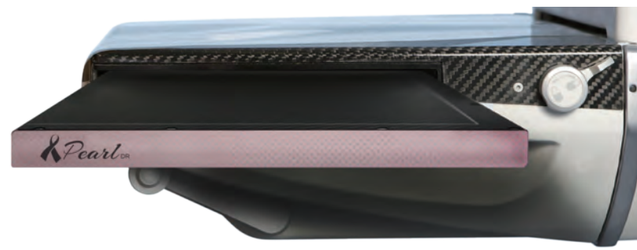
Digital Mammo. Upgrade Solution

Pearl DR

Still Analog?

Slim Cassette Type
Digital Mammo. Upgrade Solution

Contents



Pearl 810 / Pearl 1012

Benefits of Pearl Upgrade Solution

1.
Digital Upgrade Solution

Pearl 810 / 1012 + Old Analog System ▶ Digital Hospital

2.
New Digital Equipment

Pearl 810 / 1012 + New Analog System ▶ Digital Hospital

3.
For Mobile Health Buses

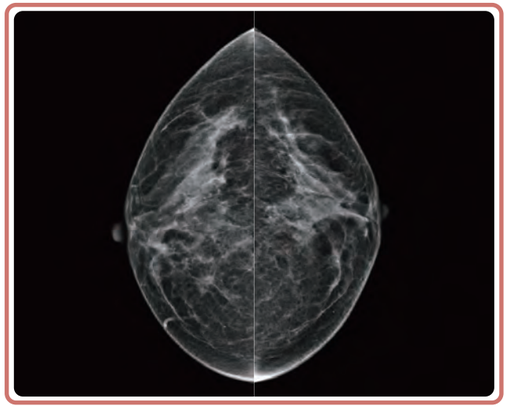
Pearl 810 / 1012 + Pearl Upgrade Kit ▶ Analog to Digital Examination Bus

Digital Hospital Upgrade Available From Various Core Value

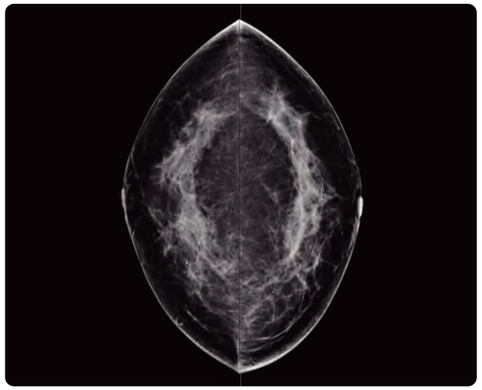
- Increase image quality
- Increased # of patients
- Improved convenience of mammo. PACS usability
- Increased effectiveness of workflow
- Freed space from CR device and film storage
- Lowest cost DR mammo. solution
- Mobile examination
- Reduced waiting time
- CR maintenance cost savings
- Film/IP cassette and human resource maintenance cost savings

Pearl Cassette type Images

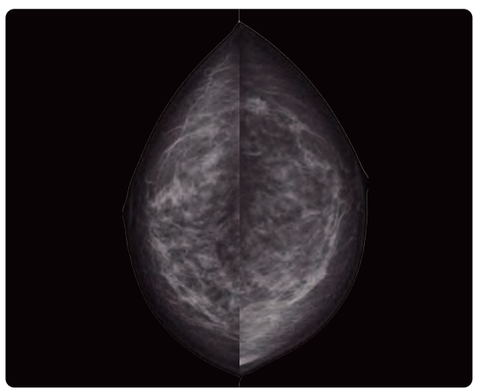
Pearl's exceptional image quality has gained a reputation amongst breast cancer physicians as being comparable to that of any high-end FFDMs.



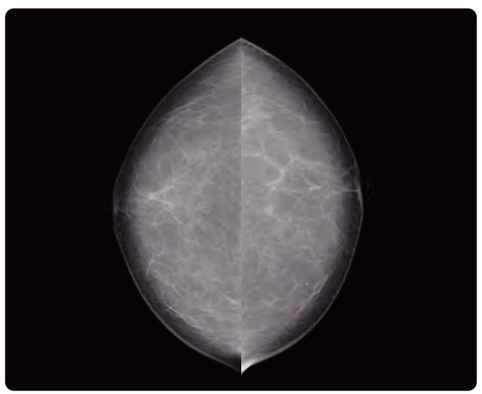
Pearl



High-End FFDM

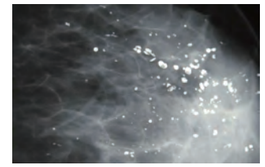


Low-Mid End FFDM



CR

76 ㎛ the smallest pixel size*



Microcalcification detection is known to be a critical factor in the early detection of breast cancer. Visualization of microcalcifications in a breast image is dependent on the performance and characteristics of the image receptor device (detector) such as the small pixel size,
Low noise and high DQE. Pearl with its 76㎛ holds the title for having the smallest pixel size amongst CsI (Indirect) mammography detectors. Also, with its low noise electronics, high DQE and MTF is achieved resulting in sharp and highly defined mammography imaging optimized for screening and diagnostic purpose.

Relationship between dectector pixel size and breast microcalcification visualization.

"Averaging over all shapes, pixel values > 100 micro (㎛) lead to a significant decrease in shape determination ability ($p < 0.01$) for digitised screen-film."

Ruschin M, et. al.,"Threshold pixel size for shape determination of microcalcifications in digital mammography", Radiat Prot Dosimetry, Vol.114, 2005.

"high-resolution (below 100㎛ pixel size) and low-noise digital x-ray mammography systems could potentially improve the detection and visualization of microcalcifications leading to early and more accurate diagnosis."

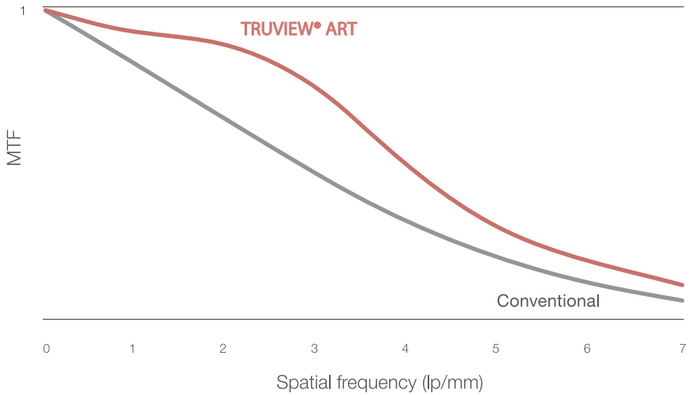
S. Suryanarayanan, et. al., "Detection of Simulated Microcalcifications in a Phantom with Digital Mammography: Effect of Pixel Size", Radiology, Vol.244, No. 1, 2007.

Advanced image Reconstruction Technology

TRUVIEW ART

ADVANCED IMAGE RECONSTRUCTION TECHNOLOGY

Image sharpness of an object in a conventional image is reduced due to light scattering. TRUVIEW® ART, RadmediX's unique reverse filtering technology reconstructs and improves image sharpness to increase the possibility detecting abnormalities including microcalcifications.

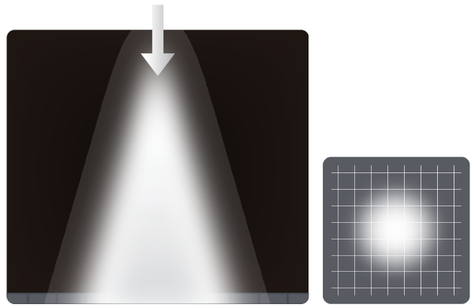


76 µm pixel size

Increased MTF 30 %

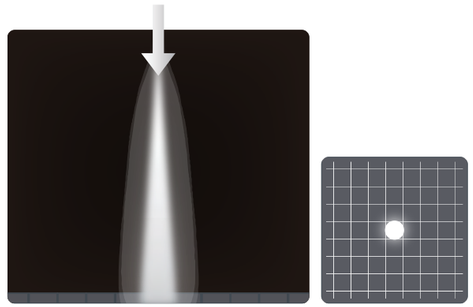
CONVENTIONAL

X-ray

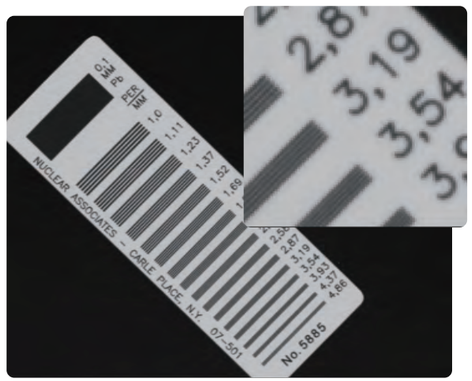


TRUVIEW® ART

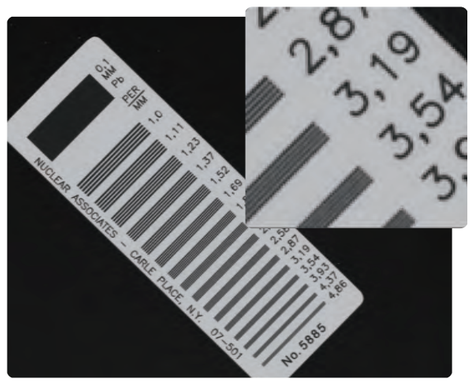
X-ray



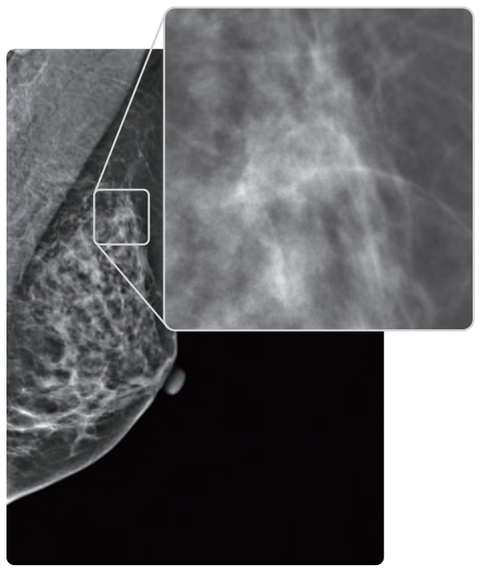
CONVENTIONAL IMAGE



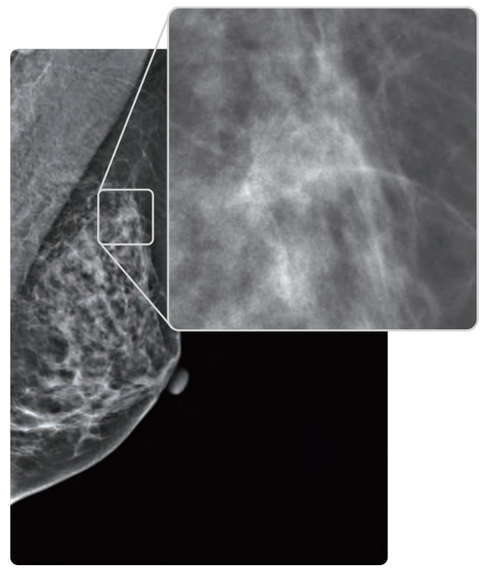
TRUVIEW® ART IMAGE



CONVENTIONAL IMAGE



TRUVIEW® ART IMAGE



Imaging Software for Mammography

TRUVIEW AccuVue MAMMO
Digital Mammography Software

Specialized digital mammography software
designed and perfected
by radiologists for user convenience

- Light dispersion is removed and image shapness increased to improve the detection of abnormalities including microcalcifications
- 9 image style options are provided to cater for various user preferences
- With one click, image layout is easily adjusted
- Patient's current and past image can be easily compared with instant image recall
- Fast inspection of image quality is possible with large thumbnail display
- Supported in 12 languages for convenient use worldwide

Q&A

Q. Is perfect digitalization possible simply with a Pearl detector?

Yes! Perfect digital upgrade is possible simply by inserting Pearl to your existing analog mammography device.
Pearl is an officially approved medical device for mammography application with MFDS (Korea) and CE (European) approval.
"Analog mammo. system + Pearl detector = Complete digital mammo. system"

Q. Is the image quality of Pearl comparable with a FFDM?

Pearl comes standard with AccuVue image processing software designed by radiologists specifically for Pearl.
AccuVue is equipped with TRUVIEW® ART, an image processing algorithm optimized for mammography imaging.
It enhances the image sharpness.
With such technology, image quality paralleling high-end FFDM is possible and this has been proven with entrustment of many renowned breast cancer authorities in Korea choosing Pearl for their diagnostic practice.

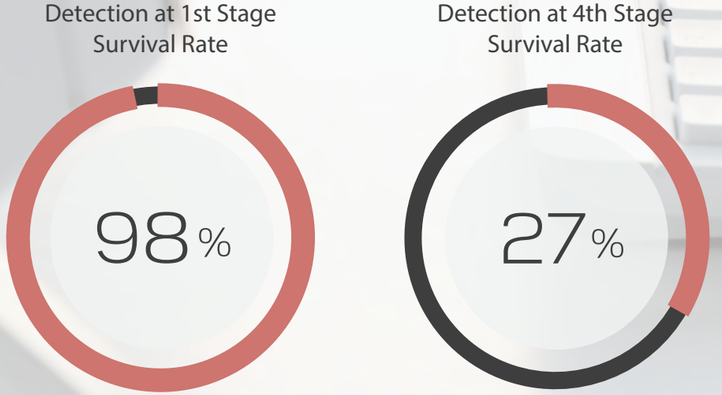
Q. Is Pearl compatible with all analog mammography devices?

Yes! Pearl has been tested to be compatible with all mammography units in operation worldwide.
Also, the performance of your mammography system will not be affected in any way by the addition of Pearl.
The most important component of a mammography device is the detector. The performance of the detector mostly determines the overall image quality.

Q. Can user transition to Pearl from film-screen or CR difficult?

No! Screening using Pearl is much easier and hassle free than using a film-screen or CR. By digitalizing, one step (film development and/or barcoding) process is eliminated. Full training is provided for users and our AccuVue software was developed with easy and efficient workflow in mind to ensure that all users can easily learn and adapt to using AccuVue when digitalizing with Pearl.

Breast Screening: Importance of Going Digital



Source: American breast cancer foundation (2012)

"The observers detection performance decreased significantly when inspecting CR images compared to DR images at the same dose level"

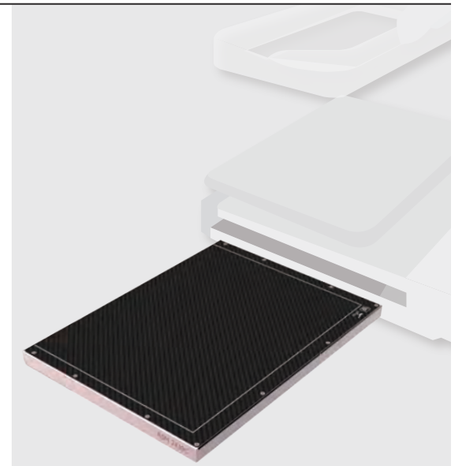
Warren LM et. al., "Effect of image quality on calcification detection in digital mammography", Med Phys, Vol.39, No.3, 2012.

"Abnormal finding rates were higher for direct digital mammography (7.78% vs 6.11% for film-screen mammography and 5.34% for computed radiography), particularly in younger women and in denser breasts"

Seradour, B. et al., "Comparison of direct digital mammography, computed radiography, and film-screen in the French national breast cancer screening program", AJR Am J Roentgenol, Feb, 2014.

Specifications

Pearl 810



Pearl 1012

Conversion Layer	Direct Deposition CsI	Direct Deposition CsI
Pixel Pitch	76 um	76 um
Resolution	2,304 x 3,072	3,072 x 3,840
MTF	65 @ 3 lp/mm	65 @ 3 lp/mm
Preview Time	2 sec.	2 sec.
Cycle Time	10 - 13 sec.	10 - 13 sec.
Data Interface	Giga Ethernet	Giga Ethernet
AEC Sensing	System Compatible AEC	System Compatible AEC
Chest Wall Distance	≤ 2.0 mm	≤ 2.0 mm
Weight	0.92 kg (Detector Only)	1.2 kg (Detector Only)
Overall Dimension	194.5 x 267.5 x 14.2 mm	253.7 x 327.5 x 14.2 mm
Image Processing	TRUVIEW® ART	TRUVIEW® ART

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