

World First Slim Cassette Type
Digital Mammo. Upgrade Solution



DRTECH



Headquarter : 2F/ 6F SPG Dream, Jeongjail-ro 166, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Factory : 29, Dunchon-dearo 541 beon-gil, Jungwon-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
TEL. +82-31-779-7400 / Fax.+82-31-779-7790
Copyright 2016 DRTECH Corp. All rights reserved

DRT-CAT-026 (Rev.01)

DRTECH

Still Analog?



Slim Cassette Type Digital Mammo. Upgrade Solution

Contents

3P. _____

RoseM 1824C & 2430C,
easy digitalization with
premium mammography
performance.

5P. _____

Exceptional image quality
with a 76 μ m pixel size
(smallest in Csl) and
high DQE / low-noise
performance.

7P. _____

Image sharpness
increased by 30% with
DRTECH's image
processing algorithm
TRUVIEW® ART.

9P. _____

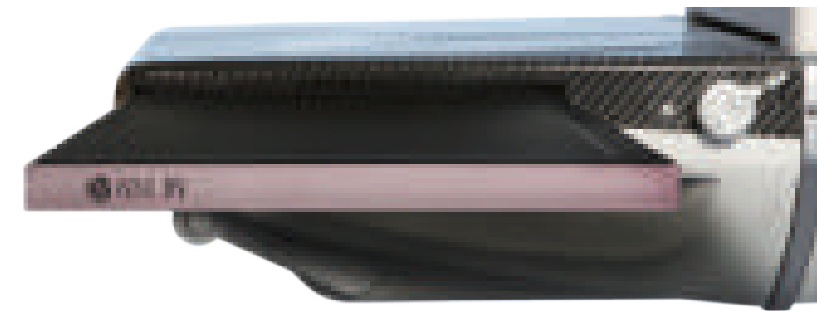
Designed and perfected by
radiologists for optimum
user convenience:
RCONSOLE1, specialized UI
software for mammography.

11P. _____

RoseM performance
enhances early detection
assisting in saving
precious lives.

13P. _____

RoseM specifications.
Experience RoseM to
save more & get more.



RSM 1824C / RSM 2430C

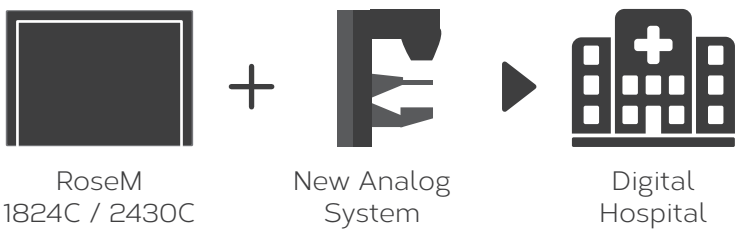
Benefits of RoseM Upgrade Solution



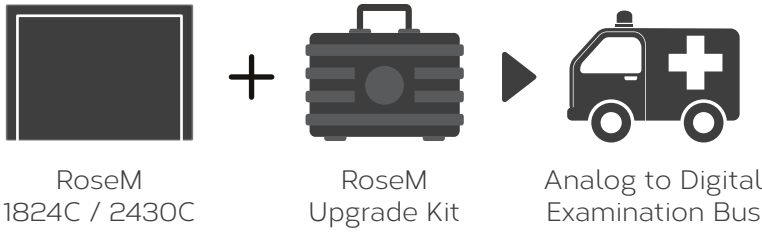
1. Digital Upgrade Solution



2. New Digital Equipment



3. For Mobile Health Buses



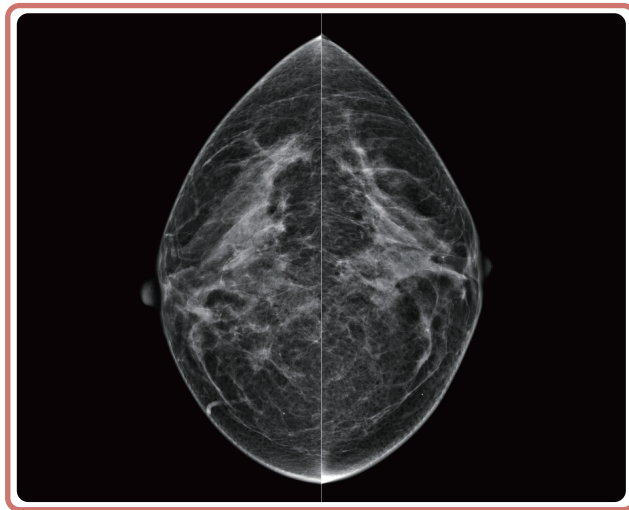
Digital Hos pital Upgrade Available From Various Core Value

 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

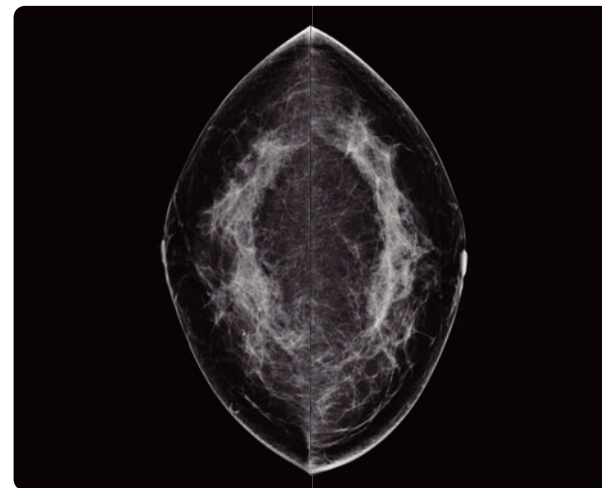
RoseM Cassette type Images



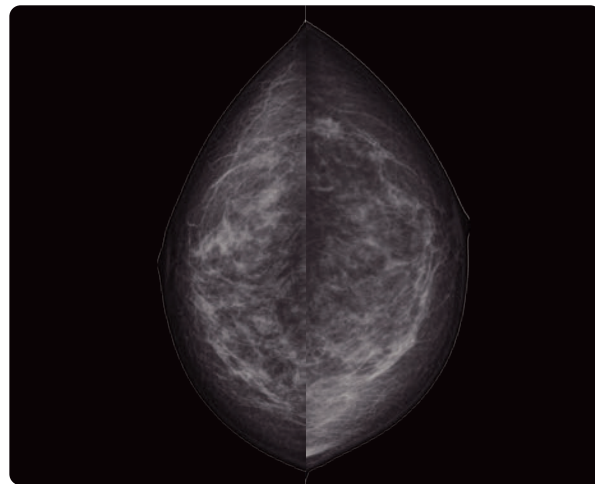
RoseM's exceptional image quality has gained a reputation amongst breast cancer physicians as being comparable to that of any high-end FFDMs.



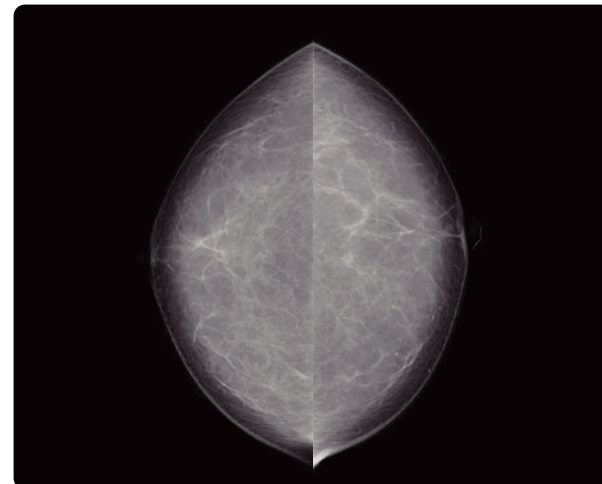
RoseM



High-End FFDM



Low-Mid End FFDM



CR

76_{μm} 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. RoseM with its 76_{μm} holds the title for having the smallest pixel size amongst Csl (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 detector pixel size and breast microcalcification visualization.

"Averaging over all shapes, pixel values < 100 micro (μm) 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 100μm 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."

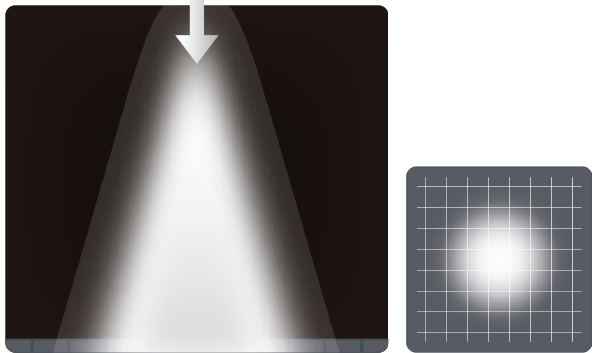
S. Suryanarayanan, et. al, "Detection of Simulated Microcalcifications in a Phantom with Digital Mammography: Effect of Pixel Size", Radiology, Vol.244, No. 1, 2007.

Advanced image Reconstruction Technology

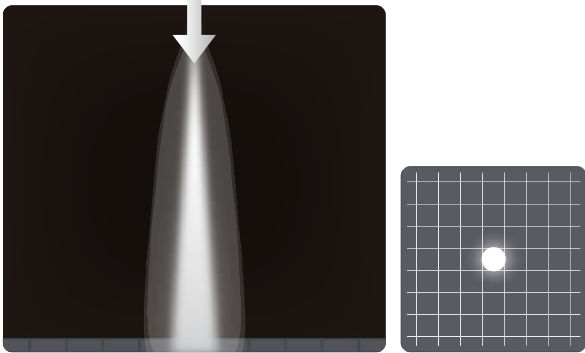


Image sharpness of an object in a conventional image is reduced due to light scattering. TRUVIEW® ART, DRTECH's unique reverse filtering technology reconstructs and improves image sharpness to increase the possibility detecting abnormalities including microcalcifications.

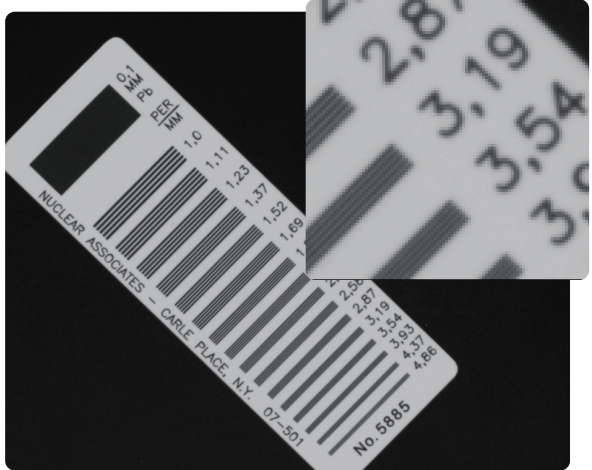
CONVENTIONAL X-ray



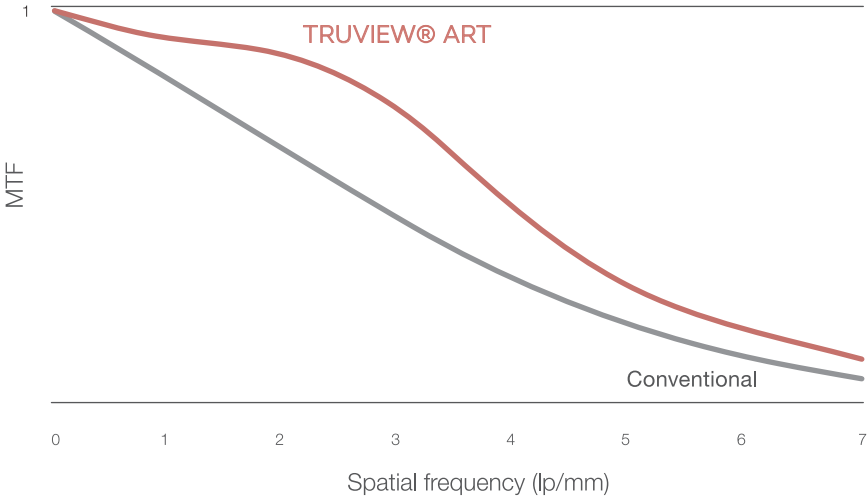
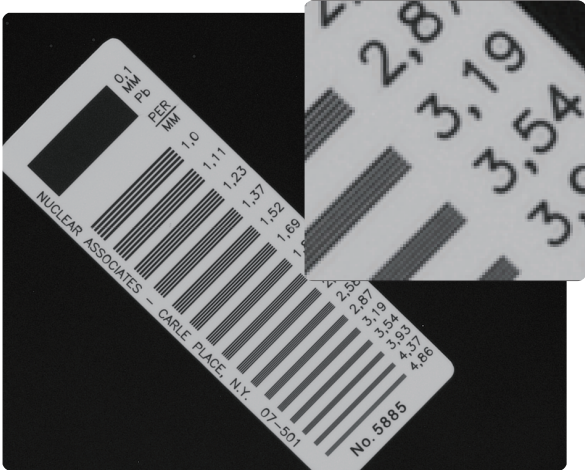
TRUVIEW® ART X-ray



CONVENTIONAL IMAGE

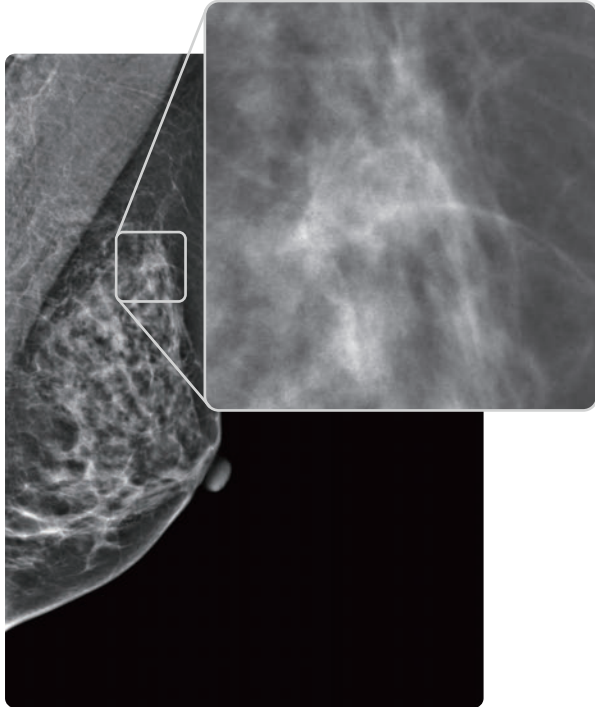


TRUVIEW® ART IMAGE

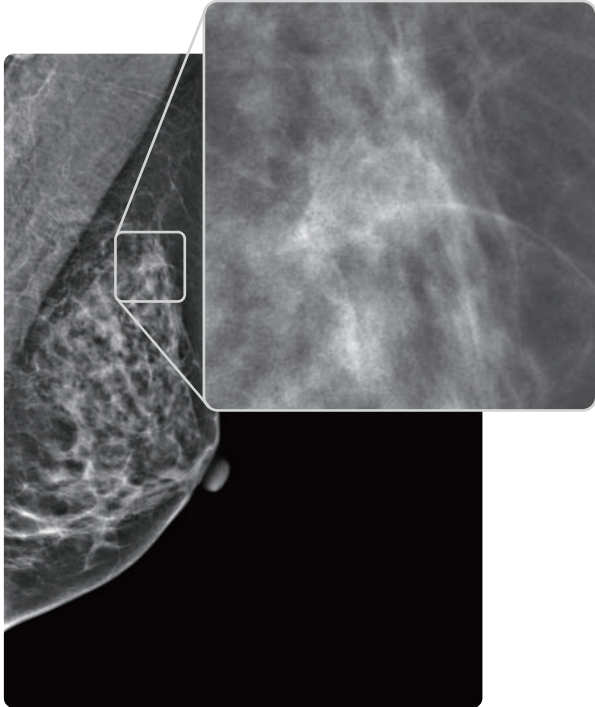


76 μm pixel size
Increased MTF 30 %

CONVENTIONAL IMAGE



TRUVIEW® ART IMAGE



Imaging Software for Mammography

TRUVIEW®
RCONSOLE1
Digital Mammography Software

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



Light dispersion is removed and image sharpness 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 RoseM detector?

Yes! Perfect digital upgrade is possible simply by inserting RoseM to your existing analog mammography device. RoseM is an officially approved medical device for mammography application with MFDS (Korea) and CE (European) approval.

"Analog mammo. system + RoseM detector = Complete digital mammo. system"

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

RoseM comes standard with RCONSOLE1 image processing software designed by radiologists specifically for RoseM. RCONSOLE1 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 RoseM for their diagnostic practice.

Q. Is RoseM compatible with all analog mammography devices?

Yes! RoseM has been tested to be compatible with all mammography units in operation worldwide.

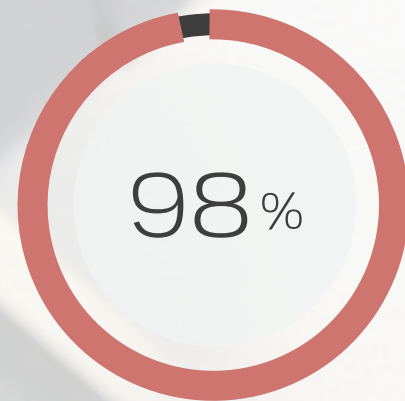
Also, the performance of your mammography system will not be affected in any way by the addition of RoseM. The most important component of a mammography device is the detector. The performance of the detector mostly determines the overall image quality.

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

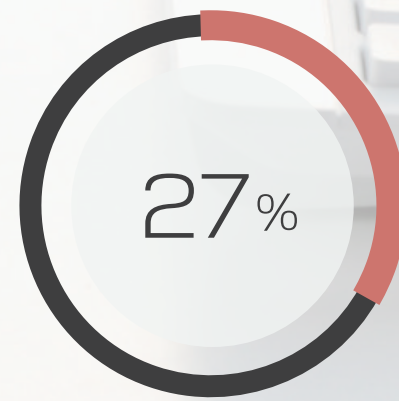
No! Screening using RoseM is much easier and hassle free than using a film-screen or CR. By digitalizing, one step (film development and/or barcoding) process is eliminated. Full training is provided for users and our RCONSOLE1 software was developed with easy and efficient workflow in mind to ensure that all users can easily learn and adapt to using RCONSOLE1 when digitalizing with RoseM.

Breast Screening: Importance of Going Digital

Detection at 1st Stage
Survival Rate



Detection at 4th Stage
Survival Rate



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



RoseM 1824C



RoseM 2430C

Conversion Layer	Direct Deposition Csl	Direct Deposition Csl
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

DRTECH America Service Center (DASC)
10148 International Blvd, West Chester, OH 45246-4846
Tel. +1-513-817-5028
E-mail: yjwon@drtech.co.kr

DRTECH R&D Office of America (DROA)
640W. California Avenue, Sunny Vale, California, 94086
United states of America

DRTECH Europe Office
Buyukdere Caddesi, Nevtron is Hani
NO. 119/6-34349 Esentepe / ISTANBUL, TURKEY
TEL.+90-532-716-7815
E-mail: btahtakaya@drtech.co.kr

DRTECH Shanghai (DS)
NO.908,9F, NO.3998 Hongxin Road, Minhang District Shanghai, China
E-mail: hsjeon@drtech.co.kr