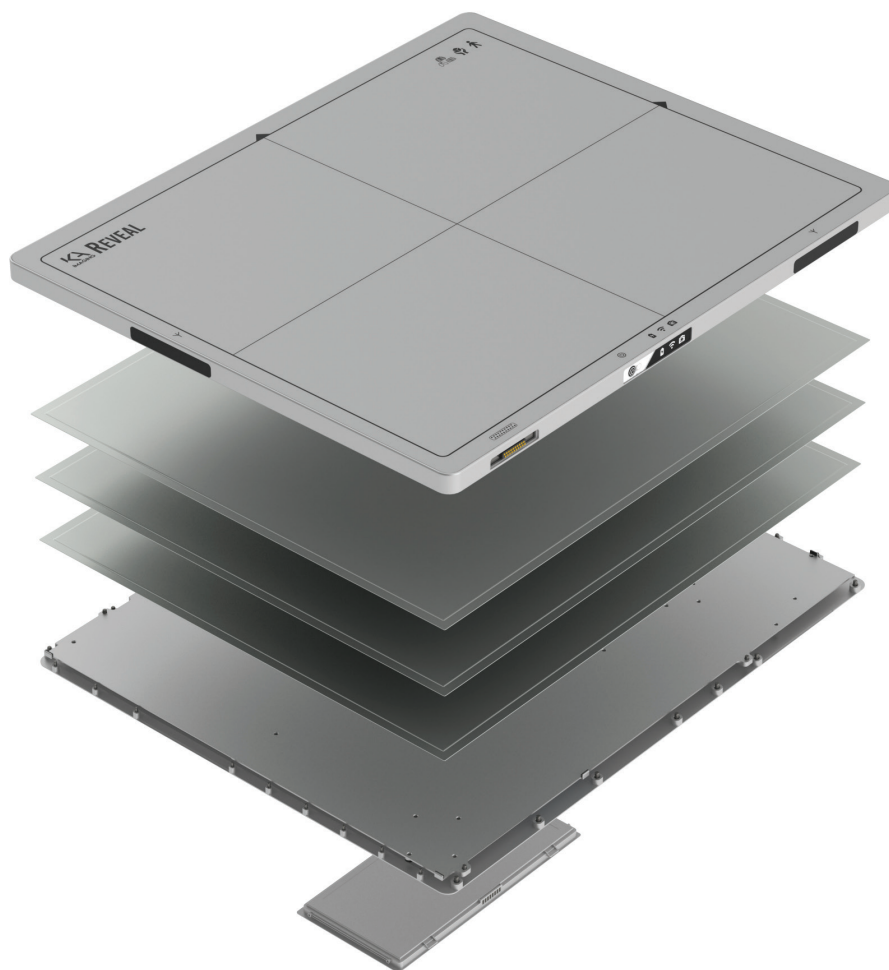

REVEAL™ 35C
FLAT PANEL DETECTOR



**THE FLEXIBILITY
OF A 3-IN-1
SOLUTION**



REVEAL™ 35C

Reveal™ 35C is the first and only mobile dual-energy detector on the market. Thanks to its *Spectral/DR™* technology, this detector overcomes the limitations of other dual-energy technologies. This **3-in-1** solution simultaneously acquires 3 images in 1 single exposure, improving visualization of bone and tissue.

Dual-energy images are clinically proven⁵ to enhance the visualization of lung nodules, pneumonia, line and tube tips, pneumothorax, retained surgical objects and more.



1 exposure



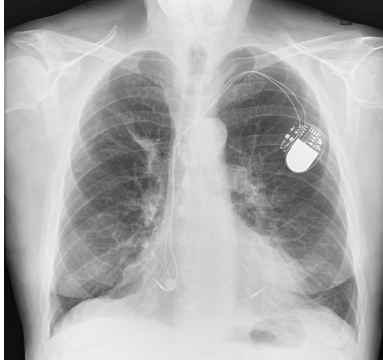
3 images



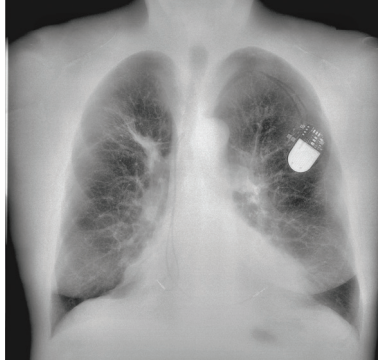
0 motion artifact

A 3-IN-1 SOLUTION

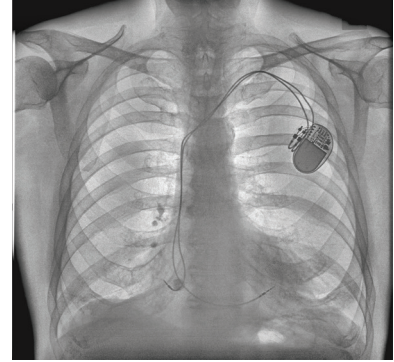
- 3 images in 1 X-ray exposure. Sharp Bone and Tissue images, high-quality DR¹ with DQE as high as 75%.
- DR, Bone and Tissue images help reveal lung nodules³, pneumonia⁴ (including COVID-19), hidden fractures, line and tube ends, indeterminate nodules^{5,1}, and coronary calcifications^{5,5} with high sensitivity.
- Thanks to *SpectraDR™*, explore lateral and oblique views with dual energy for the first time to see behind the heart.



TRADITIONAL DR IMAGE



SOFT TISSUE IMAGE



BONE IMAGE

FLEXIBLE APPLICATIONS

- Standard cassette size: 14 X 17 inches (ISO 4090).
- Retrofittable: get DR and spectral images from any X-ray system. No hidden costs.
- Compatible with existing fixed systems.
- Fixed, mobile and portable applications.

PURCHASING OPTIONS TO MEET **YOUR NEEDS**

Choose between capital purchase or flexible subscription models

OPTIMIZE YOUR WORKFLOW



Enhanced Patient and Operator Safety

20X less radiation compared to CT⁶,
Reduction in diagnostic errors and
malpractice concerns⁶



Higher Operating Efficiencies

Reduces radiologist reading time for
X-rays by 30%⁷, Enables residents to
make accurate diagnoses⁷



Improved Patient Outcomes⁵

Early disease detection shortens time
to providing corrective procedures



Improved financial outcomes

USD 3.5M in savings/new revenue in
5 years⁸

REAL CASES

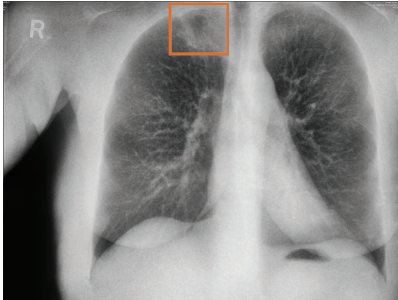
KA Imaging has initiated a clinical trial at Grand River Hospital in Kitchener, Ontario, Canada to image lung cancer patients with Reveal™ 35C to visualize lung nodules and lesions. Preliminary results have shown **45% more lesion visibility**³ when our *Spectra/DR™* images were included.

Hidden Masses Discovered in PA Chest X-ray

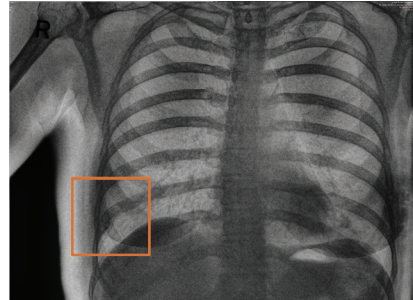
Apical lesion in the right upper lobe was missed in the conventional PA X-ray image but was visible in the soft-tissue spectral X-ray image.



TRADITIONAL DR IMAGE



SOFT TISSUE IMAGE



BONE IMAGE

Hidden Masses Discovered in Lateral Chest X-ray

Upon reviewing the soft-tissue and bone images, radiologists confirmed a mass in the lower left lobe, a calcified granuloma in the lower right, and a possibility of a new right lower lobe mass.



TRADITIONAL DR IMAGE



SOFT TISSUE IMAGE



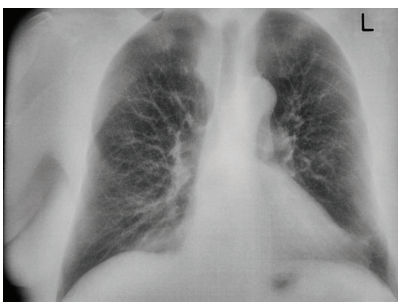
BONE IMAGE

Fractures Discovered in PA Chest X-ray

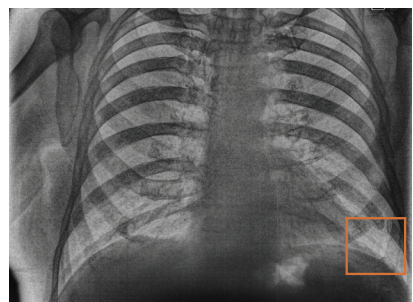
Old fractures missed on the PA image is significantly visible in the bone spectral X-ray image.



TRADITIONAL DR IMAGE



SOFT TISSUE IMAGE



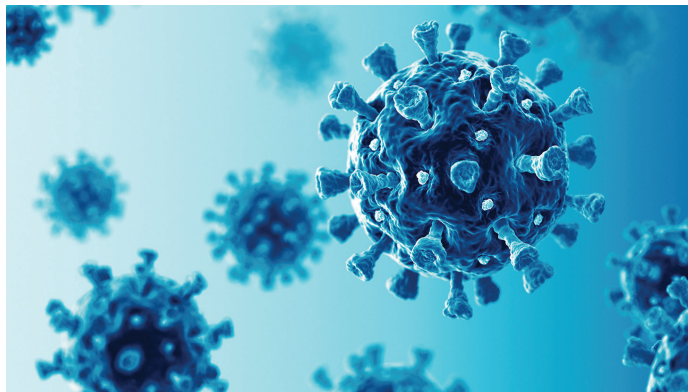
BONE IMAGE

REAL CASES CONTINUED

COVID-19

KA Imaging has also partnered with a team of researchers from Toronto in a study for the early detection of COVID-19. Dual-energy X-rays and Thoracic Tomograms were compared with the ones obtained on a CT scan, which is currently the standard of care for confirming pneumonia. The data will allow researchers to build an artificial intelligence model for automated and nearly instant image interpretation.

Preliminary results have shown **33% more pneumonia cases⁴** found compared to X-ray thanks to our SpectralDR™ technology.



TECHNICAL SPECIFICATIONS

System	KA Imaging Reveal 35C Flat Panel Detector
Detector Size	14 x 17 inch/35 x 43 cm (ISO 4090)
Pixel Pitch	140 µm
Sensor Type	Amorphous Silicon
Scintillator	CsI
Communication	Wireless or gigabit ethernet
Trigger	Lossless AED
Power	Battery and/or tethered AC 100-240 VAC/50-60 Hz
A/D Conversion	16 bits
Cycle Time	Typ. 20 seconds
Preview Time	Typ. 7 seconds
Software	SDK available for system integration
Energy Range	40 ~ 150 keV*

System	KA Imaging Reveal 35C Flat Panel Detector		
Dose Efficiency and Resolution**	lp/mm	DQE	MTF
	0	75%	N/A
	1	67%	64%
	2	53%	35%
	3	34%	18%
Dose Range**	Nyquist	21%	13%
	Saturation Dose	140 µGy	
	Maximum Linear Dose	120 µGy	
	Noise Equivalent Dose	80 nGy	



Available for sale in Canada, the United States, Australia, New Zealand, Taiwan, Indonesia, Malaysia, and the European Union.

Contact us for availability in other countries.



*Higher energy supported on request

**Measured at RQA5

REFERENCES

1. Maurino, S. L., Badano, A., Cunningham, I. A., & Karim, K. S. (2016, March). Theoretical and Monte Carlo optimization of a stacked three-layer flat-panel x-ray imager for applications in multi-spectral diagnostic medical imaging. In Medical Imaging 2016: Physics of Medical Imaging (Vol. 9783, p. 97833Z). International Society for Optics and Photonics.
2. Maurino, S. L., Ghanbarzadeh, S., Ghaffari, S., Zhang, T., Cunningham, I., & Karim, K. S. (2018, June). Evaluation of A Novel Stacked Triple-Layer Flat-Panel X-Ray Detector for Dual-Energy and Digital Radiography Imaging. In Medical Physics (Vol. 45, No. 6, pp. E137-E137). Wiley.
3. 1. S. L. Maurino, K. S. Karim, V. Venkatesh. Diagnostic value of single-exposure dual-energy subtraction radiography in lung lesion detection: initial results. European Congress of Radiology-ECR 2022, 2022.
4. Sanchez F, Kandel S, May M, Ronghe S, Rogalla P. Diagnostic value of dual-energy chest x-ray in immunocompromised patients to rule out pneumonia: initial results. European Congress of Radiology-ECR 2021, 2021.
5. Improved patient outcomes
 - 5.1 (Lung Nodules) Oda, Seitaro, Kazuo Awai, Yoshinori Funama, Daisuke Utsunomiya, Yumi Yanaga, Koichi Kawanaka, Takeshi Nakaura et al. "Detection of small pulmonary nodules on chest radiographs: efficacy of dual-energy subtraction technique using flat-panel detector chest radiography." Clinical radiology 65, no. 8 (2010): 609-615.
 - 5.2 (Pneumothorax) Urbaneja, A., Dodin, G., Hoosu, G., et al. (2018) Added Value of Bone Subtraction in Dual-energy Digital Radiography in the Detection of Pneumothorax: Impact of Reader Expertise and Medical Specialty. The Association of University Radiologists. Elsevier Inc.
 - 5.3 (Pneumonia) Martini, Katharina, Marco Baessler, Stephan Baumueller, and Thomas Frauenfelder. "Diagnostic accuracy and added value of dual-energy subtraction radiography compared to standard conventional radiography using computed tomography as standard of reference." PloS one 12, no. 3 (2017): e0174285.
 - 5.4 (Tuberculosis) Sharma, Madhurima, Manavjit Singh Sandhu, Ujjwal Gors, Dheeraj Gupta, and Niranjana Khandelwal. "Role of digital tomosynthesis and dual energy subtraction digital radiography in detection of parenchymal lesions in active pulmonary tuberculosis." European Journal of Radiology 84, no. 9 (2015): 1820-1827.
 - 5.5 (Coronary Calcifications) Song, Yingnan, Hao Wu, Di Wen, Bo Zhu, Philipp Graner, Leslie Ciancibello, Haran Rajeswaran et al. "Detection of coronary calcifications with dual energy chest X-rays: clinical evaluation." The International Journal of Cardiovascular Imaging (2020): 1-8.
6. Kuhlman, Janet E., Jannette Collins, Gregory N. Brooks, Donald R. Yandow, and Lynn S. Broderick. "Dual-energy subtraction chest radiography: what to look for beyond calcified nodules." Radiographics 26, no. 1 (2006): 79-92.
7. Manji, Farheen, Jiheng Wang, Geoff Norman, Zhou Wang, and David Koff. "Comparison of dual energy subtraction chest radiography and traditional chest X-rays in the detection of pulmonary nodules." Quantitative imaging in medicine and surgery 6, no. 1 (2016): 1.
8. Karim S Karim, "Single Exposure, Digital Dual-Energy Subtraction X-Ray Ushers in a New Era of Diagnostic X-Ray Imaging," Radiology Management, Mar/Apr 2021.

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