CARERAY
DIGITAL MEDICAL

We invent
We Manufacture
We Care

InteMed
innovaciones para la salud

Distribuidor Oficial de

CARERAY
DIGITAL MEDICAL

CARERAY
DIGITAL MEDICAL

About CareRay

Established in 2007, CareRay Digital Medical System Co. is dedicated to the innovation and production of the newest generation of flat panel detectors for medical, veterinary, security and industrial digital X-ray imaging systems.

CareRay excels at developing and manufacturing high-performance ceasium iodide (CsI) detectors and offers a complete line of sizes of fixed, portable and wireless models. CareRay also customizes production upon request and welcomes product partners.

CareRay's award winning R&D team of experts has created more than a dozen significant technology patents, which we use to produce superior flat panel detectors for the global market.

Our global sales, service and support office is located in San Jose, California, USA.
Our R&D department and production facility are located in the SuZhou Industrial Park in China.

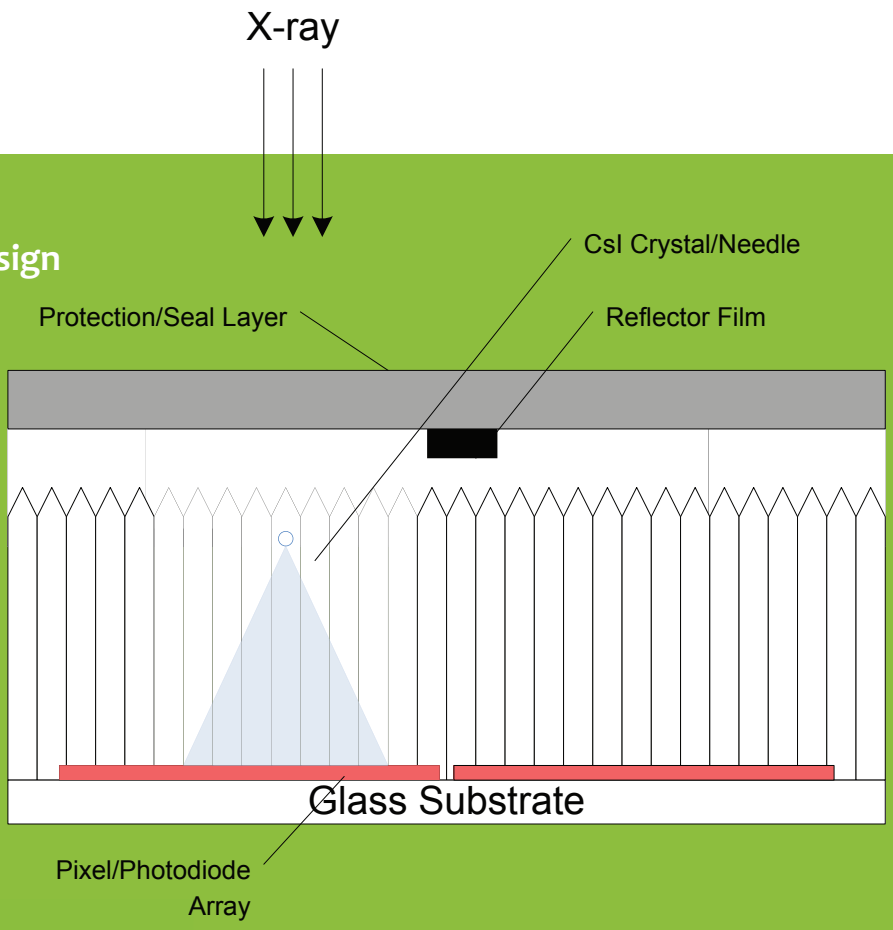
Through the pursuit of excellence, optimized engineering and disciplined fabrication processes, CareRay provides customers with advanced, robust, user-friendly flat panel detectors and software.

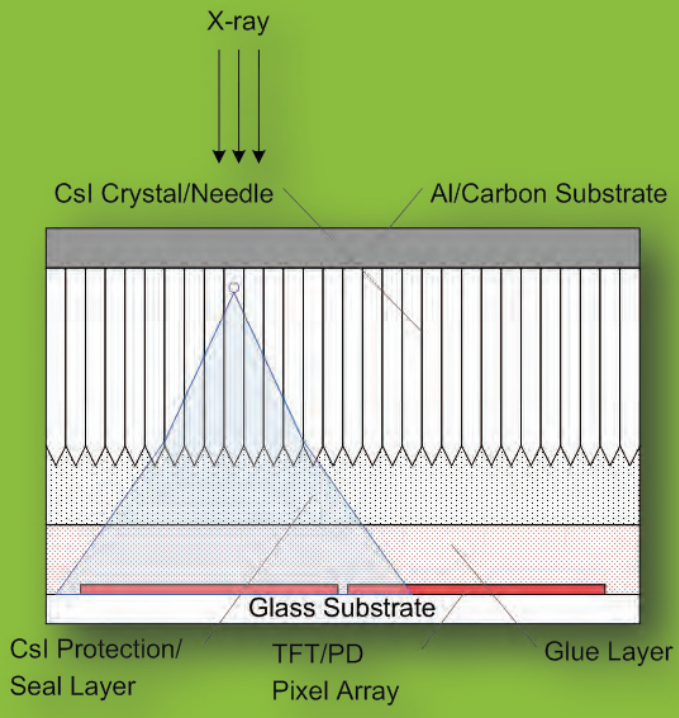
Our mission as a technology innovator and international supplier is to revolutionize diagnostic imaging by sharing the benefits of our scientific and functional advances.

Dealers and OEM Manufacturers, we welcome your enquiries on our product line, our customized production programs and our latest R&D break-throughs !

CARERAY
DIGITAL MEDICAL

CareRay Direct-Deposit CsI design





Common CsI Plate design (glued)

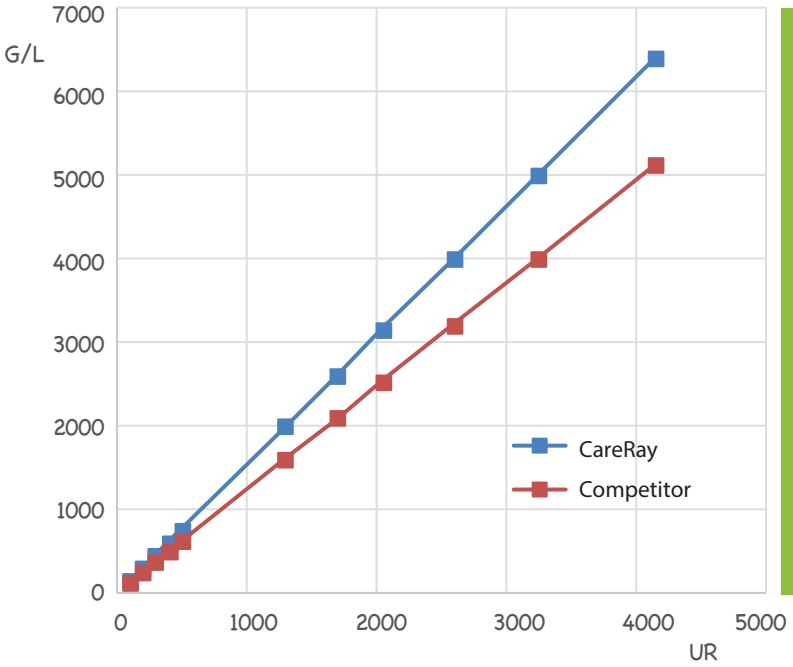
What do other detectors struggle with ?

- Isotropic photon scatter, particularly in the glue layer, resulting in poor image resolution
- Poor photon coupling to the photo diode, resulting in resolution degradation
- Fragile glue processes susceptible to defects (air bubble, unevenness, moisture), resulting in reliability and longevity problems

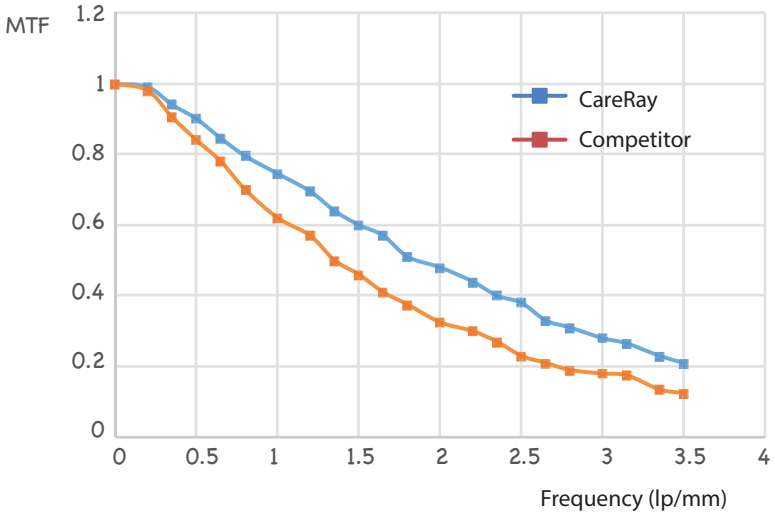
CARERAY
DIGITAL MEDICAL

CareRay Direct Deposit CsI Comparison to Sample Competitor

Identical TFT/PD panel with 142 um pitch - Identical Readout/Digital processing - independent 3rd party results

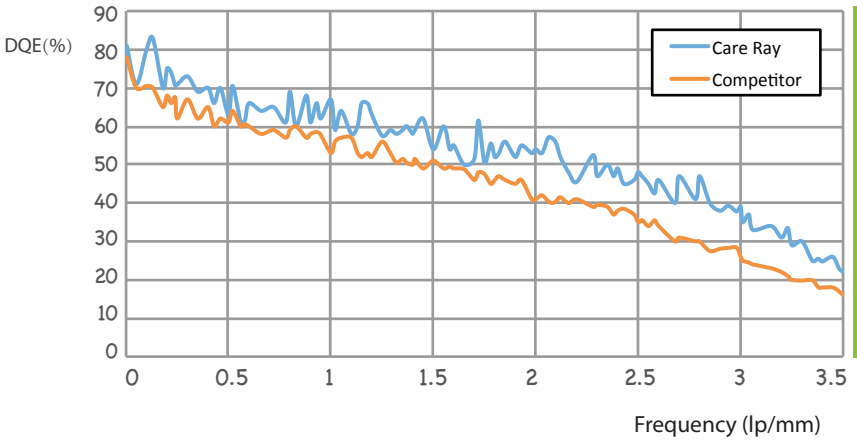


CareRay 25% Higher Sensitivity !



CareRay 70% Better Resolution !

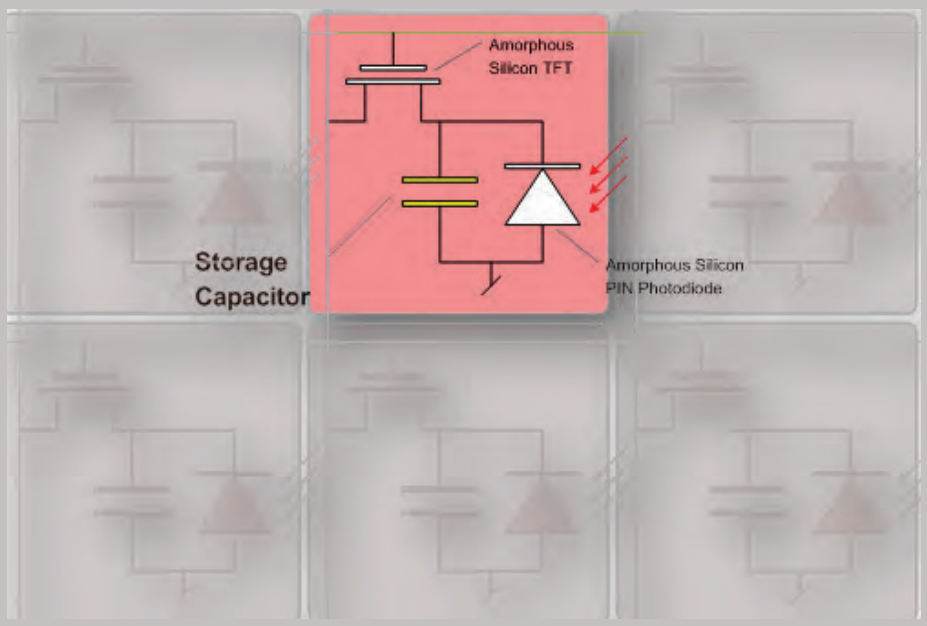
CARERAY
DIGITAL MEDICAL



CareRay 30% Higher DQE !

CareRay's High Dynamic Range (HDR) Advantage

Traditionally, when pixel pitch is shrunk, a sensor's dynamic range is compromised due to reduced charge capacity. This is what CareRay's competitors face.
CareRay has developed an advanced passive sensor design and a-Si process technology, incorporating CareRay's patented device design for TFT, PD, and Storage Capacitor. The results have been amazing !
Some of our small pixel detector series have dynamic ranges that are 3 times that of other detectors on the market.



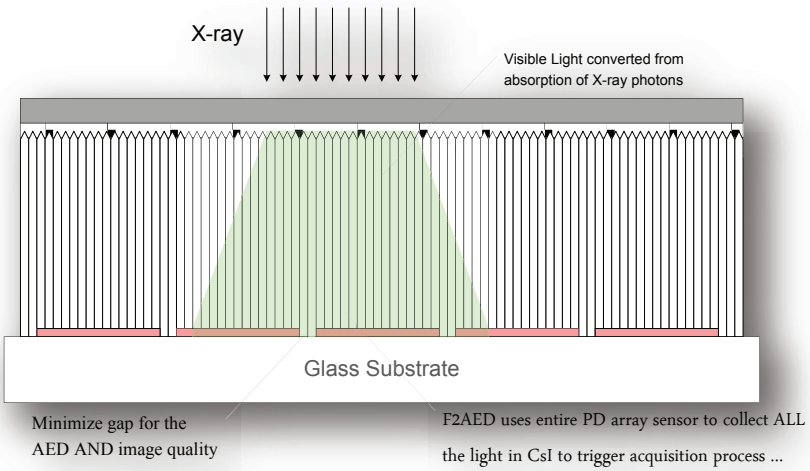
CARERAY
DIGITAL MEDICAL

CareRay's Unique Full-Field Auto-Exposure Detection (F^2AED)

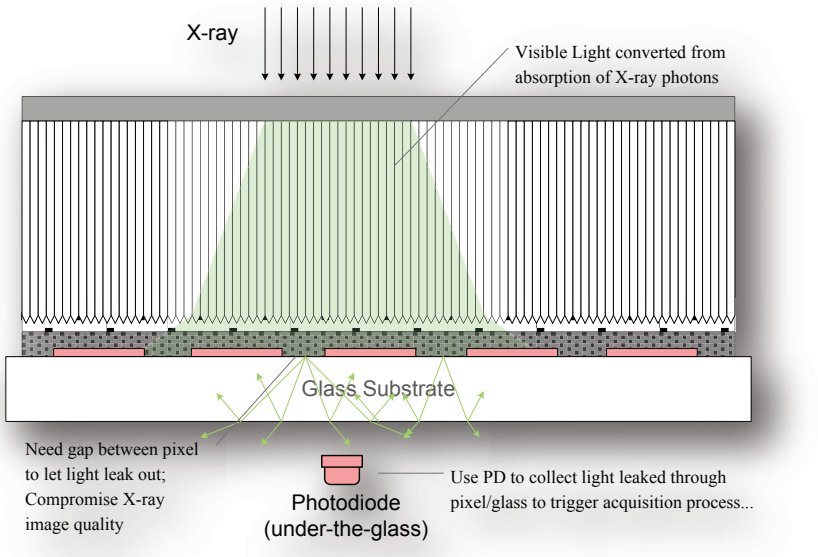
CareRay's patented F^2AED technology uses the entire photodiode array sensor on the surface of the glass substrate to collect light to trigger the acquisition process.

Many other manufacturers offering AED need to place gaps between their pixels to purposely let light through to trigger their AED photodiodes which are placed under the glass substrate. They have to incorporate in their panel design an inherent conflict between AED design and optimum imaging. Not so with CareRay !

CareRay's F^2AED technology means no blind areas on the detector as the entire sensor is used for AED. This provides reliability and sensitivity even when the x-ray dose is low. It also means optimum imaging as we don't need to increase the gap between pixels.



CareRay's F^2AED means NO COMPROMISE, NO BLIND AREAS, NO LOW SENSITIVITY ISSUES.



Common AED configuration means other panels can perform unreliably, have blind areas and low sensitivity

CARERAY
DIGITAL MEDICAL

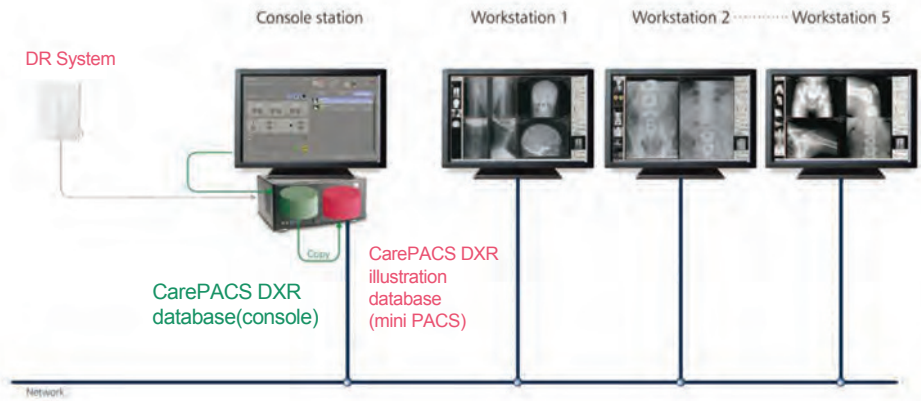
CareView ® series of digital flat panel detectors

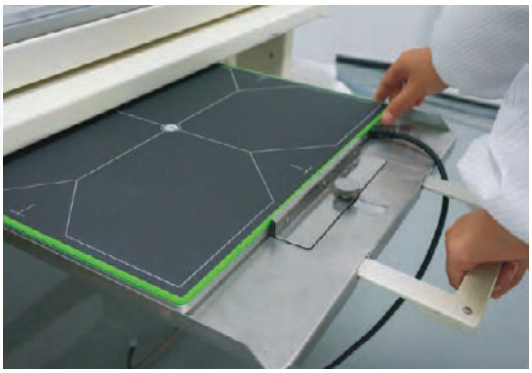
CareView® series X-ray flat panel detectors incorporate the proven technology of amorphous silicon. The amorphous silicon photodiode array and TFT underneath convert invisible X-ray photons into visible photons, and then into electric charges. The electron signals are measured and amplified in the data line, and then converted to digital signals by the Analog/Digital converter. Finally, the digital signals are transmitted to a PC for processing to form an image.

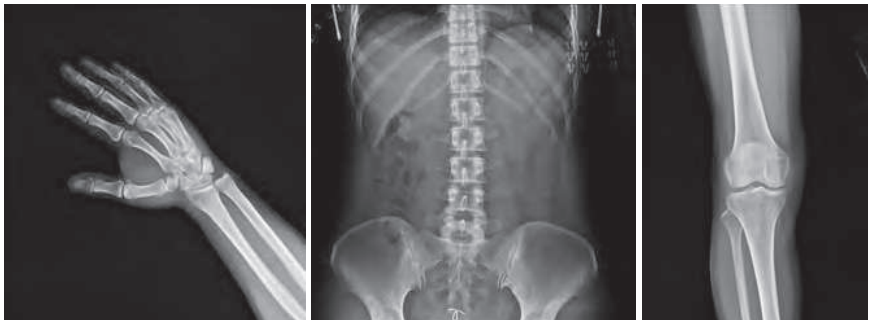
High DQE, high spatial resolution, extraordinary dynamic range and ultra-low noise are hallmarks of our CareView® series.

Each Careview detector is submitted for FDA, CE and CFDA approval.

CareView® detectors are integrated with CarePACS DXR software, which is an acquisition-viewing combination and supports up to 5 shared viewers and unlimited hosts. Network PACS and Enterprise PACS options are available.
CarePACS DXR software is for both veterinary and medical professionals and is imbedded with convenient instructional pictures and video clips on x-ray procedures and sample images.

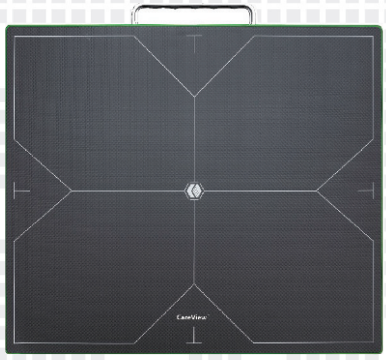






CARERAY
DIGITAL MEDICAL

CareView ® 1500Cw



CARERAY
FULL-FIELD
F²AED™

CsI DIRECT DEPOSITION
LOW-DOSE IMAGING

14"x17" Cassette-sized Wireless Detector

Friendly Operation Experience

- 14"x17" cassette-sized wireless detector; easily fits into standard bucky tray cabinets for upgrading a film or CR system to a flat-panel DR system.
- No wiring to generator with patented Full-Field Automatic Exposure Detection (F^2AED^{TM}) Technology.
- Wireless acquisition and transfer of a full resolution radiography image in~4 sec with 802.11n interface and dual-bands (2.4/5GHz) at 300Mbps data transmission rate.

Superior Image Quality

- The best performance CsI direct-deposition technology on new generation of TFT/PIN PD panel and low noise electronics.

"Care about you" Design Philosophy

- Extra long battery life with 1400 shots/charge (10 sec interval between shots) and 7 hours stand-by time.
- Light weight and slim design with built-in foldable handle; rubber insulated frame and high strength aluminum-alloy case ensure safe and convenient operations.

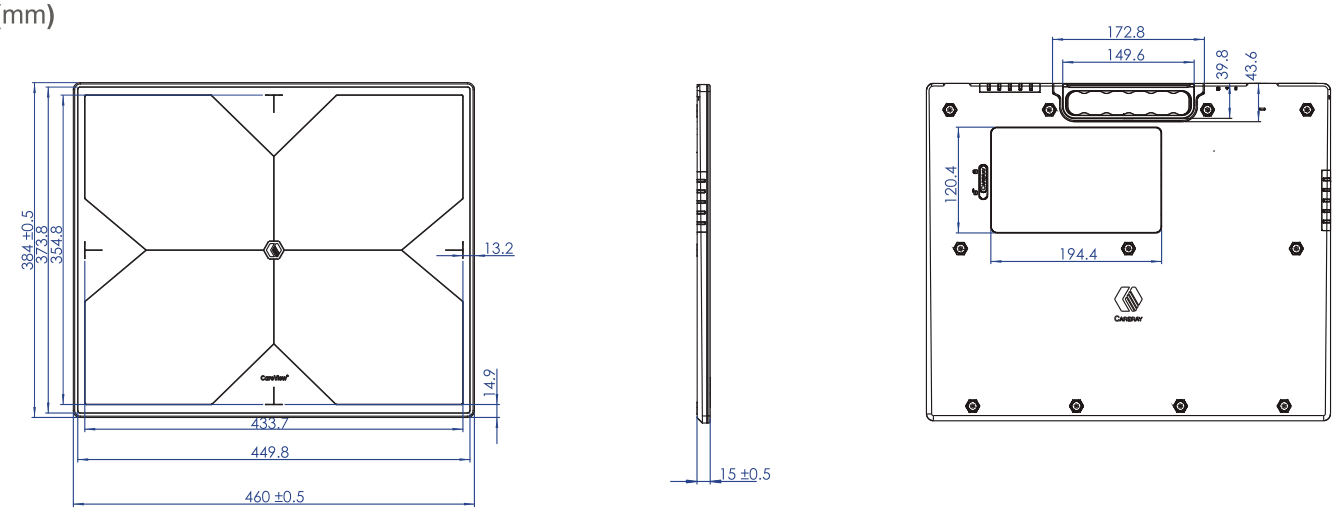
CareView® 1500Cw Specifications

Sensor	
Scintillator	Direct Deposit CsI:Tl
Active Area	433.7 x 354.8 mm
Pixel Array	2816 x 2304
Pixel Pitch	154 µm
Image Quality	
Limiting Resolution	3.25lp/mm
MTF	70% .....(@ 1 lp/mm) 40% .....(@ 2 lp/mm) 22% .....(@ 3 lp/mm)
DQE	(@RQA5, 27 µGy) ~ 65% ..... (@ 0 lp/mm) ~ 20% ..... (@ 3 lp/mm)
Sensitivity	~ 0.62 ct/nGy
Response Non-linearity	< ± 0.5%
Maximum Linear Dose	95 µGy
Dark Noise	~ 8 nGy
Dynamic Range	~ 82 dB
A/D Conversion	16 bits
Communication Interface	
Communication Interface	Gigabit Ethernet 2.4/5 GHz, 300 Mbps
Image Acquisition Time	2-3 sec (wired) 4-5 sec (wireless)
Exposure Control	F^2AED Manual sync

Environmental	
Operating	
Temperature Range	5 ℃ - 35℃
Humidity Range (Non-condensing)	30% - 75% RH
Storage	
Temperature Range	-20 ℃ - 55 ℃
Humidity Range (Non-condensing)	10% - 90% RH
Mechanical	
Dimension	460 x 384 x 15 mm
Weight	3.7 kg
Housing Material	Carbon fiber front High Strength aluminium alloy back
Power	
Maximum Power (standby/operating)	< 8 W / 20 W
Power Supply	100-250V AC
Frequency	50/60 Hz
Regulatory	
FDA	K150929
CE	HD 60107735 0001
UL	E464810
HC	96952

CareView® 1500Cw Dimension

(mm)



Specifications are subject to change without prior notice.
For more information, please visit www.careray.com or contact us via info@careray.com or globalsales@careray.com.

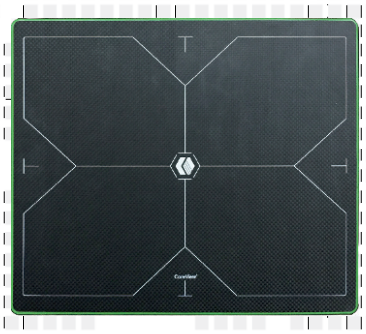
CareRay U.S.A

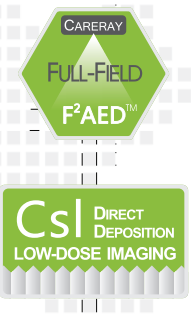
#3 - 3001 Winchester Blvd.
Campbell, California USA 95008
Tel: +1 604-343-3656

CARERAY
DIGITAL MEDICAL

CARERAY
DIGITAL MEDICAL

CareView® 750Cw





10"x12" Cassette-sized Wireless Detector

User Friendly

- 10"x12" standard cassette radiography detector; lightweight, anti-scratch anodized aluminum enclosure with carbon fiber cover plate and anti-shock rubber edging.
- No wiring to generator with Patented Full-Field Automatic Exposure Detection (F²AED™) Technology.
- Wireless acquisition and transfer of an image in ~4 seconds.

Superior Image Quality

120 um pixel pitch; high resolution performance with MTF ~ 30% @3 lp/mm and a limiting resolution of 4.16 lp/mm.

- Ultra high dynamic range (14000:1) with saturation dose of ~100Gy ensures very detailed capture of both thin and thick objects.
- High contrast and low noise radiography at low dosage from CsI direct-deposition technology, the 3rd generation of TFT/PIN Photodiode panel and low noise electronics. High DQE (> 70% with RQA5) at both low and high kV ranges.

Innovative Design and Robust Performance

- Reliable performance with water-proof (IP64) exterior casing for outdoor/field operation.
- Extra-long battery life with 1400 shots/charge (10 sec interval between shots) and 8 hours stand-by time. Supports Careray's smart-handswitch technology and accessory for extended battery-operation-time (more than 2 days on a single charge).

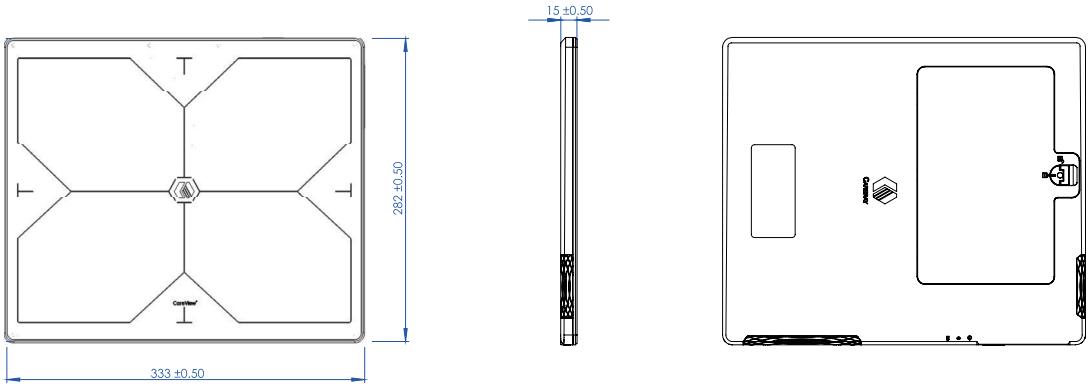
CareView® 750Cw Specifications

Sensor	
Scintillator	Direct Deposit:TI
Active Area	307.2 x 244.32 mm
Pixel Array	2560 x 2048
Pixel Pitch	120 μm
Image Quality	
Limiting Resolution	4.16 lp/mm
MTF	70% .....(@ 1 lp/mm) 40% .....(@ 2 lp/mm) 25% .....(@ 3 lp/mm) 15% .....(@ 4 lp/mm)
DQE	(RQA5, 14μGy) ~70% ..... (@ 0 lp/mm) ~33% ..... (@ 3 lp/mm)
Sensitivity	~0.62 ct/nGy
Response Non-linearity	< ± 0.5%
Maximum Linear Dose	> 95 μGy
Dark Noise	~10 nGy
Dynamic Range	~82 dB
A/D Conversion	16 bits
Communication	
Communication interface	Gigabit Ethernet 2.4/5 GHz, 300 Mbps

Image acquisition time	2-3 sec
Exposure Control	F^2AED Manual Sync
Environmental	
Operating	
Temperature Range	5 ℃-35 ℃
Humidity Range (Non-condensing)	30% - 75% RH
Storage	
Temperature Range	-20 ℃ - 55 ℃
Humidity Range	10% - 90% RH
Water/Dust Proof	IP 64
Mechanical	
Dimension	333 x 282 x 15 mm
Weight	~2.3 kg
Housing Material	Carbon Fiber（Front） Aluminum Alloy（Back）
Power	
Maximum Power (standby / operating)	<8 W / 17 W
Power Supply	100-250 VAC
Frequency	50/60 Hz
Battery	3260 mAh, 14.8 V

CareView® 750Cw Dimension

(mm)



Specifications are subject to change without prior notice.
For more information, please visit www.careray.com/en, or contact us via info@careray.com; globalsales@careray.com.

CareRay U.S.A

#3-3001 Winchester Blvd.
Campbell, California, USA 95008
Tel: +1 604-343-3656

CARERAY
DIGITAL MEDICAL

CARERAY
DIGITAL MEDICAL

1500Cw 14” x17” wireless

Touch-n-Shoot Trigger Top

CareRay U.S.A. Inc. sales and tech support
Tel: 604-558-1388
E-mail: globalsales@careray.com
Address: #3 - 3001 Winchester Blvd.
Campbell, California, USA 95008

CareRay Digital Medical System Co. Ltd. headquarters
Tel: 86-512-8686 0288
E-mail: sales@careray.com
Address: 5th floor, BioBay B3, 218 Xinghu Street
Suzhou (SIP) Jiangsu, China 215123