AeroDR

- Light-weight(including battery)
  14″x17″: 2.9kg / 17″x17″: 3.6kg
- Energy Conservation Design:16hr Stand-by time

green products

KONICA MINOLTA

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KONICA MINOLTA

WIRELESS DIGITAL RADIOGRAPHY SYSTEM

AeroDR

Giving Shape to Ideas

This is the cassette DR
you've dreamed of・・・

WIRELESS DIGITAL RADIOGRAPHY SYSTEM

AeroDR

To achieve the high quality and good operability,
Konica Minolta's answer is AeroDR.

High Image Quality

Easy Workflow & Reliability

Light - weight & Durable

WIRELESS CASSETTE

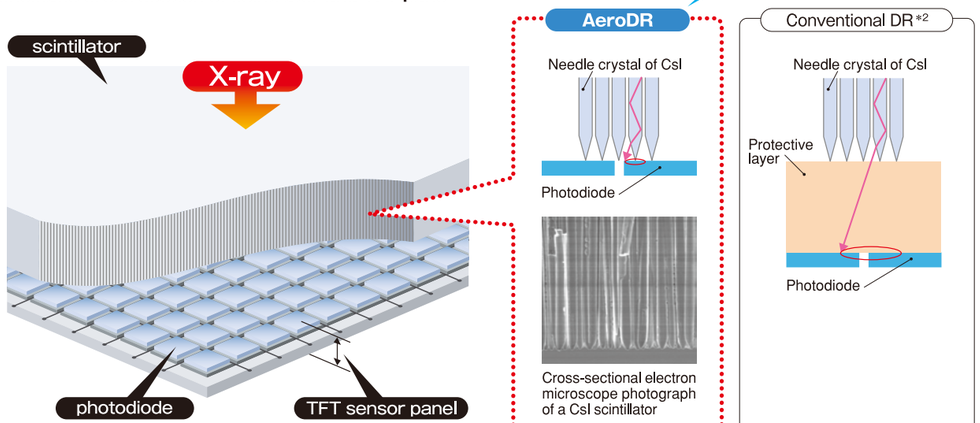
High Image Quality

Scintillator Direct-Contact Technology

We succeeded in creating a new technology whereby a CsI scintillator is made to contact directly over a TFT*1 sensor panel without any protective layer in between them. This technology has made it possible to guide the light emitted from the scintillator to the photodiode without causing the light to be dispersed at the interface with the TFT sensor.

Original CsI!

●Schematic cross section of scintilator and TFT-panel.



*1 TFT…Thin FilmTransistor *2 FlexDR C30

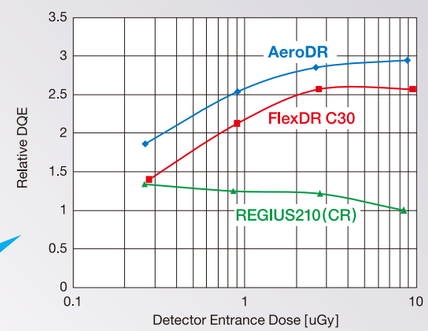
High Image Quality at Low X-ray Dose Comparing to CR

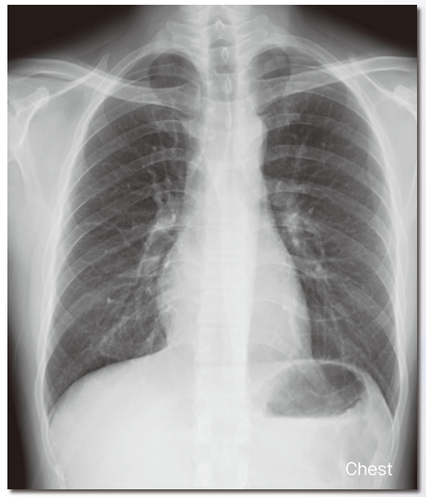
The optimal combination of the AeroDR detector using a Konica Minolta CsI scintillator combined with the newly developed low noise readout ICs delivers a high DQE*3.
At the same time, we achieved the wider dynamic range of DR comparable to CR. This means that in radiography of shoulder joints, for example, the AeroDR permits describing the skin line accurately even when the radiographic conditions change along the way.

*3 DQE…Detective Quantum Efficiency

High DQE!

●A High DQE





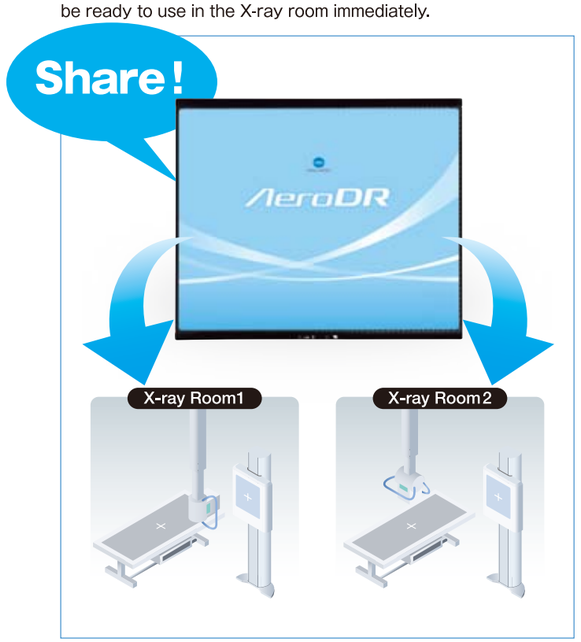
Easy Workflow & Reliability

Universal Solution for the Existing X-ray Room

The AeroDR detector is the same as an ISO 4090 compliant film cassette in size so that it will fit any existing wall-stand or table bucky tray.

Shared FPD Solution

AeroDR can be used anywhere with “the Shared FPD Solution”. As soon as AeroDR is registered to any X-ray room, AeroDR will be ready to use in the X-ray room immediately.



Integrated Control Station CS-7

CS-7 can control AeroDR detectors and connect to CR readers.*4

*4 Please contact your Konica Minolta sales representative regarding which devices can connect to CS-7.

Quick Preview and Smart GUI

After exposure, a preview image immediately appears on the display of the new CS-7 console in less than two seconds. The CS-7 has a user-friendly graphic interface adding new and powerful proprietary functions. GUI design can be modified to customer preferences flexibly, succeeding the conventional console design.

●Screen Sequence

List screen　Exposure screen　Image View

Power-saving Technology

Patient safety is of primary importance, therefore the lithium ion capacitor, the world newest technology, was adopted as a battery technology which has many advantages despite of demanding a lower power consuming panel design, which has been overcome by employing low power ICs and a power-saving control.

New Battery Technology Achieves Light-weight yet Rigid Body

The lithium ion capacitor has a charge and discharge cycle life that is tremendously longer than that of the lithium ion battery and does not markedly decrease in capacity even after it has continuously been used for many years. Therefore, it is possible to be built in to AeroDR and also friendly to the environment. In this case, the structure of the cassette case has become so simple that it is possible to significantly reduce the weight of the cassette and increase the mechanical strength of the cassette.

Reliable, Rapidly Rechargeable and Long-Life Battery

The lithium ion capacitor, which charges quickly in a battery charger or through a tethered connection, has a long charge and discharge cycle life that does not need to be replaced during the expected life cycle of the detector. If the capacitor gets exhausted in emergency, AeroDR gets over 10 images by the capacitor being recharged for only three minutes.

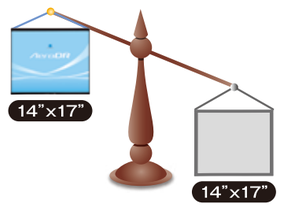
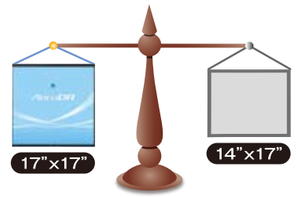
■Characteristics

Battery expected life time	Above the AeroDR detector product life time
Battery charging time empty to full	Within 30 minutes (when using the AeroDR Battery Charger) Within 60 minutes (when using the dedicated wired cable)
Number of exposable images	14"x17" : 200 images / 5.5 hours 17"x17" : 173 images / 4.8 hours *Under conditions that the interval between studies is five minutes and three images are captured in each study, assuming 20 seconds for each exposure to position a patient.

Light-weight & Durable

Light-weight Wireless FPD (14"x17" and 17"x17")

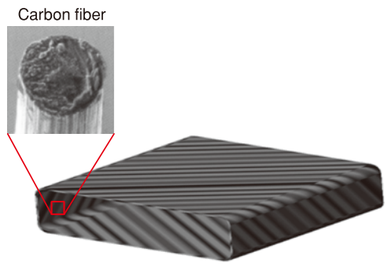
The AeroDR Detector is light-weight FPD weighing as little as 2.9kg(14" x 17"panel)/3.6kg(17"x17" panel) and supports wireless networking which transmits captured images to the console. Technologists can easily perform non bucky exams such as table top or cross table projections.

14"x17"	17"x17"
	
2.9kg(6.3lbs)	**3.6kg**(7.9lbs)

Durable Monocoque Structured Cassette

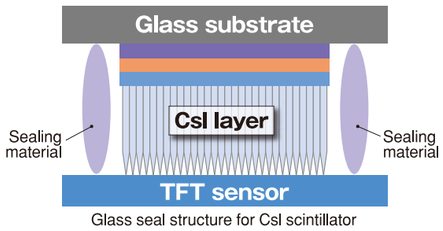
We adopted the "Monocoque case" to ensure trouble-free operation even under substantial shock or load. Since the battery is incorporated in the cassette (it need not be replaced), it is unnecessary to provide the case with a notch for battery replacement which reduces the rigidity of the case. Because of this, the cassette case that is appreciably light in weight has sufficient rigidity. Thanks in part to the buffer effect of the built-in battery, the load bearing performance of the cassette is the same as that of our CR cassette.

●Monocoque case made out of carbon fiber



Sealed and Protected Scintillator

In order to prevent the CsI crystal from being deformed by local concentration of external force, a double-glass structure in which the CsI scintillator glass plate and the TFT panel glass plate are overlapped and sealed together is adopted for AeroDR. The double-glass structure not only enhances the load-bearing performance but also prevents the scintillator edge from being deformed by a mechanical shock (e.g., fall or striking of the cassette) and the TFT sensor panel glass plate from being broken.



Glass seal structure for CsI scintillator

SPECIFICATIONS

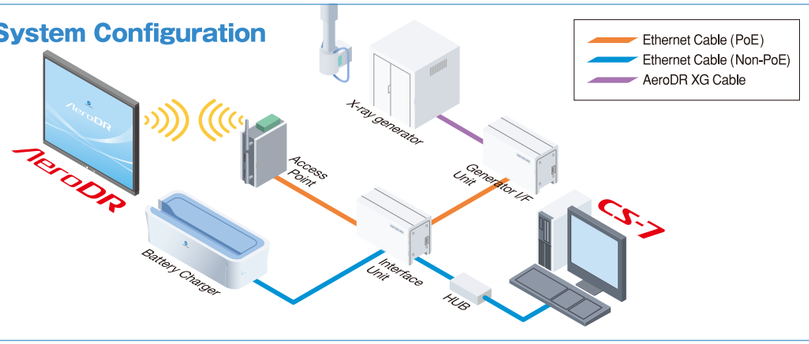
AeroDR

Wireless Digital radiography System AeroDR

Model name	AeroDR RP-11 (AeroDR 1417HQ) / AeroDR P-12 (AeroDR 1417S) / AeroDR RP-21 (AeroDR 1717HQ)
detetion method	Indirect conversion method
Scintillator	CsI (Cesium Iodide)
External dimensions (W×D×H)	AeroDR 1417HQ/AeroDR 1417S : 383.7×460.2×15.9mm　AeroDR 1717HQ : 459.8×460.2×15.9mm
Weight	AeroDR 1417HQ : 2.9kg / AeroDR 1417S : 2.8kg / AeroDR 1717HQ : 3.6kg
Pixel size	175μm
Image area size	AeroDR 1417HQ/AeroDR 1417S : 348.95×425.25mm (1,994×2,430pixcels) AeroDR 1717HQ : 424.9×424.9mm (2,428×2,428 pixcels)
AD conversion	16 bit(65,536 gradients)
Communication	Dedicated wired ethernet connection / Wireless LAN (IEEE 802.11a compliant)
W-LAN encryption	Wireless encryption method : AES / Authentification method : WPA2-PSK
Cycle time＊5	AeroDR 1417HQ/AeroDR 1417S : Approx.　8 seconds with dedicated wired connection Approx. 12 seconds with wireless LAN connection AeroDR 1717HQ : Approx.　8 seconds with dedicated wired connection Approx. 14 seconds with wireless LAN connection
Operating time＊6	AeroDR 1417HQ/AeroDR 1417S : 211 images / 5.8 hours AeroDR 1717HQ : 189 images / 5.2 hours *Under conditions that AeroDR system is connected to X-ray system and the interval between studies is five minutes and three images are captured in each study, assuming 20 seconds for each exposure to position a patient.
Battery charging time empty to full	AeroDR 1417HQ/AeroDR 1417S/AeroDR 1717HQ : Within 30minutes (When using the AeroDR Battery Charger) Within 60minutes (When using the AeroDR Battery Charger2) Within 60minutes (When using the dedicated wired cable)
Battery duration in standby status＊7	AeroDR 1417HQ/AeroDR 1417S : Approx.　16 hours AeroDR 1717HQ : Approx.　15 hours AeroDR 1012HQ : Approx. 7.6 hours
Battery expected life time	Same as the AeroDR panel life time
Recommended storage and usage environment condition	When operating　: 10 to 30℃ / 35 to 80% RH (ensure not water condensation) When not operating : -10 to 40℃ / 20 to 90% RH (ensure not water condensation) In storage/transport : -20 to 50℃*/ 20 to 90% RH (ensure no water condensation) *However, performance warranty period when storing at 50℃ is 6 months after packing.

＊5 Cycle time may be changed according to system configuration and operating condition.　＊6 Operating time is all performance after fully charged.
＊7 The discribed performance may be changed depending on the environment and frequency of use. (This is not guarantee of performance.)

AeroDR System Configuration



AeroDR Battery Charger

Power	100/110/115/120/200/230/240 VAC
Weight	7.2kg
External dimensions (W x D x H)	560 x 250 x 153mm

AeroDR Battery Charger2

Power	100/110/115/120/200/220/230/240 VAC
Weight	6.0kg
External dimensions (W x D x H)	474.2 x 200.0 x 206.7mm

Control Station CS-7

Image Processing		Automatic Gradation Processing (G Processing), Frequency Processing (F Processing) Equalization Processing (E Processing), Hybrid Processing (H Processing) Hybrid Smoth Processing (HS Processing)
Image Output		Host: Up to 4 channels/Printer : Up to 2 channels
DICOM Support		Basic Greyscale Print manegement(SCU), Storage(SCU), Modality Worklist manegement Modality Performed Procedure Step, Greyscale Standard Display Function(print output)
CR/DR Connections		AeroDR: Up to 4 simultaneous active detectors REGIUS 110, 110HQ*, 190, 210 : Up to 15 units　REGIUS Sigma : One unit *It is not available to connect in USA
Main Options	**Hardware options**	Bar-code Reader for REGIUS Cassette Registration, In-room Sub Monitor
	Software options	DICOM MWM/MPPS/DETACHED,FTP, DICOM Storage Output, DICOM Print, Media Storage and others. Please contact your Konica Minolta sales representative for more details.

*Specifications are subject to change without prior notice.