

# FDR D-EVO



## The digital EVOLution in cassette size format

Your wireless entry to the world of Digital Radiography

- ▶ Automatic x-ray detection ➡ no need for cable connection to the generator
- ▶ Compatible with all known x-ray room solutions
- ▶ Fujifilm's proprietary ISS-Technology generates highest DQE & MTF
- ▶ 1 second image preview
- ▶ Optimised Workflow

24 x 30

35 x 43

CsI

*C24i**C35i*

Crystal Structure of CsI

The Fujifilm FDR D-EVO C24i and FDR D-EVO C35i detectors use needle sharp Cesium Iodide (CsI) scintillators. This fine crystal structure works like a fibre optic cable to strictly limit the scatter of light within the detector structure itself. When combined with the Irradiation Side Sampling (ISS) technology developed by Fujifilm this allows for significant increases in DQE and MTF. As a result the dose level for Fujifilm CsI detectors can be further reduced from that required for other CsI panels without compromise to image quality or sharpness.

Fujifilm's CsI DR cassettes are available in both 24x30cm and 35x43cm formats and are identical in size to existing analog cassettes, ensuring seamless integration with existing department workflow.

The 24x30cm cassette is ideal for dose saving paediatric and neonatal examinations. This highly efficient DR panel can be easily inserted into most standard market incubators; allowing for low dose, low hassle examination of the most sensitive of patients.

### ► Technical Specifications for Cesium iodide panels

	FDR D-EVO C24i (24x30 cm)	FDR D-EVO C35i (35x43 cm)
<b>Model name</b>	Cassette size Flat panel detector with ISS & Smart Switch technology	
<b>Scintillator</b>	CsI (Cesium iodide)	
<b>Pixels/ pixelpitch</b>	1580 x 2010 / 150µm	2304 x 2880 / 150µm
<b>Cycle time</b>	approx 1sec./approx 8sec. (wired mode), 11sec. (wireless mode)	
<b>Wireless standard</b>	IEEE 802.11n, 5,2 GHz (only C24i / C35i)	
<b>Battery recharging time</b>	Approx. 3h	
<b>Detectors external size</b>	264x321x 14,8mm / 1,9kg	384x460x 14,8mm / 3,5kg

35 x 43

43 x 43

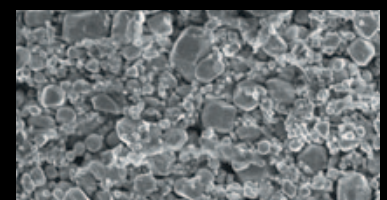
GOS

**G35i****G43i**

Fujifilm's FDR D-EVO G35i and FDR D-EVO G43i DR Cassettes use a powdered Gadolinium Oxysulfide (GOS) scintillator material. Like other D-Evo detectors, the G35i and G43i make use of ISS technology that allows the dose rate to be reduced while producing a higher DQE and MTF than other detectors of the same scintillator.

To further optimise the operation of its GOS detectors Fujifilm uses a very finely developed GOS scintillator structure. The unique combination of fine scintillator particles and narrow packing realises both high efficiency and high sharpness due to less scattered light. This patented coating technology ensures the highest possible output with the lowest margin of error.

Cassettes are available in 35x43cm and 43x43cm formats for optimization of your workflow. The larger, square cassette enables enhanced operability and multipurpose use without the need to reorient or remove the panel from the bucky tray. All DR cassettes can be used permanently in wired mode to ensure a non-interrupted workflow.



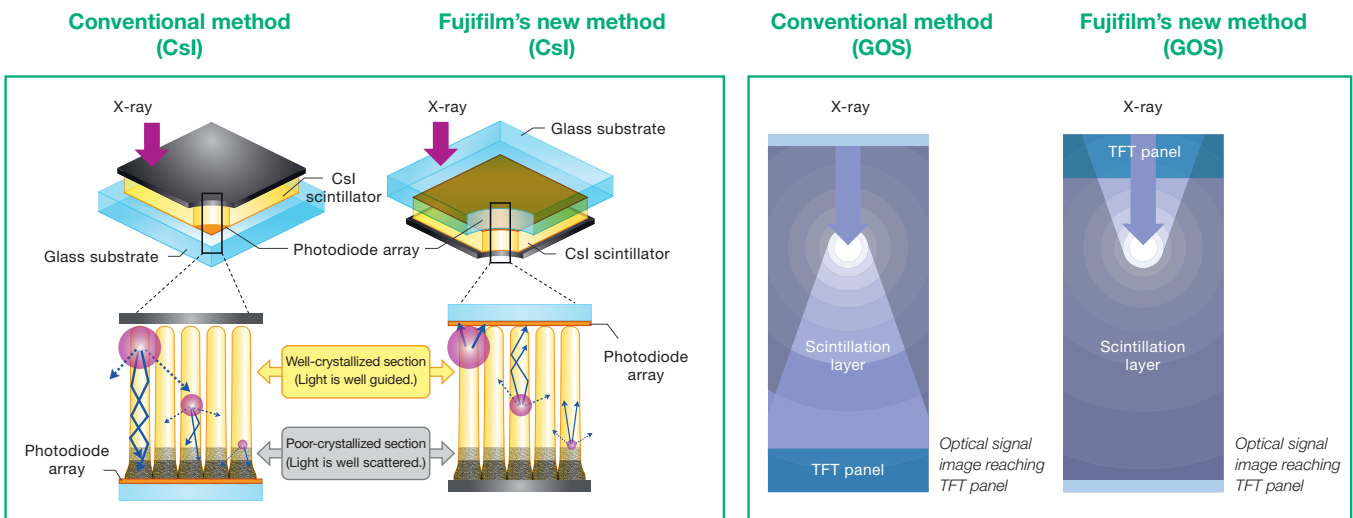
*Powder structure of Gadoliniumoxysulfide*

### ► Technical Specifications for Gadolinium Gadolinium Oxysulfide

	FDR D-EVO G35i (35x43 cm)	FDR D-EVO G43i (43x43 cm)
<b>Model name</b>	Cassette size Flat panel detector with ISS & Smart Switch technology	
<b>Scintillator</b>	GOS (Gadolinium Oxysulfide)	
<b>Pixels / pixelpitch</b>	2304 x 2880 / 150µm	2880 x 2880 / 150µm
<b>Cycle time</b>	approx 1sec./approx 8sec. (wired mode), 11sec. (wireless mode)	
<b>Wireless standard</b>	IEEE 802.11n, 5,2GHz (only G35i/G43i)	
<b>Battery performance</b>	Battery charging time Approx 3h	
<b>Detectors external size</b>	384 x 460 x 148 mm / 3,2kg	460 x 460 x 148 mm / 3,9kg

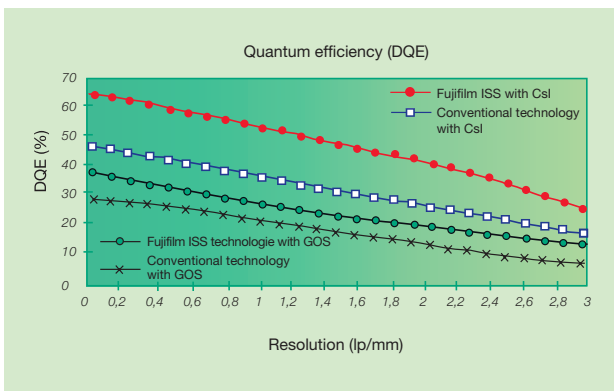
► Fujifilm’s ISS technology – for highest detector efficiency and outstanding low dose exams.

Irradiated Side Sampling (ISS) technology has been newly developed by Fujifilm and is used in all Fujifilm flat panel detectors (except Mammography). Information readout with these unique detectors is performed from the front side / irradiation side of the panel.

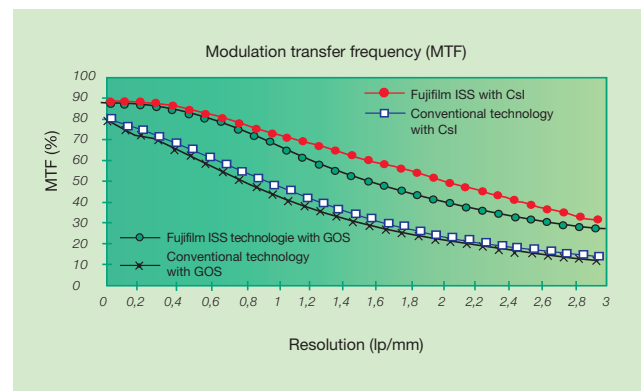


D-EVO Series: ISS Technology a novel approach which allows more precise examinations with greatly reduced burden on patients.

When using ISS technology the detector efficiency (DQE) is improved. Additionally, the sharpness of the detector as expressed in the modulation transfer function (MTF) is also increased. This unique sampling method also allows for the use of a thicker layer of scintillator material within the detector, further increasing the DQE whilst avoiding the usual compromise in MTF.



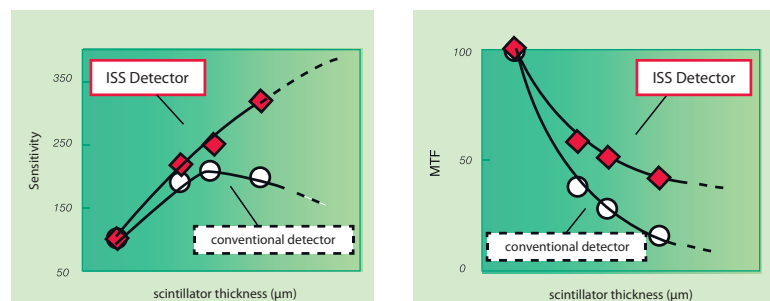
\*Measurements according to IEC62201-1 (RQA 5)



DQE (Quantum efficiency)\*

MTF (Modulation transfer frequency)

## Improved efficiency with a thicker scintillator layer



Sensitivity

MTF

Without ISS technology the thickness of the scintillator layer is limited due to decreases in image sharpness with a thicker scintillator.

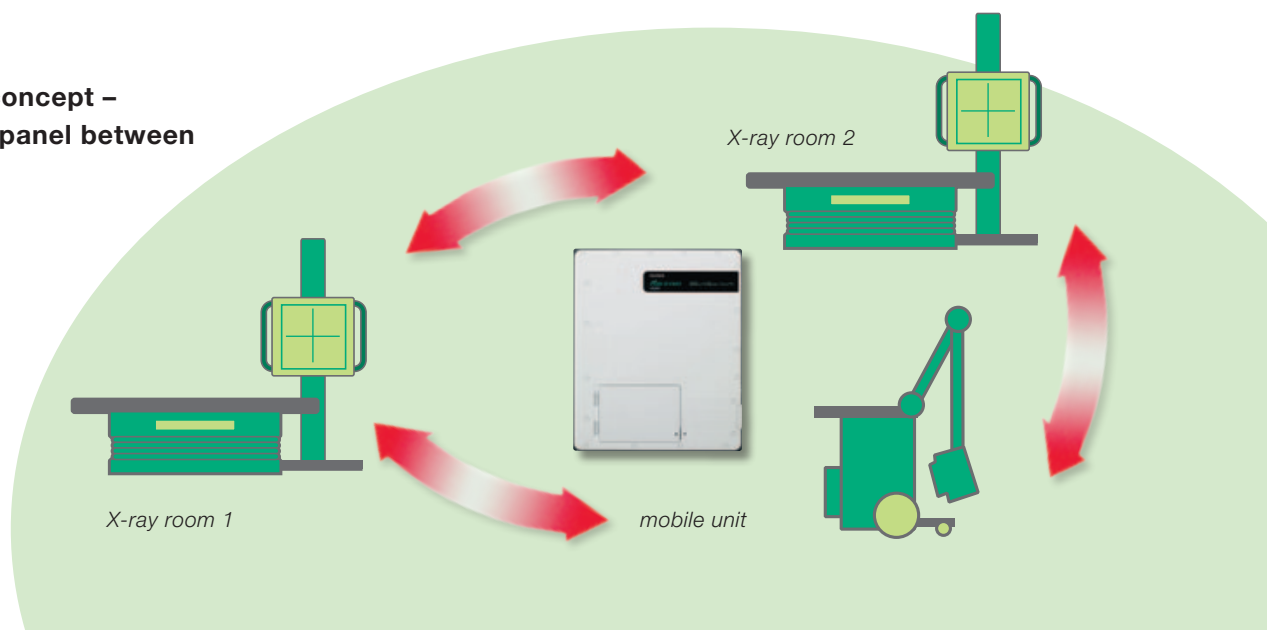
Flat panel detectors using ISS display a significantly higher MTF with increased scintillator thickness than detectors without this innovative technology. This allows Fujifilm Detectors to use a thicker, more dose effective, layer of scintillator material without compromising image sharpness.

- ▶ New Smart Switch technology – the worlds first flat panel which automatically detects x-rays without the need for any generator connection.

Your existing x-ray unit works with the FDR D-EVO flat panel just like with a film-screen or CR cassette. With Fujifilm's wireless DR flat panels there is no need for modification to the existing x-ray unit.

- ▶ CE certified
- ▶ No costs for adjustment of your x-ray unit
- ▶ No generator connection necessary
- ▶ Easy handling same as film screen or CR cassette
- ▶ No involvement of your X-ray manufacturer for system integration
- ▶ Convert your existing mobile system to DR with a Fujifilm DR flat panel

## Panel sharing concept – Share your flat panel between various rooms

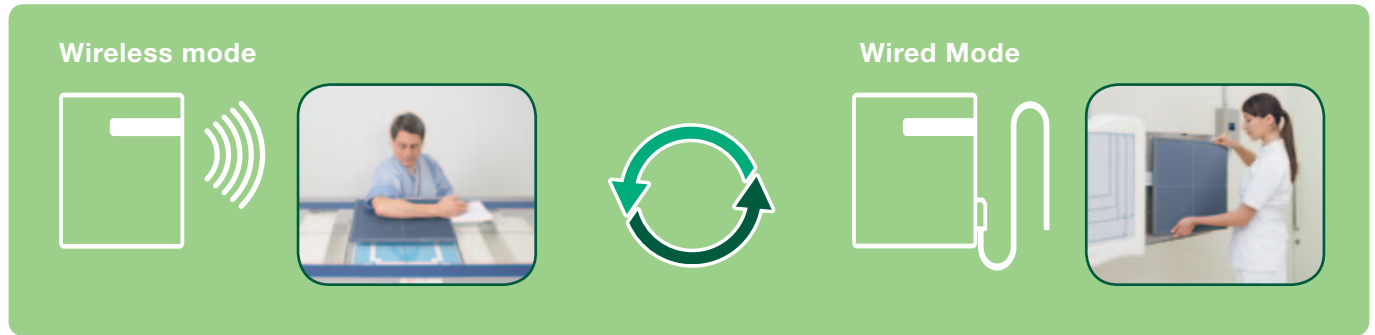




## ► Wireless

### Flexible as you need it – our panel sharing concept

Two selectable modes according to the examination environment



Wireless mode enables free positioning with easy handling. When used as a wireless portable cassette, table-top exposures are easily performed, allowing for flexibility in a wide range of clinical situations.

Easy and rapid switching between modes is available as required, depending on the examination type. The mode is automatically switched in only 1 second by detaching or attaching the cable.

### Battery Loading Options



### Mobile X-ray



Touchpad



Upgrade for mobile x-ray (FDR Go Flex)

*In addition to the various handling options of the D-Evo series, easy integration with your existing mobile x-ray system is possible. With the FDR Go Flex mobile kit, your analog mobile system can be upgraded to a DR mobile quickly and easily using the same detector that is used in your x-ray room.*

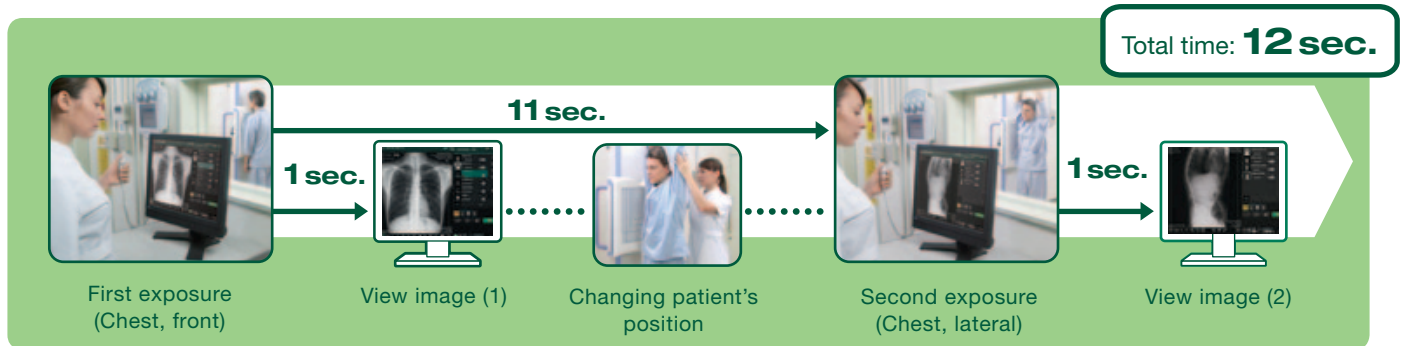
## ► Fast Imaging

### Auto-detection of the examination area and film sized trimming in combination with the 1 second preview image – your gonna like it!

Only 1 second after making an exposure a preview image will appear on the workstation console. After only a further 10 seconds the D-EVO flat panel is ready to take a second image. This amazingly fast cycle time will speed up the examination and shorten the time for both patients and employees, a clear benefit for all.



## Rapid display of images and automatic trimming ensure smooth examinations



## ► CONSOLE ADVANCE

The sophisticated design of the user interface contributes to the safe, comfortable and efficient performance of all radiographic examinations.

The familiar basic operation of the console now incorporates a redesigned GUI with an intuitive arrangement of operation buttons that enhances study workflow. The large image display area on the user interface enables easy checking of diagnostic images while the optional touch panel monitor ensures quick and accurate operation.

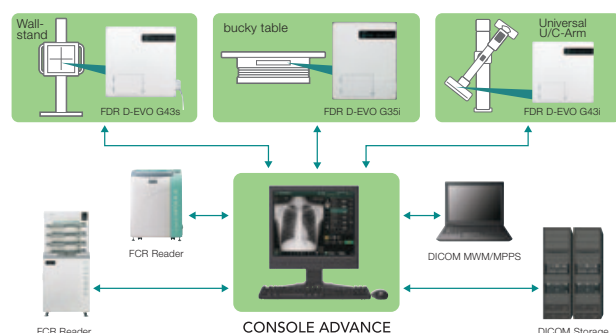
### Detector Selection

Connected CR readers and DR detectors are displayed using color coded buttons, enabling the radiographer to easily confirm the modality selected. By a simple press of a button, the modality can be changed quickly and accurately.

### Status display for D-EVO

The status of the connected detector can be confirmed at a glance with new display icons. When the D-EVO is used it is possible to confirm the charging level, predicted remaining battery life, status of WiFi connection etc.

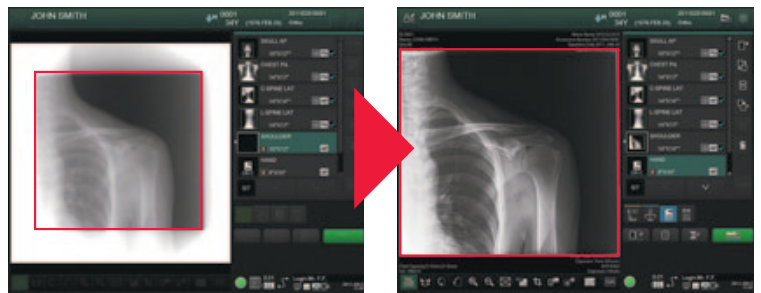
CONSOLE ADVANCE controls both the FDR D-EVO series and FCR, providing a consistent user interface.



- Multiple FDR D-EVO panels and FCR Readers can be connected simultaneously to one CONSOLE ADVANCE
- Multiple installed CONSOLE ADVANCE ensure backup capabilities
- New processing algorithms for DR and CR images ensure consistent results and easier image management from both image devices
- One-Click user friendly operation handling

### Automatic Trimming

The acquisition console automatically detects the irradiated field and crops the image to the correct size regardless of the panel size used



### Full Range Processing

To take advantage of the high dynamic range available with DR, Fujifilm has created new full spectrum image optimisation with dynamic range control processing. This new processing is designed to maintain the highest possible contrast within the area of interest thus achieving an even wider latitude than traditional processing and enhancing image interpretation.



Conventional Processing

FUJIFILM Processing

## ▶ FUJIFILM's D-EVO series offers a wide range of benefits:

- ▶ Automatic x-ray detection ➡ no need for direct generator cabling / calibration
- ▶ Compatible with all well known x-ray room solutions
- ▶ Fujifilm's ISS-Technology generates the highest DQE & MTF
- ▶ Fastest WLAN preview image on the market (1 sec)
- ▶ 11 second cycle time speeds-up your daily routine (8 sec in wired mode)
- ▶ Up to 750 images per battery
- ▶ Battery exchange on the fly
- ▶ Charging via battery station or wired connection
- ▶ Available in all sizes: 24 x 30 cm, 35 x 43 cm, 43 x 43 cm

Read more about our Medical Solutions: [www.fujifilm.eu](http://www.fujifilm.eu)

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