

X-FRAME DR EZ@

DR upgrade for analogue traditional
x-ray

Product Data



Cod. PDE-XEC Rev. 02

X-FRAME DR EZ@

X-FRAME DR EZ@ is the latest Italray product: it represents a highly flexible instrument in Digital Radiography that is mainly used as **DR upgrade for analogue traditional x-ray**.

This innovative system it is based on the cassette-size digital flat panel detector featuring amorphous Silicon (a-Si) technology with Caesium Iodide scintillator, that for its standard formats (ISO 4090) can be used inside traditional bucky and cassette-holder of every analogue x-ray rooms.

Built-in technology of these detectors permits wireless communication between flat panel and digital workstation, and battery power, by means a removable battery positioned inside the detector size, make installation of **X-FRAME DR EZ@** very easy in main existing radiological systems so that no physical connections are needed to set up this up-grade kit.

In a short, the main difference between **X-FRAME DR EZ@** and Digital Radiography systems is that while these ones require to pre-set accessories in order to hold/supply specific digital detectors, **X-FRAME DR EZ@** works with existing radiological environment without any hardware change.

Detector *autotriggering* mode synchronizes x-ray emission with acquisition beginning.

To prevent the patient from any undeserved x-ray exposition **X-FRAME DR EZ@** has a check system that trough the user interface communicates the operator when detector is ready to acquire data, in order to avoid exposure when detector is or not ready, or switched off, or with insufficient residual charge.

X-FRAME DR EZ@ system is composed as following:

- 1) Cassette-size wireless detector
- 2) **X-FRAME DR EZ@** digital workstation to display and process acquired images:
 - Computer with network board for connection with wi-fi access point
 - X-Frame DR software for image acquisition and management
 - User interface: LCD monitor, keyboard and mouse.

TECHNICAL SPECIFICATIONS			
DETECTOR MODELS (TRIXELL)			
FLAT PANEL DETECTOR	Pixium 3543 DR	Pixium 3543 EZ ^(*)	Pixium 2430 EZ ^(*)
Detector type	Portable wireless		
Technology	Amorphous silicon		
Scintillator	Gadolinium (GoS) / Cesium Iodide (CsI) ^(*)		
Format (ISO 4090)	35 x 43 cm		24 x 30 cm
Active detector matrix (Effective Pixel matrix)	2664x2156x16 bit	2880x2400 pixels	1560x1920 pixels
Image depth	16 bit		
Pixel pitch	160 µm	148 µm	
Detector Battery Indicator	Yes. Into the GUI		
Battery charging time	Max 4 hours		
Battery autonomy	Max. 8 hours		
Max.load capacity	Distributed: 150 kg	Distributed: 300 kg	
Typical DQE (@ 0lp and RQA5, per IEC 62220-1)	42% (GoS) - 70% (CsI)	44% (GoS) - 70% (CsI)	
Modulation Transfer Function (MTF)	@ 1 lp/mm: 49% (GoS) - 61% (CsI) @ Nyquist: 4% (GoS) - 13% (CsI)	@ 1 lp/mm: 54% (GoS) - 61% (CsI) @ Nyquist: 5% (GoS) - 10% (CsI)	
Image time	< 6 s (Preview: 2 s)	< 6 s (Preview: 1 s)	4 s (Preview: 1 s)
Spatial resolution	3,13 lp/mm	3,4 lp/mm	
Weight	3,1 kg (including battery)	2.8 kg (including battery)	1,6 kg
Communication interface	Wireless / Tethered ^(*)		
X-ray generator synchronization	X-ray push button – <i>Autotriggering</i> mode		
Internal memory	1 GB (approx. 50 images full resolution)		
Standard component	One detector One battery	One detector Two batteries One 3-slot battery charger	
Optional component	One 3-slot battery charger ^(*) One battery ^(*)	-	

(*) Optional

TECHNICAL SPECIFICATIONS	
DETECTOR MODELS (IRAY)	
FLAT PANEL DETECTOR	Mars 1717X^(*)
Detector type	Portable wireless
Technology	Amorphous silicon
Scintillator	Cesium Iodide (CsI)
Format (ISO 4090)	43x43 cm (17"x17")
Active detector matrix (Effective Pixel matrix)	4267 × 4267 pixels
AD conversion	16 bit
Pixel pitch	100 µm
Detector Battery Indicator and Charger	Yes, and charger for up to 2 batteries simultaneously
Battery charge duration	Max. 2,5 hours
Battery autonomy	Max. 8 hours
Max.load capacity	300 kg distributed weight
Typical DQE (@ 0lp and RQA5, per IEC 62220-1)	67%
Modulation Transfer Function (MTF)	@ 1 lp/mm: 68% @ 3 lp/mm: 21%
Image time	< 4 s
Spatial resolution	5 lp/mm
Trigger Mode	AED (optional) / Software
Waterproofness	IP56
Weight	3,4 kg (including battery)
Communication interface	Wifi / Tethered
X-ray generator synchronization	X-ray push button – <i>Autotriggering</i> mode

(*) Optional

TECHNICAL SPECIFICATIONS		
DETECTOR MODELS (IRAY)		
FLAT PANEL DETECTOR	Mars 1717V ^(*)	Mars 1417 ^(*)
Detector type	Portable wireless	
Technology	Amorphous silicon	
Scintillator	Cesium Iodide (CsI)	
Format (ISO 4090)	43x43 cm (17"x17")	35x43 cm (14"x17")
Active detector matrix (Effective Pixel matrix)	3072 x 3072 pixels	2304 x 2800 pixels
AD conversion	14 bit	14 bit
Pixel pitch	139 µm	150 µm
Detector Battery Indicator and Charger	Yes and charger for up to 2 batteries simultaneously	
Battery charge duration	Max. 2,5 hours	
Battery autonomy	Max. 5 hours	
Max.load capacity	100 kg	
Typical DQE (@ 0lp and RQA5, per IEC 62220-1)	52%	
Modulation Transfer Function (MTF)	@ 1 lp/mm: 60% @ 3 lp/mm: 15%	
Image time	5 s	
Spatial resolution	3,6 lp/mm	3,3 lp/mm
Weight	4,8 kg (including battery)	3,82 kg (including battery)
Communication interface	Wireless / Tethered	
X-ray generator synchronization	X-ray push button – <i>Autotriggering</i> mode	

(*) Optional

TECHNICAL SPECIFICATIONS

ACQUISITION WORKSTATION

HARDWARE

HDD	System hard disk: 64 GB Local archive for images: 1 TB
CPU	Intel® i5 Quad core processor at least
RAM	16 GByte
CD/DVD recorder ^(*)	Yes. External
Operating system	Windows 10 Embedded
UPS ^(*)	Yes
Image storage capacity	More than 62.000 images (full resolution).
Dimensions	13,6 x 11,5 x 5,5 cm

SOFTWARE

Image acquisition times	For diagnostic image: < 7 s (tethered) - < 10 s (wireless)
Image size	15 MB (12,5 MB typ.)
Image enhancement	Everest-X
Display functions	Patient and Exam Management, Image Flip/Mirror, R.O.I., Pan/Zoom, Window/Level, Automatic Window/Level, Annotations, Linear and angular measurements, Greyscale Inversion, Image Rotation, Electronic Collimators, Spatial Filters, Multi-Images Visualization
APR	YES, preconfigured and editable
Exposure Index	YES
Deviation Index	YES
Multi-language	English, Italian, Russian, French, ...

STANDARD MONITOR (optional)

Type	LCD colour 1,3 MP
Size	19"
Recommended resolution	1280x1024
Contrast	2000.1
Brightness	350 cd/m ²

^(*) Optional

TECHNICAL SPECIFICATIONS

NETWORKING

DICOM functions

DICOM Storage (SCU)	Yes. Send Image to PACS
DICOM Modality worklist (SCU)	Yes. Interface with HIS / RIS with auto refresh option
DICOM Print (SCU)	Yes. Covers the general cases of printing medical images in standardized layouts.
DICOM Media exchange (DICOM DIR)	Yes ^(*) . Patient images export to DVD/CD
DICOM MPPS (SCU)	Yes ^(*) . Send the status of exams to HIS / RIS
DICOM Storage commitment (SCU)	Yes ^(*) . Send commitment status
DICOM Verification (SCU)	Yes ^(*)
DICOM Query / Retrieve (SCU)	Yes ^(*) . Query and retrieve images from PACS
DICOM Structured Dose Report	To exchange structured data produced in the course of image acquisition or post-processing.

IHE Integration Profile

Scheduled Workflow	Acquisition Modality : Patient Based Worklist Query / Assisted Acquisition protocol Setting / PPS Exception Management
Patient Information Reconciliation	Acquisition Modality
Consistent Presentation of Image	Acquisition Modality
Radiation Exp. Monitoring	Acquisition Modality
Network*	2 x Gb LAN – 4 x USB 3.0
Access point	Data rate: 54/108Mbps. Standard: IEEE 802.11g , IEEE 802.11b, IEEE 802.11, IEEE 802.3, IEEE 802.3u Frequency: from 2.4 GHz to 2.4835 GHz.

REMOTE ASSISTANCE

Remote access	ITALRAY DR EZ@ Systems are equipped with a remote service system that allows ITALRAY service engineers to have access the system via remote network for servicing and upgrading purposes. The remote servicing system availability is subordinate upon the technical/policy characteristics of the local Hospital network.
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TECHNICAL SPECIFICATIONS		
INSTALLATION DATA		
Power supply	External adaptor 60 W 110/220 Vac IN, 12Vdc OUT;	
ENVIRONMENTAL CONDITIONS		
OPERATING	DIGITAL SYSTEM	WIRELESS DETECTOR
Temperature	+10 ÷ +40 °C	+18 ÷ +30 °C
Humidity	20 ÷ 80%	20 ÷ 80%
Atmospheric Pressure	700 mbar ÷ 1100 mbar	700 mbar ÷ 1100 mbar
TRANSPORT AND STORAGE	DIGITAL SYSTEM	WIRELESS DETECTOR
Temperature	-25 ÷ +70 °C	-10 ÷ +55 °C
Humidity	20 ÷ 80%	5 ÷ 95%
Atmospheric Pressure	500 mbar ÷ 1100 mbar	500 mbar ÷ 1100 mbar

INSTALLATION AND WARRANTY

INSTALLATION

Only authorized technical personnel that has been appropriately trained by ITALRAY can install X-FRAME DR EZ@. Upon request, ITALRAY Installation Office can prepare system installation layouts (including eventual construction/electrical).

WARRANTY

ITALRAY guarantees its products for one year from the delivery date. ITALRAY can offer to its customers a wide range of service plans that will perfectly fit all needs and preferences.

ITALRAY reserves the right to make modifications without any prior notice.



Via Del Parlamento Europeo 9/D 50018 Scandicci
Firenze
Tel. +39/055/7228511 fax. +39/055/7228512

info@italray.it
italray.it