italray
Your X-ray Solution

	X-FRAME DR EZ@	
	DR upgrade for analogue traditional x-ray	Product Data

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 and a Gadolinium (Gadox) scintillator (option: 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.

X-FRAME DR EZ@

MAIN CARACHTERISTICS

VERY SMALL AND COMPACT PC FOR EASY INSTALLATION ON CONTROL ROOM DESK

The small fanless computer is easily installed on the working desk. In this way all of its ports (USB, LAN) are accessible for cable connections, and it results in a digital workstation with minimum size.

X-FRAME DR INTUITIVE USER INTERFACE

X-FRAME DR GUI provides an easy and intuitive access to any available feature through its large icons, on the lateral toolbar
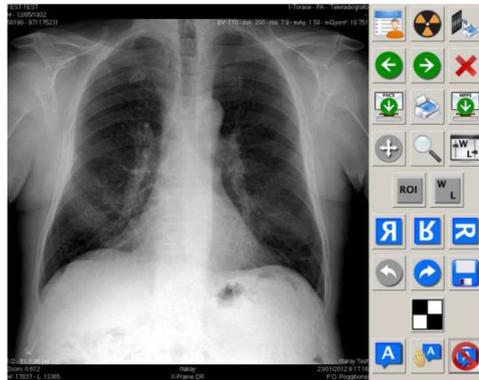
CASSETTE-SIZE DIGITAL FLAT PANEL WITH EXTERNAL BATTERY CHARGER

The portable digital flat panel detector featuring amorphous Silicon (a-Si) technology is battery powered and extremely light weight.

It employs wireless image data transmission, thus freeing the room from cumbersome and risky cables.

X-FRAME DR EZ@

TECHNICAL SPECIFICATIONS			
DIGITAL IMAGING SYSTEM			
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 – *Autotriggering* 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

X-FRAME DR EZ@

TECHNICAL SPECIFICATIONS

DIGITAL IMAGING SYSTEM

FLAT PANEL DETECTOR	Mars 1717(*)	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	16 bit	16 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 – *Autotriggering* mode	

(*) Optional

X-FRAME DR EZ@

<table>
<tr><td colspan="2" style="background:#2e5c9e;color:#fff">TECHNICAL SPECIFICATIONS</td></tr>
<tr><td colspan="2">ACQUISITION WORKSTATION</td></tr>
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HARDWARE

HDD	System hard disk: 64 GB Local archive for images: 1 TB
CPU	Intel®
RAM	4 GB
CD/DVD recorder[*]	Yes. External
Operating system	Windows 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: < 5 s (tethered) - < 7 s (wireless) For preview image: 3 s
Image size	15 MB (12,5 MB typ.)
Image enhancement	Everest-X
Display functions	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

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 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.

X-FRAME DR EZ@

TECHNICAL SPECIFICATIONS

INSTALLATION DATA

Power supply	External adaptor 60 W 110/220 Vac IN, 12Vdc OUT;

ENVIRONMENTAL CONDITIONS

OPERATING	DIGITAL SYSTEM	WIRELESS DETECTOR
Temperature Humidity Atmospheric Pressure	+10 ÷ +40 °C 20 ÷ 80% 700 mbar ÷ 1100 mbar	+18 ÷ +30 °C 20 ÷ 80% 700 mbar ÷ 1100 mbar
TRANSPORT AND STORAGE	DIGITAL SYSTEM	WIRELESS DETECTOR
Temperature Humidity Atmospheric Pressure	-25 ÷ +70 °C 20 ÷ 80% 500 mbar ÷ 1100 mbar	-10 ÷ +55 °C 5 ÷ 95% 500 mbar ÷ 1100 mbar

ACCESSORIES

GRID DETECTOR HOLDER

A stable and simple designed support with handle to carry detector and grids whenever requested. This light weighted devices guarantees for quick-locking, easy handling and movement and anti-scratch and safety-hold for its reinforced borders.
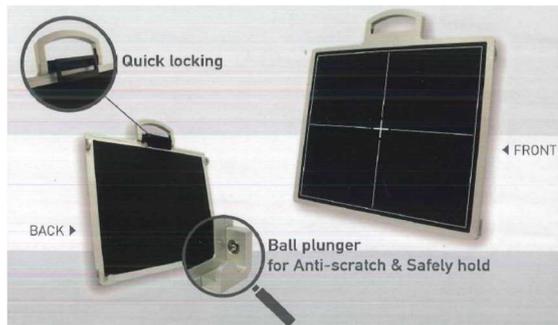
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