



# The DR system in a suitcase for mobile X-ray



total weight  
only ca.  
**22 kg**

The portable DR system for mobile X-ray

*Practice-oriented robust solution for mobile X-ray*

OR Technology has been active in the fields of digital X-ray technology and image management for human and veterinary medicine for over 15 years. Big medical practices, clinics and hospitals as well as in smaller practices in more than 36 countries are using our solutions with great success.

## LEONARDO DR 4336R - portable digital X-ray system with outstanding features

The compact suitcase solution **Leonardo DR 4336R** is a fast and space saving alternative for ambulant digital radiography.

The handy, robust suitcase made out of shock proof materials, is easy to handle and transport with its extendable handle and the integrated wheels. It also offers the option to integrate a fold-out table.

An integrated 17" notebook with a very high resolution guarantees a qualitative good image viewing. The software offers numerous image processing functions.

The integrated and robust 4336R flat panel detector is suitable for rapid mobile radiography systems. The detector only weighs 3.6 kg and is based on the new Gigabit-Ethernet-Interface. The images are displayed on the work station within seconds.



### Areas of application:

- Ambulant departments in hospitals
- Intensive care units
- Rapid response medical vehicles
- Technical relief agency
- Military medical services
- Aid organisations
- Medical facilities on ships and oil rigs
- Medical facilities at mining companies (coal, diamonds)

# Professional software for image acquisition and diagnostic:

- Can be used intuitively - developed in cooperation with acknowledged specialists in the area of human medicine
- Image acquisition, work flow and diagnosis within one software
- Automatic display of recommended X-ray data (KVp, mAs etc.) for every image - depending on the X-ray equipment used
- Over- or underexposure are adjusted automatically
- Option to capture frequently repeated examination processes as makros, e.g. pre-purchase examinations
- Retake mode to repeat an image without interrupting the work flow
- Integrated radiographic positioning guide for correct preparation of each examination
- Outstanding image quality due to the special **dicomPACS®DX-R** image filter technology for each examination
- Easy adaptation of the image filters to the specific viewing habits of different doctors
- Option to suppress grid lines
- Integrated professional diagnostic software **dicomPACS®** - tried and tested on over 5,000 workstations worldwide
- Extensive measuring functions, including specialised orthopaedic measuring tools
- Compilation of patient CDs
- Extensive archiving and search functions
- Synchronisation with other databases
- Integrated remote maintenance software
- Option to integrate the **dicomPACS®** web server for image distribution via the internet
- Full DICOM 3.0 functionality for integration with other PACS systems
- Option to upgrade to PACS, incl. connection of all modalities (DICOM or non-DICOM) e.g. MRI, CT, NUK, arthroscopy, endoscopy, ultrasound etc.

## The suitcase:

- **Very small** and robust thanks to special developed materials and excellent workmanship
- **Easy to transport**
- **Very light** - only 22 kg incl. flat panel, notebook and cables
- **Highest possible resolution** and diagnostic image quality by the large 17" display (at least 1,600 x 1,200 pixel)
- **Very quick** - only approx. 4 to 5 seconds wait for the image and just approx. 2 seconds before the next exposure can be taken



## Leonardo DR 4336R operation:

For this solution, the images are received by so called flat panels. The systems are called DR (direct radiography) systems. The flat panels are usually connected to the computer (notebook) by cable.

All necessary components, cables included, are housed in a sturdy, compact case. Open up - switch on - ready!

A range of DR detectors of various sizes are available for various needs, and can be integrated in the case system as required for the application in question.

Such a compact system enables you to quickly create excellent images in DICOM format, as well as to process and archive them.

You will save time, space and money; repeat visits to the patient are avoided; the system operates under almost all conditions and is nearly maintenance free.

*A number of different DR detectors in various sizes are available for different requirements, which can be integrated into the suitcase solution as required.*

*For more detailed information please visit [www.or-technology.com](http://www.or-technology.com) or please feel free to contact us by [info@or-technology.com](mailto:info@or-technology.com)*

## Dimensions:

Open:



Closed:





# Leonardo DR 4336R

With *dicomPACS<sup>®</sup> DX-R Software*  
Portable X-ray Systems for the Future

## Construction of **Leonardo** DR 4336R system



1.

The pull-out trolley handle allows easy transport from vehicle to treatment site.



2.

To set up the system, push in the trolley handle and lay the case on the ground.



3.

All the components, i.e. detector, laptop, cable etc. are neatly arranged in the case and at hand for immediate use.



4.

Network cable, connection for power supply and remote control are integrated with a special restraint system which prevents them from slipping and sliding.



5.

Just switch on the laptop, connect the detector with the X-ray unit and start making exposures.



Compartment for mouse and cables

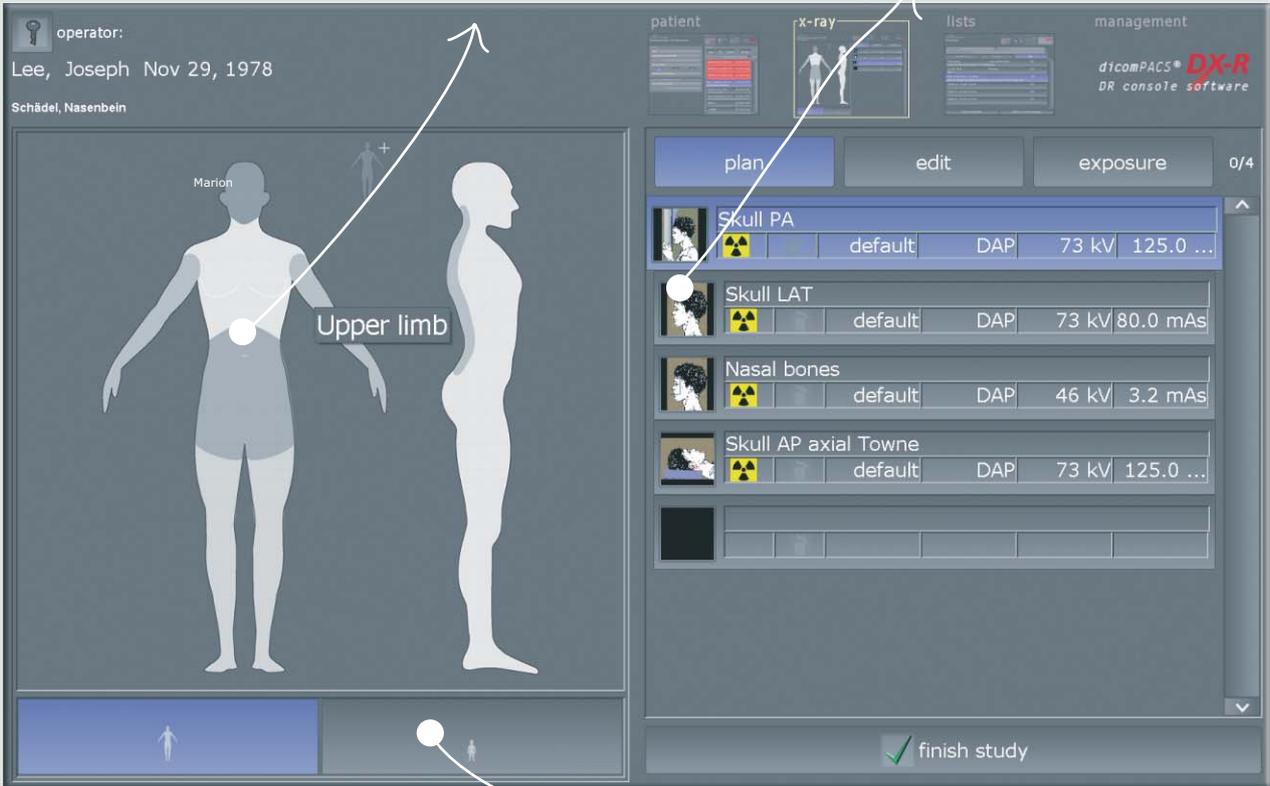


Compartment for patient CDs and general on-off switch

# Screenshots

*Chart for the planning of an individual X-ray job*

*The correct settings for adults and children at a mouse click*



dicomPACS® DX-R job creation

*Switch to the planning of X-ray jobs for children*



dicomPACS® DX-R - preview of the X-ray image and worklist

*Preview of the current X-ray image*

# Screenshots

*Presentation of helpful hints for the positioning of the patient, central beam, tips and tricks, frequent errors etc.*

*Video with sound for the step by step positioning of the patient*

*Shows an example of a correct X-ray image*

**Foot LAT supine**  
Positioning and centering

Material: 24/30, S 200 (400), appropriate side marker, lead apron, weights cassette/detector  
 Bucky: 45-52 kV  
 Exp. EU: 42-46 kV  
 Speed class: S200  
 Format: 24/30 or 18/24  
 TFD (=FFD, =SID) EU: 105 cm  
 TFD (=FFD, =SID) CH: 120 cm  
 TFD (=FFD, =SID) USA/UK: 100 cm  
 TFD (=FFD, =SID) WHO: 130 cm  
 Grid: no  
 Filter: no  
 Measuring chamber:    
 Focus: small

**Positioning, Errors, Further Information**

**Patient position:** The patient is half recumbent, the lateral foot contacts the film, the plantar surface is perpendicular to the film. Use weights if needed. To localize foreign bodies, mark the site of entry (put a paperclip or a pen onto the cassette).

**Central ray:** Perpendicular to the base of the first metatarsal and the center of the film.

dicomPACS® DX-R radiographic positioning guide

*Opens examples of inaccurate X-ray images with comments*

operator: Steve Miller  
 Seagal, Isabella Sep 23, 1994  
 Toes dp + Hallux ap + lat (left hand)

Stadler Bx Series FFD: 105 cm Filter recommended

46 kV 5 ms 3.2 mAs

without plaster

Last sensor calibration: 8:52 AM Calibration

| exam           | plan | edit    | exposure          |
|----------------|------|---------|-------------------|
| Toes DP        | 1    | default | DAP 46 kV 2.5 mAs |
| wrong position |      | default | DAP 46 kV 2.5 mAs |
| Hallux AP      |      | default | DAP 46 kV 3.2 mAs |
| Hallux LAT     |      | default | DAP 46 kV 3.2 mAs |
| Forefoot DP    |      | default | DAP 46 kV 3.2 mAs |
| Ankle AP       |      | default | DAP 52 kV 4.0 mAs |
| Ankle LAT      |      | default | DAP 52 kV 3.2 mAs |

finish study

dicomPACS® DX-R generator control

*The generator panel displays all values and settings (kVp, mAs, focus etc.) recommended for a specific examination*

# Specifications



## Flat panel

|                                 |  |
|---------------------------------|--|
| <b>Type:</b>                    | Varian PaxScan 4336R flat panel detektor             |
| <b>Pixel area:</b>              | 42.7 x 35.6 cm (16.8 x 14.0 inch)                    |
| <b>Pixel Size/ Pixel Pitch:</b> | 139 $\mu\text{m}^2$                                  |
| <b>Matrix/ Pixels:</b>          | 3,072 x 2,560  |
| <b>Method/ Receptor Type:</b>   | Amorphous Silicon with Charge Well Pixel™ technology |
| <b>Dimensions:</b>              | 46.0 x 38.4 x 1.5 cm (18.1 x 15.1 x 0.6 inch)        |
| <b>Weight:</b>                  | 3.6 kg   |



## 17" Laptop

|                           |   |
|---------------------------|---|
| <b>Operating system:</b>  | Windows XP Pro Sp2 or higher  |
| <b>CPU:</b>               | At least Core Duo 2,4 GHz   |
| <b>Main storage:</b>      | 2048 MB DDR2 SDRAM  |
| <b>Graphics card:</b>     | NVIDIA® Quadro® FX 2700M onboard or comparably  |
| <b>Hard drive:</b>        | At least 250 GB SATA (7.200 rpm)  |
| <b>Optical device:</b>    | Fixed Internal 8x DVD+/-RW Drive  |
| <b>Battery:</b>           | 9 cell 80 Wh LI-ION primary battery for an especially long battery life   |
| <b>Display:</b>           | 17" UltraSharp display 1,920 x 1,200 Pixel (3 Megapixel)  |
| <b>Network connection</b> | WLAN Internal Wireless  |
| <b>Service:</b>           | 3 years NBD International (Next Business Day)<br>Onsite by DELL and telephone support by DELL<br>above the agreed period through 1 year CAR<br>(Collect and Return) |

## Extensive software package included

- **dicomPACS® DX-R Console Software**  
The package includes the console software, an interface for one flat panel, organ specific image processing, a Diagnostic Module Standard and the multimedia radiographic positioning guide
- **dicomPACS® DX-R DICOM Patient CD**  
Creates patient CDs, which include DICOM DIR structure and a viewer (free of charge)
- **dicomPACS® DX-R DICOM Send SCU**  
Automatic distribution of images to one DICOM recipient, e.g. PACS
- **Remote maintenance software**



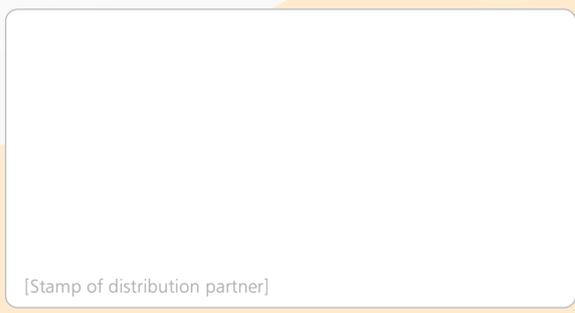
**Specifications subject to revision without notice**

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