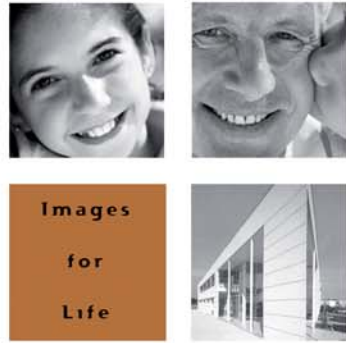




# LEXXOS DR

DIGITAL 2D BONE DENSITOMETER

Images  
for  
Life



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Diagnostic Medical Systems

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Discover the

# LEXXOS DR

and go beyond bone densitometry.



THE BEST RESOLUTION  
EVER OBTAINED ON  
A BONE DENSITOMETER  
  
127  $\mu\text{m}$



# LEXXOS DR

DIGITAL 2D BONE DENSITOMETER

## The LEXXOS becomes the LEXXOS DR, a multi-purpose bone health solution

The LEXXOS DR is a bi-dimensional bone densitometer that features cutting edge technology and represents real progress in the diagnostic of osteoporosis.

Today, DMS broadens it's horizons beyond bone densitometry and reveals the LEXXOS DR which offers 2 exam modes: the BMD Mode and the Image Mode.

The LEXXOS DR permits an image resolution of 254  $\mu\text{m}$  for relevant sites in BMD Mode, confirming once again that it is the most performant BMD device on the market. Furthermore, the Image Mode, made possible by a new flat panel digital detector, provides access to high resolution images (127  $\mu\text{m}$ ) for sites such as the knee, elbow, shoulder, etc.

### DIGITAL FLASH BEAM, STILL THE HIGHEST TECHNOLOGY IN BONE ASSESSMENT

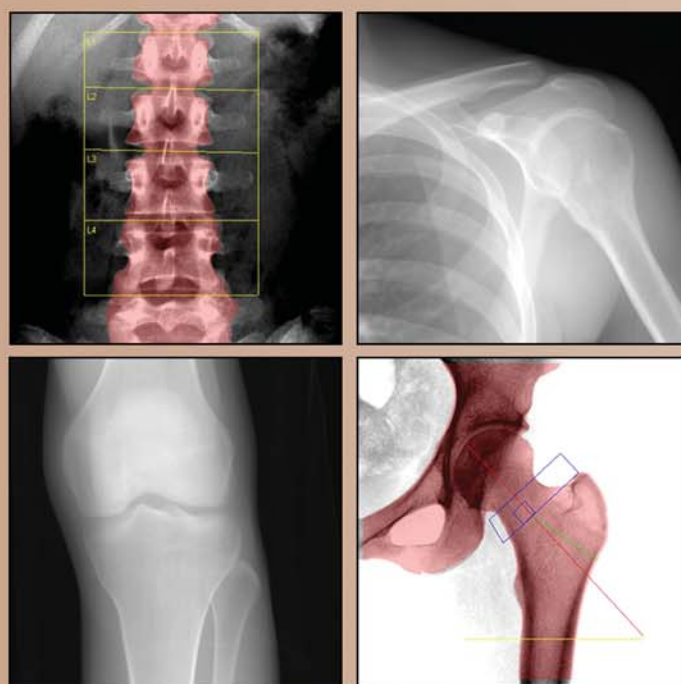
The Digital Flash Beam Technology is the result of a prestigious collaboration between DMS and the CEA Leti, an internationally renowned laboratory in the medical imaging field. In only 1.5 seconds, the patented technology Digital Flash Beam (DFB) allows for accurate bi-dimensional density measurements, as well as high quality isotropic images for qualification of the bone structure.

### Image Mode

"Resolution of 254  $\mu\text{m}$  in BMD Mode & 127  $\mu\text{m}$  in Image Mode"

### EASY SWITCH FROM BMD TO IMAGE MODE

Switching from BMD to Image Mode can be done with the simple click of a button.



### BMD Mode



"The quickest high resolution multisite examination time: 1.5 sec/site"



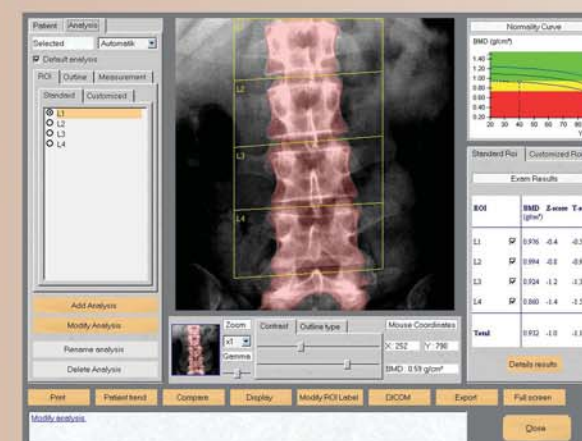
Flash Vertebral Assessment

### FLASH VERTEBRAL ASSESSMENT (FVA)

The LEXXOS DR's FVA is a low dose, high resolution lateral image of the spine, which enables an accurate diagnosis of vertebral fracture risk, by complementing the densitometric results.

Due to the unequalled image resolution of 254  $\mu\text{m}$ , the smallest vertebral deformation or compression is precisely diagnosed, measured (morphometric capabilities) and classified, using the visual method by H.K. Genant.

### MORPHOMETRIC TOOLS AND PERSONALISED ROI



The exclusive software featured on the LEXXOS DR permits each practitioner to personalise the Region Of Interest (ROI), by giving an optimised bone assessment of the scanned region.

Accurate morphometric tools combined with high image quality, give access to qualitative and quantitative bone information - such as bone length, hip length axis, area or angle measure, for any prediction site.

The flexibility of the options included on the LEXXOS DR's software, guarantees ease of use and the most thorough assessment possible.

**The LEXXOS DR establishes itself as the most advanced solution for bone densitometry and beyond.**



## X-RAY GENERATOR

- Pulsed X generator
- Outlet energy: 70 and 140 kV

## DETECTOR

- Flat panel digital detector 20 x 20 cm
- Image mode pixel pitch: 127 µm
- Bone Mineral Density mode: 254 µm

## ACQUISITION METHOD

- DFB® methodology (Digital Flash Beam®)
- X-ray Bi-dimensional cone beam with no mechanical movements during multisite examinations.
- X, Y arm motorisation during whole body examination
- Innovative Patented Reconstruction Image Method (PRIME) from the CEA/Leti for Whole Body / FVA

## ACQUISITION WINDOW

- Multisite (h x w): 20 x 20 cm - no scan required
- Whole body (h x w): 200 x 65 cm using PRIME
- Isotropic image with no magnification

## DOSE

- Patient dose: hip and spine: < 10 µSv
- Patient dosage by organ
- Operator dosage: < 1m from beam: negligible
- Dosage adapted to the patient morphology

## EQUIPMENT FOR EXTERNAL PROTECTION

Not required

## RESULTS

- Measured parameters:
  - Multisite:*
  - Bone Mineral Density (BMD)
  - Bone Mineral Content (BMC)

Standardized Bone Mineral Density (BMDs)

T-score, Z-score

*Whole body:*

Total Bone Mineral Density (BMDt)

Local Bone Mineral Density (BMDL)

Area

Body Composition:

Fat mass, Meager mass, Calcic mass

Overall body composition

Regional body composition

Color mapping (or black & white)

- Quantitative morphometry (areas, lengths, angles)

- Reference data:

Caucasian, Asian, South American, N-Hanes III databases...

Creation of personal reference databases

## 'IN VIVO' REPRODUCIBILITY

- in vitro CV<0,5%

## ACQUISITION TIME

- Multisite:

Spine, hip, forearm: 1.5 sec.

HFC (Hip Flash Comparison): 7 sec. (no scan)

FVA (Flash Vertebral Assessment): 30 sec. (PRIME)

Whole body: 3 min. (PRIME)

## QUALITY CONTROL

- In-factory digital calibration

- Automatic quality control

- Trend graph

- Quality assurance bi-material phantoms

## LANGUAGE

French, English, German, Italian, Spanish

Other languages can be integrated upon request



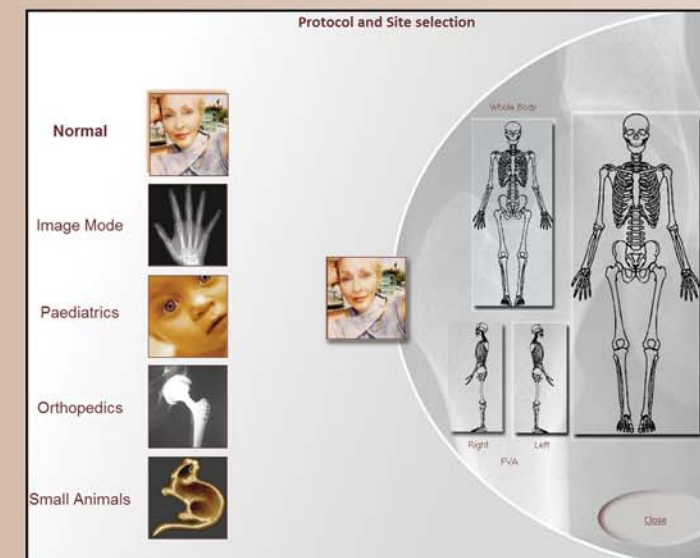
New user-friendly software configuration

## STANDARD CONFIGURATION

- Microsoft Windows 2000 or XP
- DICOM networking compatible
- Evolutionary software
- Help menu

## SOFTWARE OPTIONS

- FVA (Flash Vertebral Assessment)
- Pediatrics (spine, hip, FVA, whole body, hand)
- Orthopedics (hip, knee, lateral knee, elbow, shoulder, spine, forearm, hand, feet)
- Image Mode: Single energy mode images of 127 µm for peripheral sites.
- Worklist
- Small animals (whole body)



Protocol and site selection

## EQUIPMENT FOR INSTALLATION

- Patient stand: Examination table
- Dimensions: (h x w): 240 x 80 cm
- Information processing and result display:
  - Computerized information processing
  - Display of results and images (color or B/W)
  - Detailed color report printout
- Printer:
  - Professional HP Deskjet
  - Windows 2000 or XP compatible printers
- Necessary equipment for calibration and quality control
- Bi-material phantom

## APPLICATION FIELDS

- Radiology
- Orthopedics
- Rhumatology

## IMAGE STORAGE CAPACITY

Storage on CD writer, DVD Writer HDD,  
5 Mb per multisite exam (ex: 24 000 exams can be stored on a 120 Gb HDD.)

## COMPUTER ENVIRONMENT

- PC (minimum requirement) :

P4: 2,4 GB

Ram: 256 MB DDR

Hard Disk: 80 GB

- Peripheral

Monitor

15" flat screen or 17" normal

Resolution: 1024 x 768 or more

CD Rom drive for updating software

Hard disk, CD-R or DVD-R writer and removable disk (optional) for data storage

The computer selection will depend on the market evolution.

## COMMUNICATION SYSTEM

- Telemaintenance (option)
- DICOM format with Send Class, Print Class, Worklist Class, Storage Class, RIS/HIS (options)
- Export and print images on dry imager
- Touch screen (option)



Patient report

## SYSTEM ENVIRONMENT (or installation constraints)

- Electric supply:
  - 100/110 V - 20 A
  - 220/240 V - 10 A
  - Fq: 50/60 Hz
- Temperature of utilisation: 18° - 30°C (64 - 86° F)
- Humidity: 20% - 80% (non condensing)
- Radioprotection: does not require any external shielding
- Storage conditions:
  - Temperature: 10° - 50° C (50° - 122° F)
  - Humidity: 10% - 90% (non condensing)
- Ground dimensions: (h x w) 260 x 130 cm
- Weight: 380 kg