Lunar Prodigy Advance
Direct-Digital Densitometry
Your practice needs to
A partnership is a journey - expertise, support and leadership determine a successful destination. Partnering with GE Healthcare ensures access to the latest advancements in densitometry science, backed by the largest service and support network, from the #1 company in bone densitometry and medical diagnostics.

You and GE Healthcare will plot a path of precision by detecting bone loss quicker and determining response to therapy sooner than on any other system. The road to diagnostic confidence will be clear with the new Lunar Prodigy Advance™.

You will ascend to greater heights of efficiency with reporting and connectivity options to automate your exams, streamline your workflow, and maximize staff as well as patient satisfaction.

And for those challenging cases, GE Healthcare leads the way in advanced technologies to enhance your diagnostic power. We provide the only comprehensive solution for accurately and rapidly assessing total body bone and tissue composition, dual-energy vertebral assessment, advanced hip assessment, pediatric evaluations, and biomechanical measurements.

GE Healthcare . . . Smarter, Faster, Better.
Unmatched Precision
Patient BMD changes slowly and smaller precision errors lead to shorter patient monitoring intervals. Prodigy has been shown to have up to 40% better clinical precision when compared to competing systems.* Lunar Prodigy Advance enables clinicians to monitor therapy in the shortest interval possible.

Direct Digital
Lunar Prodigy Advance utilizes the industry's first direct-digital detector array. Direct x-ray conversion delivers high-resolution and rapid imaging in seconds, at a fraction of the dose of scintillating detector fan beam technologies.

enCORE Software
Prodigy enCORE software, based on the Windows® platform, optimizes productivity with automation breakthroughs that save time and ensure consistent results.

TruView™ Image Reconstruction
TruView image reconstruction eliminates the inherent magnification and distortion effects of wide fan-beam densitometry. Area and BMC of the bone is determined automatically in patients, ensuring accurate and precise BMD measurements, including geometric dimensions necessary for Hip Strength Analysis predictors and Hip Axis Length.
Connectivity and efficiency

**TeleDensitometry™**
The TeleDensitometry option allows the Lunar Prodigy Advance to connect to existing computer networks or phone lines for the purposes of sending DXA reports via email or via FAX direct from the densitometer.

**MUDBA**
The Multi-User Database option allows multiple computer workstations to access DXA scan files simultaneously or for multiple Lunar bone densitometers to acquire and save images to a common database.

**DEXTER™**
This portable BMD review and dictation system gives you efficiency and portability on a PDA platform allowing the review of results and images anytime, anywhere.

**DICOM**
Lunar Prodigy Advance DICOM is flexible to meet your needs and is IHE5 compliant. Features include DICOM Structured Reports, image storage and commitment, and DICOM worklist. Reports and images can be sent to your PACS server in color or black and white.

**HL7**
The Lunar Prodigy Advance receives and transmits HL7 information, including importing patient demographics and exporting patient exam results. This solution for electronic medical records closes the loop, completing the integration of the densitometer with existing electronic medical records.
Design for the real world

**Patient Conveniences:**
- 350 lbs/160 kgs weight accommodation
- Washable pad cleans up with soap and water
- Sculptured side rail for safety and visual appeal
- Open architecture for patient comfort

**Practice Conveniences:**
- QuickView 10-second AP spine & femur acquisition
- Excellent patient throughput with OneVision, OneScan
- Complete importation of previous exams made on other manufacturer devices
- Complete importation of the Lunar bone densitometer database

**CAD™**
Computer Assisted Densitometry (CAD), a GE Healthcare exclusive, automatically identifies potential acquisition and analysis errors for AP Spine, Femur and DualFemur™ scans. CAD will alert the technologist to unusual patient anatomy, high-density areas, and artifacts. After identifying a potential problem, CAD makes a recommendation for correction via the online multimedia help. CAD is clinically proven to concur with osteoporosis expert assessments.*

**Composer™**
Composer automatically generates patient reports, including assessments and follow up recommendations. Scan results are based on pre-defined criteria established by the World Health Organization (WHO), and International Society of Clinical Densitometry (ISCD) and the National, and International Osteoporosis Foundations (NOF, and IOF). It determines the lowest T-score, based on user-defined regions, and automatically inserts the corresponding assessment and recommendations.

Advances beyond BMD

Total Body, Body Composition
The Total Body exam, the ultimate in skeletal assessment, provides precise bone density and body composition (total fat, lean and bone tissue) results in one scan. Body composition measurements are used increasingly to manage a variety of clinical and research applications including: secondary osteoporosis, hyperparathyroidism, anabolic steroid therapy, anorexia nervosa and malabsorptive syndromes.

Pediatric
BMD and soft-tissue assessment provide valuable clinical information in children with growth disorders, metabolic diseases, and cachexic disorders, among other conditions. Gender-specific pediatric reference data is implemented. A specific option “Infant Total Body” is also available for measuring young children and infants.**

Dual-energy Vertebral Assessment (DVA) - diagnose and assess vertebral fractures with your densitometer
Dual-energy Vertebral Assessment (DVA) expands the clinical applications available for the Lunar Prodigy Advance bone densitometer. DVA provides a rapid, dual-energy image of the AP and lateral spine allowing clinicians to visually assess the presence of vertebral fractures. Experts and radiologists agree; dual-energy is the preferred method for imaging the lateral spine.*

Advanced Hip Assessment (AHA): Hip Axis Length (HAL), Cross-Sectional Moment of Inertia (CSMI)
The Lunar Prodigy Advance provides the first major breakthroughs in femoral densitometry assessment since the introduction of DXA system software in 1987. These features are included in the new Advanced Hip Assessment software.

AHA includes all the standard femoral regions of interest that were previously available, plus additional key measurements and assessments:
- **HAL** has been demonstrated in prospective studies as an effective adjunct to femur bone density in predicting fracture risk.
- **CSMI** calculated using the Lunar Prodigy Advance for research into load-bearing capacity of the hip.

Orthopedic
The Orthopedic software measures precisely and accurately Bone Mineral Density (BMD), and Bone Mineral Content (BMC), providing orthopedists with a valuable tool for both clinical practice and research.

*Osteoporosis Int 1998; 8:177-183
**For research use only
Smarter, Faster, Better
With new treatment options becoming available, you can count on GE Healthcare's commitment to the science of osteoporosis management. We are continually advancing the screening and diagnostic methods in bone densitometry, simultaneously improving your productivity and bottom line. Join us . . . the ride will be swift yet safe.

GE Healthcare . . . Smarter, Faster, Better.
## Technical Specifications

### Available Applications and Options

- AP Spine
- Femur
- QuickView (10-second mode for AP Spine & Femur)
- DualFemur
- Advance Hip Assessment with Hip Axis Length and Cross Sectional Moment of Inertia
- Total Body*
- Body Composition* (with fat/lean assessment)
- Dual Energy Vertebral Assessment (DVA)
- Forearm
- Lateral Spine BMD
- Orthopedic Hip Analysis
- Pediatric*
- Infant Total Body***
- Small Animal
- OneVision
- OneScan
- Composer
- Practice Management Report
- Dexter PDA interface software**
- Computer Assisted Densitometry (CAD)
- TeleDensitometry**
- DICOM (Worklist - Color Print and Store)**
- Multi User Data Base Access (3/10)**
- HL7 Bidirectional interface **

### enCORE™ Software Platform

- Advanced intuitive graphical interface
- Multiple Patient directories with Microsoft Access® database
- SmartFan™ for scan window optimization and dose reduction
- Automated Scan mode selection
- AutoAnalysis™ for a better precision
- Customized Analysis for clinical flexibility
- Exam Comparison process
- BMD or sBMD results (BMC and Area)
- Extensive Reference Data
  - > 12,000 subjects – NHANES and several Regional Lunar Reference Data
  - User defined Reference Population
  - T-score, Z-score, % Young-Adults and % Age-Match
  - Automated WHO Background evaluation
  - Patient trending with previous exam importation
  - Multiple languages available
  - Multimedia Online Help

### Scanning Method

- Narrow FanBeam (4.5° angle) with SmartFan, MVIR and TruView algorithms

### X-ray characteristics

- Constant potential source at 76kV
- Dose efficient K-edge filter

### Detector technology

- Direct-Digital CZT (Cadmium Zinc Telluride) detector
- Energy sensitive solid state Array

### Magnification

- None - Object-plane measured

### Dimensions (L x H x W) and weight

- AP Spine: 263 x 111 x 128 cm - 272 kg (Full)
- Femur: 202 x 111 x 128 cm - 254 kg (Compact)
- Total Body/Body Comp.: 4 min 30 sec: 0.0003 mGy (< 1%CV)

### Calibration and Quality Assurance

- Automated test program with complete mechanicals and electronics tests and global measurement calibration
- Automated QA Trending with complete storage

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