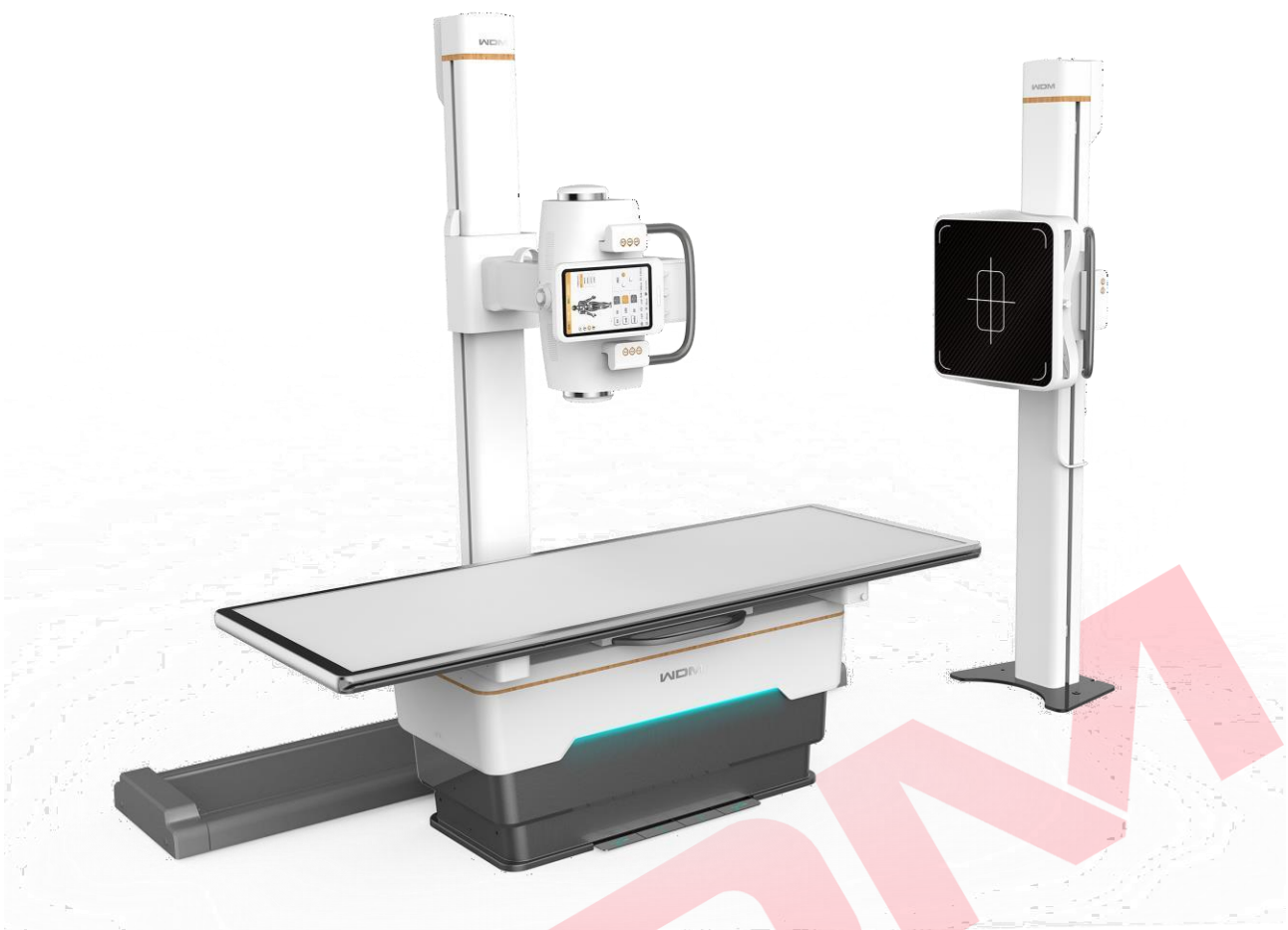


**Beijing Wandong Medical Technology Co., Ltd.**

**New Oriental 1000ND Digital Radiography System**



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## WDM: A successful journey of more than 65 years

Beijing Wandong Medical Technology Co., Ltd. (Wandong, previously Beijing Wandong Medical Equipment Co., Ltd.) was established in 1955, and has been listed on the Shanghai Stock Exchange since 1997. Headquartering in High-Tech industrial park in Beijing, Wandong occupies an area of more than 50,000 square meters as its modern production base and R&D center, and has 30+ branches in China and a wide sales and service network in about 70 countries all over the world. With the 60 years' dedication to the medical imaging, Wandong has made brand name of "WDM", a well-known brand in the world.



As one of the largest technology imaging equipment manufacturers in the world, Wandong has wide range of product lines including General Radiography, Mobile X-ray & C-arm, Digital Radiography (DR), Digital Fluoroscopy (DRF), Digital Mammography, Cath-Lab, Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) machine, and the annual production capability is more than 8,500 units.



### *Our R&D history in DR products:*

- 1999 *DRC-FPD DR for Chest examination*
- 2000 *Released the FIRST unit of multi-function DR system, NEW ORIENTAL 1000*
- 2003 *Passed ISO9001 and ISO13485 certificate*
- 2004 *Installed the FIRST DR in Overseas*
- 2005 *NEW ORIENTAL 1000 passed CE certificate*
- 2009 *Released WDM CCD detector*
- 2010 *Released U-arm CCD/FPD-DR*
- 2012 *Released full-body motorized ceiling suspending DR*
- 2013 *Released WDM FPD detector WDF 4343R*
- 2015 *WDM portable FPD WDF 4343RP and WDF 4343RW launched*
- 2016 *Reddot award for product design*
- Today *Full series of New Oriental 1000 satisfying different customer demands*

### **WDM DR Solution Deserves Your Trust**

**NEW ORIENTAL 1000 Universal FPD DR** is a combination of digital flat panel imaging and classical radiographic mechanical structure. The system fits for most common clinical applications of Radiography in both vertical and horizontal projections, as well as chest examinations, greatly enhance patient throughput

Absolutely, your filmless workflow will be more convenient and faster than conventional radiographic process. Patients also benefit from low radiation and smooth-running procedures. In addition, the administration of your medical facility will appreciate **NEW ORIENTAL 1000's** streamlines cost-effective processes and high quality results.

**NEW ORIENTAL 1000** is fully DICOM 3.0 compliance that means you can benefit from all relevant DICOM services, including DICOM worklist, image storage, transferring, printing and other applications that will significantly improve your workflow.

### High resolution a-Si FPD detector ensures high image quality

a-Si FPD detector technology marks the top level of X-ray imaging technology. The supreme detective quantum efficiency (DQE) of the detector enables more image details to be revealed with lower dose. The resolution of 9.2 Mega pixels makes the image produced perfect. Diagnostic procedure is greatly facilitated by the ideal size of the detector (17"x 17"), patient positioning is considerably simplified.

### Classical Mechanical Structure

Combination of floating radiographic table, tube stand and vertical bucky stand is the most popular and practical configuration of a radiography room. New Oriental 1000 provides RAD room with full convenience of digital imaging as well as easy operation.



### Our confidence in DR business:

#### 1. No.1 DR supplier of Chinese market share

Total installations more than 10000 units since year 1999, New Installation in 2017 reaches 1700 units, and 1800+ units in 2018.

#### 2. Strong R&D capability to guarantee performance and service at reasonable cost

Core technology of WANDONG – the whole imaging chain including generator, mechanical structure, detectors and software.

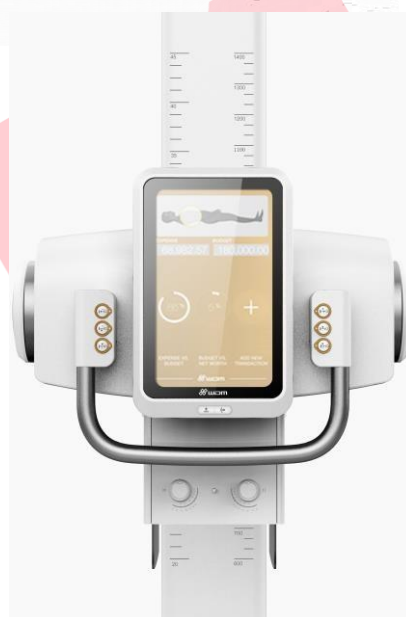
Flexible compositions for different customer demands (FPD/CCD detector, 50kW-80kW generator, Ceiling suspending/U-arm/Universal structure)

#### 3. International Quality Standard and after-sales support

All DR models are CE certified.

Professional and experienced in international pre-installation, installation, training & service.

Reasonable maintenance cost, hardware & software upgrading service and 10 years' spare parts guarantee.



### **Advanced InvaRay Digital Acquisition and processing system**

Based on our InvaRay Digital Imaging Platform, **NEW ORIENTAL 1000** has integrated several WDM-patented new technologies. Not only the image quality is improved, a series of innovative functions are also provided to our customers.

- **Multi-Spectrum Processing Technique (MPT)**

MPT function can categorize the image signals into different channels according to their distinctive features. Signals in each channel are calibrated and adjusted based on respective features and different applications, retaining more details and information of images.

- **Auto Shutter**

Auto Shutter is a type of electronic shutter, which helps to optimize the visual effect by removing the blank area of the image, thus the ROI is most prominent. Meanwhile, InvaRay helps radiologists with a comprehensive library of post-processing.

- **Auto APR**

The up-to-date Auto APR function can automatically set up parameters for examinations of different parts of the body and different positions. It can also automatically choose appropriate post-processing methods to optimize and characterize the image quality. The whole work can be completed as the press of the hand switch with optimal image output.

- **Digital- Correlative**

The novel digital correlative algorithm enables accurate image stitching applied for full spine and full leg imaging.

- **One-button Acquisition**

NEW ORIENTAL 1000 DR is DICOM Worklist fully compliant. Patient information is able to be retrieved from HIS/RIS system, and the exposure parameters and projection position will be selected automatically according to the pre-registered information. Meanwhile, personalized settings will be provided to acquire images that are better adapted to the observation habit of individual surgeons. Doctor will be relieved from complex pre-surgery setups.

### **A Trustable Supplier for Long Term Cooperation**

With 60 years' dedication in radiology imaging industry, Wandong offers not only an equipment but also an overall service and digital solutions to each of our customers, covering pre-sales technical support, delivery, installation, training, maintenance and service and sustainable upgrade. WANDONG's growth appreciates for millions of customers' trust.

## 1. Configurations:

### ● Standard Configurations:

No.	Component	Part Number	Brand	Quantity
1	High Frequency Generator	GFS802-4	WDM	1
2	DR Flat Panel Detector	WDF 4343RS	WDM	1
3	X-ray Tube Assembly	E7869X	Canon	1
4	Radiographic Table	SC3-8	WDM	1
5	X-ray Tube Stand	ZZ-6	WDM	1
5	Chest Bucky Stand	LS-7	WDM	1
6	High-density Aluminum Grid	JPI	JPI	2
7	Collimator	XS2-7	WDM	1
8	HV cable	DL7512-1B	WDM	1
9	Image Acquisition System	Computer	-	1
		24" Monochrome medical LCD		
		WD-ACQUIRE v2.0		
10	Intercom System	F197.FJ.10	WDM	1
11	Console	F821.1A	WDM	1

### ● Optional Components:

No.	Component	Part Number	Brand	Quantity
1	Ion chamber	Three fields	Claymount or Equivalent brand	1
2	Color LCD Monitor in standard configuration	21.3" Color LCD Resolution: 1200×1600 Gray scale: 4096	WDM	1
3	Wired remote controller	F244C.11	WDM	1
4	Directional movement control system for the digital image stitching	Image stitching module	WDM	1
5	Flat Panel Detector	WDF 4343R	WDM	1
6	Table Elevation	50-90cm motorized	WDM	1
7	Auto-collimator		WDM	1

## 2. Technical Specification:

### Standard configuration

Component	Specifications
High Frequency Generator	<p><b>Part Number: GFS802-4</b></p> <p><b>Power:</b> 80kW</p> <p><b>Radiography kV:</b> 40~ 150kV; mA Range: 10~ 1000mA</p> <p><b>Exposure Time:</b> 1ms~ 10s, mAs: 0.1mAs~ 1000mAs</p> <p><b>High peak output power @100 kV:</b> 800 mA</p> <p><b>AEC interface,</b> APR: 600 programs</p> <p><b>H.S.S included</b></p> <p><b>Power Supply:</b> 380VAC±38V, three-phase, 50Hz/60Hz</p> <p><b>Error Detection and Diagnosis</b></p>
FPD Detector	<p><b>Part number: WDF 4343Rs</b></p> <p>Receptor Type: a-Si</p> <p>Effective size: 430mm×430mm (17"×17")</p> <p>Weight: 3.4 kg</p> <p><b>Pixel Matrix:</b> 4267 × 4267, Pixel size: 100 um</p> <p><b>A/D converter:</b> 16bit</p> <p><b>Spatial Resolution:</b> no less than 4.3 lp/mm</p> <p><b>Image construction time:</b> 3 s</p> <p><b>Typical DQE:</b></p> <p>68% @ 0lp/mm</p> <p>54% @ 1lp/mm</p> <p>38% @ 2lp/mm</p> <p><b>Battery Autonomy (h) :</b> 8 h</p> <p><b>Operating Temperature:</b> 10°C~35°C,</p> <p><b>Storage Temperature:</b> -20°C ~ 55°C</p> <p><b>Data Transfer:</b> WIFI / Giga Ethernet</p> <p><b>Control Instruction Transfer:</b> WIFI / Giga Ethernet</p> <p><b>Calibration mode:</b> Offset calibration, Gain calibration, error pixel calibration, line noise calibration</p> <p>internal trigger control mode, applicable to upgrade of conventional system</p>

X-ray Tube Assembly	<p><b>Part Number: E7869X</b></p> <p>Focal Spot: 0.6mm / 1.2mm</p> <p>Power: 40 / 100 kW</p> <p>Anode Heat Capacity: 600 kHU</p> <p>Anode Rotation Speed: 9700 rpm</p> <p>Maximum Anode Heat Dissipation: 2465 HU/s</p> <p>Target Angle: 12°</p>
DR Mechanics	<p><b>Radiographic Table</b></p> <p><b>Part Number: SC3-8</b></p> <p>Tabletop floating range longitudinal : Service Mode: <math>\pm 1100</math>mm, transverse: <math>\pm 130</math>mm, height: 670mm ; User Mode: <math>\pm 550</math>mm, transverse: <math>\pm 130</math>mm, height: 670mm ;</p> <p>Optional: motorized elevating range : 500-900 mm</p> <p>Attenuation equivalent <math>&lt; 0.7</math> mm Al</p> <p>Weight capacity: 200 kg</p> <p>Patient Coverage: 206 cm</p> <p><b>Bucky Table:</b></p> <p>Size: 43x43 cm</p> <p>longitudinal motorized travel : 530 mm</p> <p>Tube auto-tracking</p> <p><b>X-ray Tube Stand:</b></p> <p><b>Part Number: ZZ-6</b></p> <p>Longitudinal Travel: 1740mm</p> <p>Vertical Travel (tube focus to floor): 560 mm <math>\sim</math> 1800 mm, motorized, auto-tracking to the vertical bucky</p> <p>Tube Column Rotation: 0° <math>\sim</math> <math>\pm 180^\circ</math> (lockable at 0° and every 90°)</p> <p>X-ray Tube Rotation Along Horizontal Arm: +120° <math>\sim</math> -120°</p> <p><b>Chest Bucky Stand:</b></p> <p><b>Part Number: LS-7</b></p> <p>Type Vertical counterbalanced stand bucky with vertical movement and electromagnetic breaking system</p> <p>Detector center to the floor: no more than <math>370 \pm 20</math> mm</p> <p>Detector vertical travel range: 1430 mm</p> <p><b>Bucky stand</b></p> <p><b>Size: 43x43</b></p>



Collimator	<p><b>Part Number: XS2-7</b></p> <p>Projection Field (SID=1000mm): Max.: 430mm×430mm; Min.:0mm×0mm</p> <p>Operation Mode: Manual</p> <p>Optional:</p> <p>Auto/Manual collimator</p> <p>Auto-collimation according to APR program</p> <p>LCD display with SID, linear and angular position, Filters, and status/error messages</p>
Grid	<p>Grid ratio: ≥10:1, <math>f_0</math>: ≥100cm, Aluminum-based</p>
Image Acquisition System	<p><b>Hardware configurations:</b></p> <p>CPU: Intel Core i5</p> <p>Memory: 8GB, Hard Disk:1 TB , CD-ROM: DVD Burning</p> <p><b>System Interface:</b> USB, Standard RS232, LPT, 100MB network Interface, DVI/VGA</p> <p><b>Monitor:</b> 24" color LCD, Resolution: 2MP, 1920×1200, Brightness: 600 cd/m<sup>2</sup></p> <p>OS: Windows 7 or later</p> <p><b>Software: WD-ACQUIRE</b></p> <p><b>Image Acquisition manage:</b> Acquisition condition setting, mechanical position display, APR setting, patient data base, collimator, DAP, DICOM 3.0.</p> <p><b>Enhance Filter:</b> Algorithms are optimized according to different physiological structure of body parts and different diagnostic requirements and different clinical demands of doctors.</p> <p><b>Image processing:</b> Window width/ level, Auto window width/ level setting, preview, preset Window width/ level, positive and negative image reversal; Image flipping, rotating, zooming, roaming; Image interpolation edge enhancement, restore original image annotation, Character/ number annotation 、 image annotation, Tape measurement, area measurement, auto-sub-setting.</p> <p><b>DICOM Features:</b> DICOM Storage (SCU), DICOM Modality worklist (SCU), DICOM Query / Retrieve (SCU), DICOM Structured Dose Report.</p> <p><b>Image Printing:</b> DICOM Printing, Paper Printing, Manually current displayed Images Printing, One-key Printing of Annotated Images, various printing equipment compatibility, film format printing, Print Queue Control, Stop/ Start presetting.</p> <p><b>Personalized settings:</b> screen layout, default settings, toolbar settings.</p> <p>Other functions: Users definable display layout; user definable query of patients and images, patient reservation function. High-speed transmission of no loss compressed images and online decompression</p> <p><b>Language Package:</b> Chinese/English/Romanian</p>



## Optional Components

Component	Specifications
Ion Chamber	Three fields, Claymount or Equivalent brand Exposure time: 1ms~5s, kV: 40~150kV Exposure Dosage Range: 1~100uGy
Medical LCD Monitor (Mono-chrome)	Monitor: 21.3" Monochrome LCD Monitor Brightness (Max.) 1900 cd/m <sup>2</sup> , Contrast: 1400: 1 Picture angle: Level 178°, Vertical 178° (CR > 10); Dot Pitch: 0.270 mm Resolution: 1200×1600; Grey Scale ≥ 4096
Wired remote controller	Remote control of mechanical system moving
Directional movement control system for the digital image stitching	For digital image stitching of full spine, full arm or legs Hardware: stitching stand Software: image stitching package The automatic image stitching and fusion, based on image registration technology, can perform accurate image stitching even when there is a little position shifting of the patient. Manual stitching is also available. Exposure parameters and image post-processing parameters are specialized programmed for image stitching. Simple and practical user interface for image stitching supports image zoom-in/out, ROI, move and other image processing operation for better observation of the stitched image. 2-3 images to be acquired for one spine, arm or legs image stitching, the time to process the image stitching on standard acquisition workstation will not be more than 15 seconds.
Flat Panel Detector	Model: WDF 4343R (wired fixed) Receptor Type: a-Si Effective size: 430mm×430mm (17"×17") Weight: 7kg Pixel Matrix: 3k × 3k, Pixel size: 139um A/D converter: 16bit Spatial Resolution: no less than 3.6lp/mm Image construction time: 5s DQE: ≥70% MTF: ≥58%

	<p>Ambient Temperature: 10℃~35℃, Storage Temperature: -15℃ ~ 55℃</p> <p>Data Transfer: Giga Ethernet</p> <p>Control Instruction Transfer: Giga Ethernet</p> <p>Calibration mode: Offset calibration, Gain calibration, error pixel calibration, line noise calibration</p>
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WDM