



# productivity

ddRFormula® Series

# **beyond** conventional DR

Swissray is the pioneer and worldwide leader in the design, manufacturing and marketing of state-of-the-art Digital Radiography systems. Swissray's unique APS™ – Automated Positioning System – takes performance beyond conventional DR by streamlining the radiography workflow to the maximum. With an industry leading 3.5 lp/mm, Swissray delivers unmatched image quality at lowest radiation dose.



Variable SID (FFD)

LCD Panel with Patient and Positioning Information

ddArt™ Backlit Cover

C-Arm Design

FP-5000™ Si Flat Panel Detector with 3P™ – Panel Protection Program

«The C-arm design from Swissray has been very helpful in positioning our pediatric orthopedic patients. They don't seem to be threatened at all by the equipment and it's easy to get those difficult views that are hard to convince a child, are important.»

John Strain MD, Dept. Chairman, The Children's Hospital, Denver CO, USA

## Ultimate workflow

The **ddRRFormula®** is Swissray's innovative C-arm designed digital radiography system. Featuring the exclusive APS™ – Automated Positioning System – it is the most automated DR solution in the marketplace. All system movements are motorized and software controlled resulting in total automatic functionality. The **ddRRFormula®** features a C-arm design with the X-ray tube always centered to the detector for fastest, most precise and convenient patient positioning. The **ddRRFormula® Plus** version allows for convenient off-detector imaging.

### Features

- APS™ Automated Positioning System
- Minimum Time Between Exposure («MTBE») of 3 seconds
- Exposure to Diagnostic Image («EDI») of 5 seconds
- Performs the workload of four cassette based systems
- eXpertStitching™ for Orthopedic Imaging
- Off-center Imaging
- EASI Function – Examination Automated Sequence Imaging

APS™ – Automated Positioning System

# Automatically **faster**

from RIS/HIS



**APS™**

SwissVision®

eXpert™

to PACS

Swissray's unique APS™ – Automated Positioning System – streamlines the radiography workflow process by automating all positioning and image acquisition requirements. Patient data can be transferred directly from the RIS/HIS via DICOM worklist, while all exposure and image processing parameters can be chosen with simple touch-screen selections. Swissray's advanced robotics position the system for the selected examination by remote control while an integrated video camera monitors the patient to ensure correct positioning.

#### Features

- Handheld remote controlled system positioning
- 1296 pre-programmed, fully customized positions
- Advanced robotics for selected examination
- Integrated video camera to monitor patient and ensure positioning
- Memory function for consistent follow-up examinations
- Virtually eliminates repeats and retakes



## FP-5000™ Detector

# More **detail**, less dose

With 3.5 lp/mm spatial resolution, highest DQE and the five field measuring chamber, Swissray's FP-5000™ Silicon (Si) Flat Panel detector delivers the best diagnostic image quality at lowest radiation dose. It combines amorphous silicon technology with a cesium iodide scintillator, providing highest detail detectability with 143 micron pixels. The unique 3P™ – Panel Protection Program – provides superb collision protection thus eliminating concerns over reliability of flat panel technology.

### Features

- 3.5 lp/mm spatial resolution
- 143 micron pixels
- 17" (43 cm) square format for large field-requirements
- Highest DQE
- Carbon fiber casing lowers radiation dose requirement
- Five field measuring chamber
- Featuring 3P™ with a built-in infrared sensor to detect obstacles and a floating frame shock-absorber for maximum panel protection



Ultimate panel protection in case of a collision – the 3P™ floating frame shock-absorber and an energy dampening mechanism absorb and dissipate impact energy.



The infrared sensor detects obstacles and automatically slows down and halts the system. Swissray's grid can be conveniently attached and removed in any detector position.



Patient Data Management

# Connecting seamlessly

**The eXpert™ control desk** automates every aspect of the radiographic procedure. Patient demographic data is transferred directly from RIS/HIS via DICOM worklist while all exposure and image processing parameters can be chosen with a few touch screen selections.

**The SwissVision® modality workstation** comprehensively manages all patient data. Open system architecture and «IHE» proven DICOM 3.0 compliant interfaces seamlessly integrate with existing and future network connections like PACS, RIS, local workstations and modality archives.

#### eXpert™ features

- MPPS (Modality Performed Procedure Step): work orders are received directly from RIS/HIS via DICOM.
- Protocol driven: individual parameter preferences can be stored for multiple users
- EASI Function – Examination Automated Sequence Imaging

#### SwissVision® features

- Functions such as windowing, leveling, zoom, rotation and positive/negative displaying
- TrueSize Imaging
- Automatic algorithm selection minimizes post-processing requirements
- Patient data stored in DICOM header for future examinations
- Repeat/reject examination analysis
- Exposure index to monitor image quality in relation to radiation dose
- HL7 interface capability for full integration with HIS



The eXpert™ control desk with the built-in eXpertView™ camera allows for utmost positioning accuracy.



The CutOff and SizeWise functions reduce image file size and optimize data storage capacity. Text annotations can be added for convenient image identification.



Advanced Imaging Applications

# Specific **solutions**

Swissray offers a wide variety of specific solutions to meet the diverse requirements of radiography.

**Pediatric Imaging Solutions.** Children are among the most important beneficiaries of Swissray's lowest radiation dose. The Pediatric Package includes 3.5 lp/mm spatial resolution with special imaging algorithms and X-ray parameters providing unrivalled image quality with highest detail detectability. In addition, the built-in eXpertView™ camera is especially useful for pediatric applications. With the ability to perform the examination in a fraction of the time, Swissray has minimized much of the fear and anxiety associated with pediatric imaging.

**Chest Imaging.** Special chest imaging parameters and algorithms make the *ddRFormula*® Series the diagnostic tool of choice for pulmonary disease detection. Healthcare systems around the globe have chosen Swissray DR systems for their TB screening programs.



The *ddRFormula*® Series perform off-center imaging for orthopedic and pediatric applications.



Special chest imaging algorithms provide unmatched diagnostic information.



While the detector moves, the X-ray tube remains fixed with respect to the patient, resulting in distortion free composite images.

Orthopedic Excellence

# Distortion free stitching

**eXpertStitching™** The *ddRFormula* performs orthopedic imaging by accurately combining up to four adjacent images. Swissray's exclusive eXpertStitching™ tool is the only distortion free image stitching function available on a C-arm designed DR system. Orthopedic studies such as Scoliosis and Long Leg imaging are conveniently performed with more efficiency and higher accuracy than ever before.

With Swissray's exclusive **single focus stitching technique**, the position of the X-ray source remains fixed with respect to the patient over the time sequence of images. This insures the overlap regions are geometrically equivalent, resulting in identical images of the anatomy. In addition, small patient motion between exposures is easily corrected in Swissray's Stitching Studio software.



Long Leg Imaging



Scoliosis Imaging



Swissray's Stitching Studio Software



ddArt™

# Creating **ambience**

ddArt™ is an exclusive backlit design on the front cover of the system. Artwork such as sports themes, cartoons or institutional banners can be selected or customized. ddArt™ greatly enhances the ambience of the radiographic examination room, thus creating a positive patient experience.



Motorized X-ray tube rotation enables off-detector imaging on cassette based media for the occasional patient that cannot be transferred to the imaging table. This feature makes the *ddRFormula*® Plus ideal for Emergency Room applications.

*ddRFormula*® Applications

# Providing **productivity**



**beyond**DR

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