ddR Formula™ Series
Ultimate system design for ultimate workflow efficiency.
"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

When the world’s first remains the world’s best.

For over ten years Swissray has been recognized as the industry’s true pioneer in the design, manufacture and marketing of proprietary state-of-the-art direct digital Radiography-ddR technology. Delivering high quality radiographic images in just seconds, Swissray’s world-leading single detector technology dramatically improves overall productivity, and significantly lowers the cost of general radiography in comparison to conventional or computed radiography.

With the introduction of its unique APS™ – Automated Positioning System, Swissray has revolutionized the way general radiography examinations are performed. Imaging can now be performed faster, more conveniently and more precisely than ever before, providing the highest productivity of any radiography technology.

Swissray’s direct digital Radiography-ddR combines superior quality imaging at 3.5 lp/mm and industry leading DQE with the lowest radiation dose. They offer unparalleled reliability and workflow efficiency with a 99% uptime guarantee. Additionally, the 3P™ – Panel Protection Program provides industry-leading detector reliability.

Swissray offers cutting-edge solutions for any special applications in the field of general radiography. Specifically designed packages for advanced imaging applications such as orthopedic, pediatric, bone mineral density and chest radiography are available. With years of extensive clinical experience, Swissray has collaborated with leading radiography professionals and renowned health care facilities across the globe to deliver the world’s best digital radiography solutions.
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.

Seconds after exposure, a fully diagnostic image appears on the SwissVision® workstation for review and storage. For follow-up examinations, a single keystroke of the remote control is all that is necessary to position and collimate the system, setting exposure factors and preparing for acquisition by using parameters retrieved from the DICOM header of the previous examination. That’s how the impressive APS™ automatically produces superior image quality with utmost efficiency, practically eliminating repeats and retakes.
Variable SID (FFD)

LCD Panel with Patient and Positioning Information

Minimum Time Between Exposure
MTBE = 3 seconds
Exposure to Diagnostic Image
EDI = 5 seconds

FP-5000™ Si Flat Panel Detector
with 3P™ – Panel Protection Program
The ddRFormula™ is Swissray’s innovative C-arm designed digital radiography 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 ddRFormula™ features a C-arm design with the X-ray tube always centered to the detector for fastest, most precise and convenient patient positioning. Depending on the user’s preference, the system is available with either fixed or variable SID (FFD). Swissray’s unique APS™ – Automated Positioning System automates all system positioning and image acquisition requirements with the simple push of a single button on a wireless handheld remote control. The ddRFormula™ Plus version allows for convenient off-detector imaging.

With a Minimum Time Between Exposure «MTBE» of only three seconds and Exposure to Diagnostic Image «EDI» in five seconds, workflow and patient throughput increases tremendously. In fact, the ddRFormula™ performs the workload of four cassette based radiography systems, freeing up valuable space and technical staff for other use. This innovative system efficiently performs all general radiographic procedures with a single detector, minimizing investment and maintenance costs.

As a world’s first, the ddRFormula™ features ddArt™, an exclusive backlit design on the front cover of the system. It greatly enhances the ambience of the radiographic examination room, thus creating a positive patient experience.
The FP-5000™ detector with 3.5 lp/mm
When the best image quality deserves the best protection.

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 in the industry. It combines amorphous silicon technology with a cesium iodide scintillator, providing highest detail detectability with 143 micron pixels. Its 17” (43 cm) square format satisfies all large-field requirements, without the need for detector rotation. Crucially, patients can take comfort in the knowledge that its casing and grid construction from advanced carbon fiber materials ensure lowest radiation dose.

Swissray also offers the unique 3P™ – Panel Protection Program*, meeting its strict criteria for 99% guaranteed uptime. 3P™ provides collision protection by automatically detecting obstacles, slowing down and halting the system before impact is made. In the event of a collision, a floating frame shock-absorber protects the panel, and a special energy dampening mechanism absorbs impact energy, dissipating it before reaching the panel. Providing superb protection for the state-of-the-art equipment 3P™ eliminates concerns over durability and reliability of flat panel technology.

* patent pending

The infrared sensor of Swissray’s unique 3P™ detects obstacles and automatically slows down and halts the system.

Ultimate panel protection in case of a collision – the 3P™ floating frame shock-absorber and an energy dampening mechanism absorb and dissipate impact energy.
Only Swissray's grid can be conveniently attached and removed in any detector position. Casing and grid construction made from advanced carbon fiber materials ensure lowest radiation dose.
Advanced Imaging Applications
When specific needs require specific solutions.

In keeping with its philosophy of providing complete solutions, Swissray has ensured that the numerous special needs of the radiology community have been addressed. Swissray offers a wide variety of specific solutions to meet the diverse radiography requirements.

**Pediatric Imaging Solutions.** Children are among the most important beneficiaries of Swissray’s lowest patient 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. 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.

**Bone Mineral Density Analysis.** Software algorithms automatically analyze a digital hand radiograph to measure bone mineral density with 95% accuracy and 99% precision. Providing unsurpassed access, convenience and clinical performance, this analysis costs only a fraction of other BMD testing devices available. Best of all, Swissray’s BMD Analysis Package has its own CPT code to provide additional revenues.

**Chest Imaging.** Swissray ddR systems are the diagnostic tool of choice for any pulmonary disease such as Tuberculosis etc. Special chest imaging parameters and algorithms provide unmatched diagnostic information.
The ddRFormula™ Plus performs off-center imaging for orthopedic and pediatric applications.
Patient Data Management
When seamless connectivity equals seamless workflow.

The eXpert™ control desk automates every aspect of the radiographic procedure. Patient demographic data can be transferred directly from RIS/HIS via DICOM worklist while all exposure and image processing parameters can be chosen with a few touch screen selections. With MPPS (Modality Performed Procedure Step), work orders are received directly from the RIS/HIS via DICOM. It delivers feedback to the RIS/HIS about the status of the different jobs. The eXpert™ is protocol driven, with the ability to store individual parameter preferences for multiple radiologists and technologists.

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. HL7 interface capability enables full integration with HIS.

The award winning SwissVision® software displays diagnostic quality images in seconds for immediate review. With numerous functions such as windowing, leveling, zoom, rotation, positive/negative displaying, viewing of TrueSize images hardcopy and/or softcopy etc., radiographic images can be customized to meet any preference. All patient data is stored in the DICOM header and can be retrieved for future examinations. SwissVision® provides a variety of automated quality control features such as a statistical tool to perform repeat/reject digital examination analysis and an exposure index to monitor image quality as it relates to radiation dose. Automatic algorithm selection minimizes post-processing requirements.
The CutOff and SizeWise functions reduce image file size and optimize data storage capacity. Text annotations can be added for convenient image identification.
The unique «smart» stand facilitates the performance of special DR applications such as Scoliosis and Long Leg studies as well as Weight Bearing examinations. In addition, the ALLinONE™ Stand revolutionizes the way imaging techniques are selected. Data such as weight, height and lipid content are automatically collected and transmitted wirelessly to the control desk. The eXpert™ system calculates the perfect examination technique for that particular patient’s Body Mass Index (BMI) and adjusts all imaging parameters accordingly to achieve the best image quality at lowest radiation dose. Additionally, the ALLinONE™ Stand features a weight distribution indicator which provides positioning feedback to perform Weight Bearing examinations with unprecedented accuracy.

The ddRFormula™ systems perform full body imaging with their unique «AutoStitching» function, automatically combining up to four images. Orthopedic studies such as Scoliosis and Long Leg imaging are performed with greater speed and precision than ever before.

ALLinONE™
When standing still is highly productive.

Visualize the complete spine (or any long bone) by easily combining images with Swissray’s «AutoStitching» technology.

Weight distribution indicator provides positioning feedback for Weight Bearing, Scoliosis and Long Leg examinations.

The patient’s weight, height and lipid content are automatically transmitted to the eXpert control desk, where the Body Mass Index (BMI) is calculated.
ddArt™
When art creates a positive patient experience.
As a world’s first, the ddRFormula features ddArt™, 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.
**ddRFormula™ Applications**
When productivity needs versatility.

**ddRFormula™ Plus**
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.
Swissray is the pioneer and worldwide leader in the design, manufacturing and marketing of proprietary state-of-the-art direct digital Radiography *ddR* technology.

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