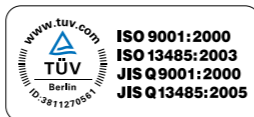
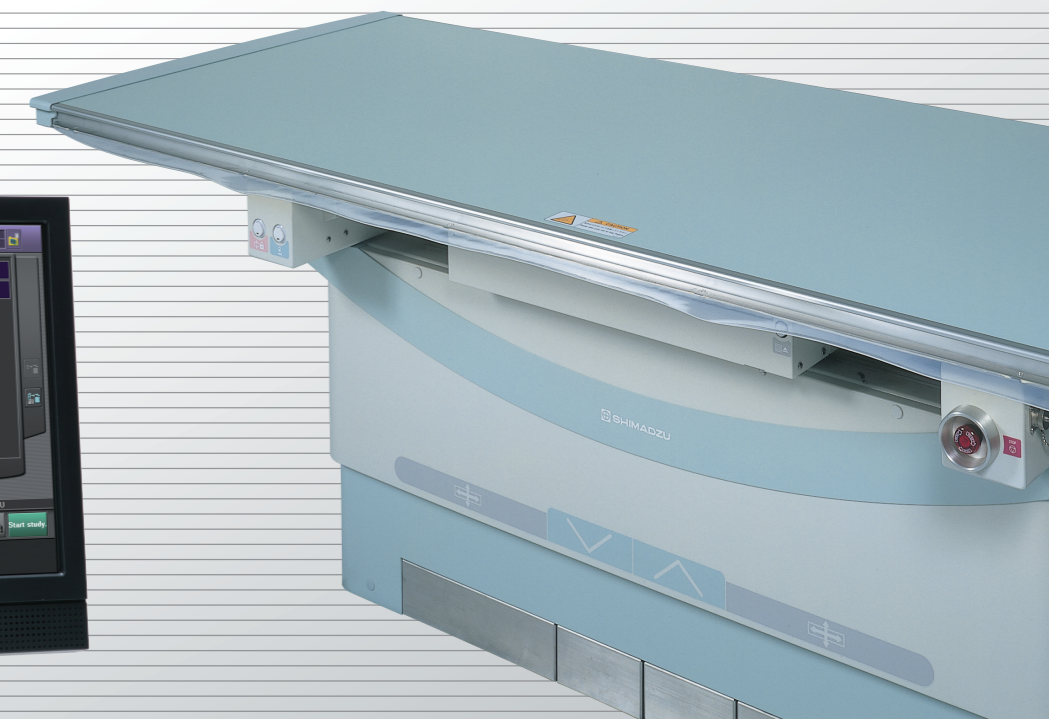


General Radiography System

RADspeedTM
safire



Founded in 1875, Shimadzu Corporation, a leader in the development of advanced technologies, has a distinguished history of innovation built on the foundation of contributing to society through science and technology. We maintain a global network of sales, service, technical support and applications centers on six continents, and have established long-term relationships with a host of highly trained distributors located in over 100 countries. For information about Shimadzu, and to contact your local office, please visit our Web site at www.shimadzu.com

Shimadzu Corporation Medical Systems Group has been certified by TÜV Rheinland as a manufacturer of medical equipment and systems in compliance with ISO9001:2000 Quality Management Systems and ISO13485:2003 Medical Equipment Quality Management Systems.

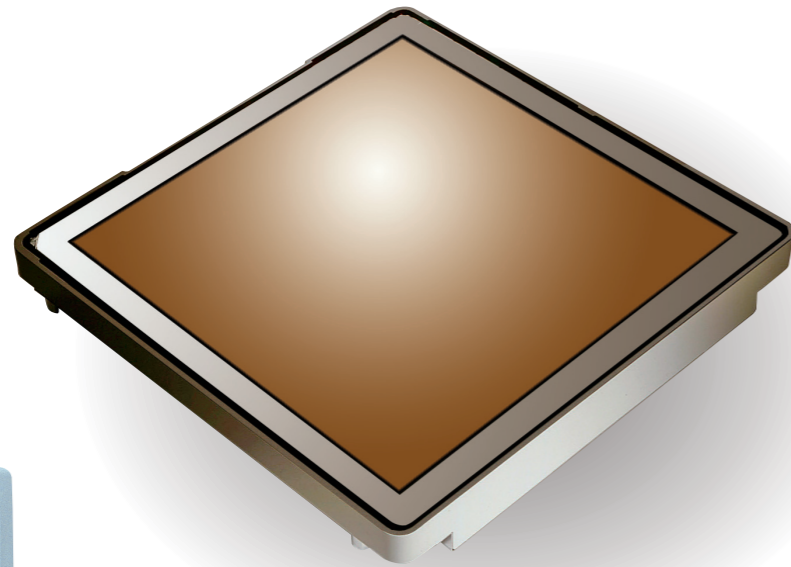
Remarks:
 ※ Every value in this catalogue is a standard value, and it may vary a little from the actual at each site.
 ※ The appearances and specifications are subject to change for reasons of improvement without notice.
 ※ Certain configurations may not be available pending regulatory clearance. Contact your Shimadzu representative for information on specific configurations.
 ※ Before operating this system, you should first thoroughly review the Instruction Manual.



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General Radiography System

RADspeed *safire*



Combined Revolutionary State-of-the-Art Technology Ensures Reduced Dosages and Higher Accuracy Images

Reduced exposure levels, high-precision examinations, and shorter examination times are key features desired not only by patients, but by medical staff as well.

In response to these needs, Shimadzu has developed RADspeed safire, a cutting-edge general radiology digital imaging system.

First in the world to develop a wide-view 17-inch direct conversion flat panel detector (FPD), Shimadzu has equipped RADspeed safire with this new FPD, delivering both outstanding spatial resolution and 16-bit density resolution, and taking low-dosage image accuracy to a new level.

Furthermore, a state-of-the-art digital image processor takes full advantage of the large amounts of information captured in these ultra-high definition FPD images, providing ideal image processing for a wide variety of radiology procedures and general radiology target areas, and ensuring significantly improved radiographic image quality.

Equipped with cutting-edge digital image technology and a multitude of highly-refined design features, RADspeed safire is a powerful tool for quickly and smoothly performing high-definition diagnostic imaging. Shimadzu is proud to present this new highly advanced general radiology digital imaging system to professionals all over the world.



16-Bit Density Resolution for Smooth, Easy-to-View Digital X-ray Images

Direct-Conversion Flat Panel Detector

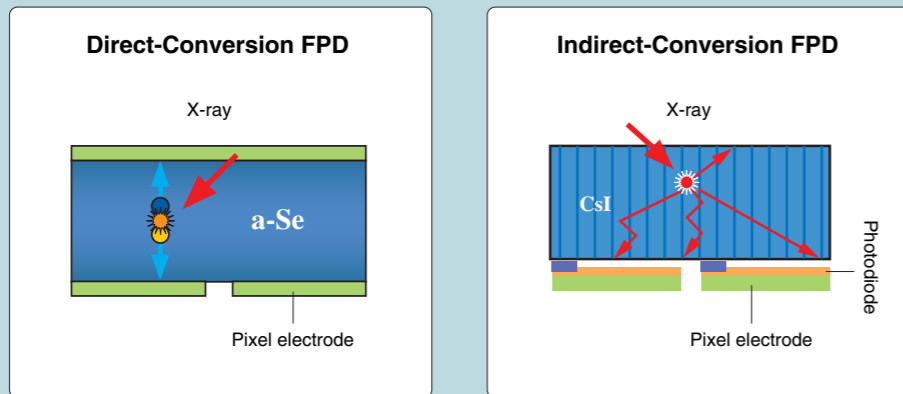
16-bit FPD



Direct Conversion is the Ideal Imaging Process

This unique direct-conversion system converts input X-ray signals directly into electrical signals, eliminating a number of conversion processes required by conventional imaging methods. By eliminating

noise or data loss that commonly occurs during conversion processes, this system produces clear digital images with accurately reproduced details.



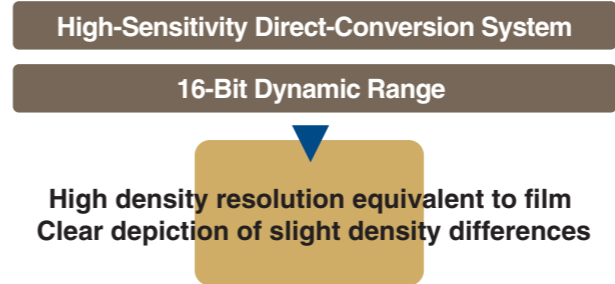
Ultra-High-Quality Images With Clear Detail at Low X-ray Doses

Shimadzu's high-sensitivity direct-conversion FPD uses a low X-ray dose to render clear images of the target with a spatial resolution comparable to that of film. Ultra-high-definition images created by the

extremely fine pixel size of 150 μm clearly show minute details. With sensitivity as high as that of film, only a low exposure dose is required to produce high-quality images.

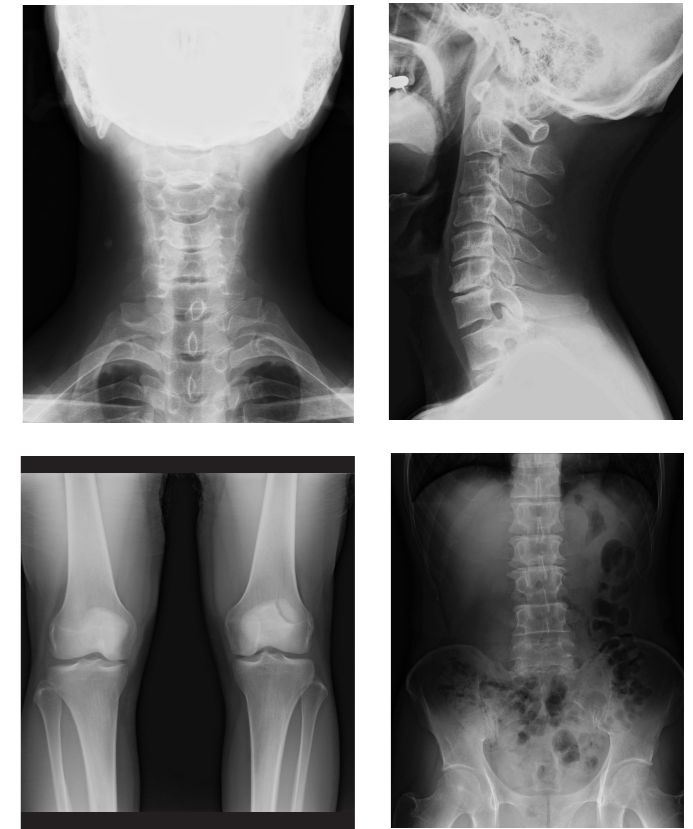
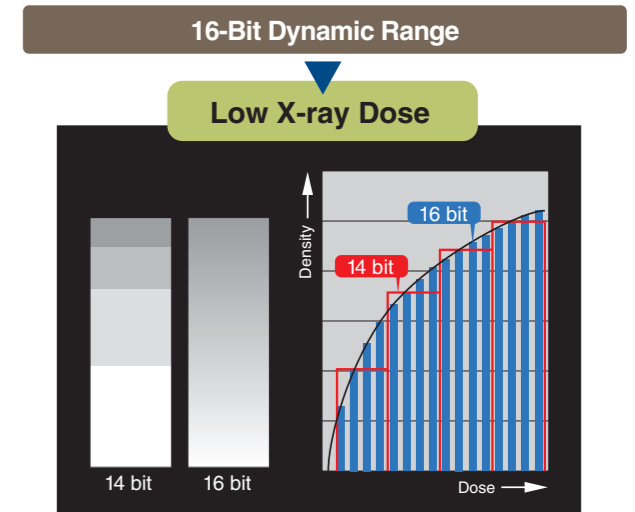
16-Bit Density Resolution Reproduces Fine Details Even in Lightly Shaded Areas

This direct-conversion system's high sensitivity and wide 16-bit dynamic range provide images with high density resolution equivalent to that of film images. This reproduces subtle density differences in chest and abdominal images.



Wide 16-Bit Dynamic Range Faithfully Renders Even Low-Dosage Regions

Even at low dosage levels, the wide 16-bit dynamic range ensures clear rendering of subtle shading in images.



Wide-View 17-inch FPD Meets a Variety of Examination Needs

This system produces large 17" x 17" images, while maintaining an extremely high resolution of 150 μm. The wide-view 17-inch FPD is large enough to capture sizeable areas on maximum-size film. It ensures distortion free, ultra-high-definition images of the entire abdominal region and provides a wide examination area when used for orthopedics.

FPD

State-of-the-Art Digital Image Processing Ensures Maximum FPD Performance

For easy viewing, the image processing engine optimizes all the ultra-fine details captured in the FPD ultra-high-definition 16-bit 2880 x 2880 pixel digital images. This ensures accurate images you can depend on.

For Essential State-of-the-Art Image Processing

Extensive Clinical Experience Ensures a Wide Range of Useful Image-Processing Features

- Exposure Data Recognizer** Extracts image range, and uses resulting histogram to adjust image density and contrast.
- Grayscale Adjustment** Optimizes density and contrast settings for each area being examined.
- Multi-Frequency Processing** Enhances image density and fine-detail structures, allowing viewing of regions/areas that previously could not be distinguished.
- Frequency Processing** Enhances contrast in areas with fine detail for better visibility.
- Dynamic Range Control Processing** Easier to distinguish previously difficult-to-render areas, such as low- or high-density areas.
- Flexible Noise Control Processing** Suppresses noise elements to improve granularity.

High Throughput for Greater Examination Efficiency

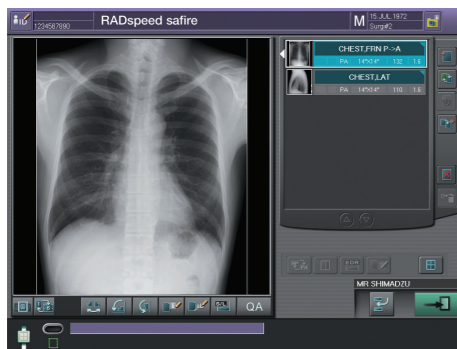
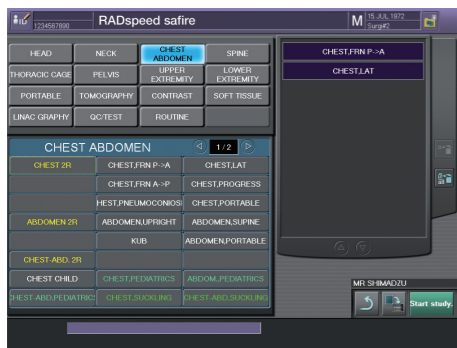
Ultra-high-definition images captured by the direct-conversion FPD are automatically optimally adjusted and displayed on the monitor instantaneously. Real-time display of captured images improves examination quality and provides a more efficient workflow.

Digital Archiving of Optimized Images

Up to 3,000 ultra-high-definition digital images can be stored on the system's hard disk. This allows optimized images to be viewed at all times and maintains high image quality. Utilizing the DICOM standard, stored images can also be transmitted online to an image viewing/storage device at high speed.

Touch Panel Console For Intuitive Operation

Easily specify a variety of parameters and select examination menu items via a touch-sensitive 15-inch color LCD monitor.



View radiographic images on a larger monitor by changing to a 18-inch LCD monitor (black-and-white), or 21-inch LCD monitor (both black-and-white and color is selectable). (18-inch and 21-inch monitors are operated using a keyboard and mouse.)

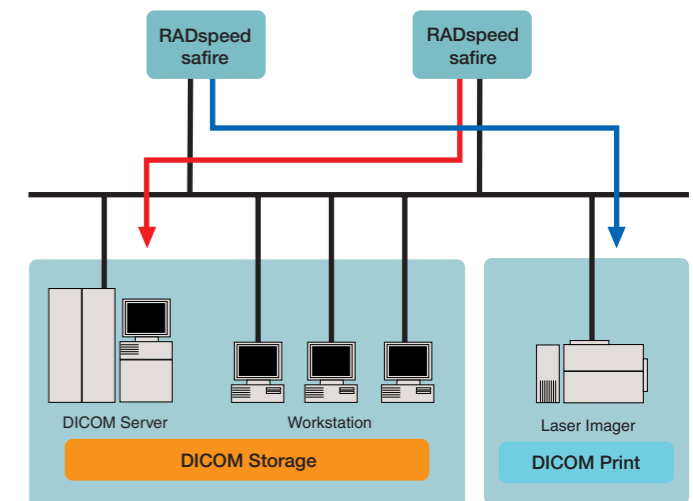
Barcode reader can be connected to register patient data.

Variety of Display Features Ensure Smooth, Trouble-Free Examinations

Features include multi-image displays, zooming, rotation and many others.

Network Connectivity Optimizes Workflow

RADspeed safire supports both DICOM format diagnostic workstations and image transfer to a laser imager. This enables smooth, efficient radiography system operation.



Versatile Laser Image Output Matches Operating Styles

Easily adjust the magnification of printed images to ensure output is always the same size even if laser imagers are changed. It is also possible to set a desired magnification rate or change the display split pattern according to the application.

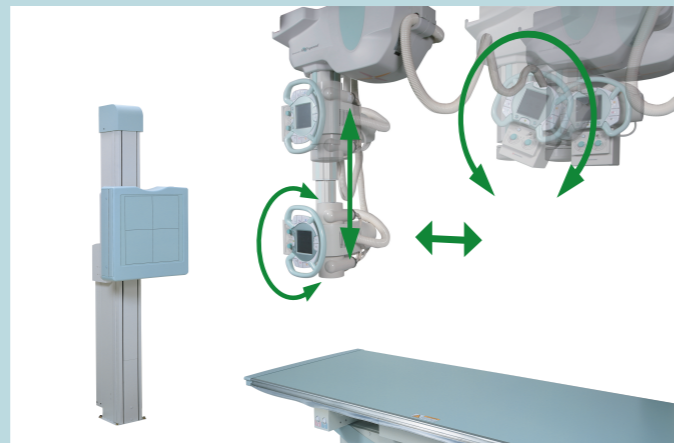
Expanded Use of Automatic Positioning



Ceiling Suspended X-ray Tube Support for Versatile Positioning

Revolutionary New Auto-Positioning Feature for Smooth and Safe Positioning option

Advanced-level positioning can automatically move the ceiling-mounted X-ray tube support to the optimal imaging position, relative to the Bucky Stand and the Bucky Table.



A single button press automatically moves the ceiling-mounted X-ray tube support to the imaging position, relative to the Bucky Stand, Bucky Table and, if used, stretcher. This automatically switches the SID or X-ray tube angle, allowing an operator to change position from one examination area to another, easy tube support preparation and stowage, and provides a significantly improved, trouble-free, efficient examination workflow. Of course, manual positioning is also available for high-precision positioning.

A single button press moves the ceiling-mounted X-ray tube support smoothly to the registered position. Movement stops immediately when the remote control button is released. Uses up to two remote-control units.



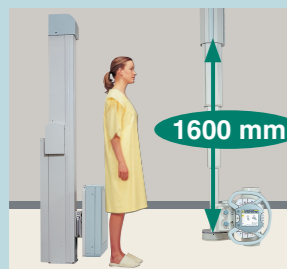
Auto-Positioning Via Linkage with Anatomical Programs (APR)

Up to 90 positions - 30 for Bucky stand exams, 30 for Bucky table exams and 30 for general radiography, can be registered in APR for one-button auto-positioning.

Ceiling-Mounted X-ray Tube Support for Versatile Positioning

X-ray tube support vertical range of 1,600 mm ensures sufficient SID when examining supine patients and low focal point radiography of standing patients.

This support also rotates on the vertical and horizontal axis in addition to fixed positioning at any desired angle, enabling fast positioning at complex angles for orthopedic applications.



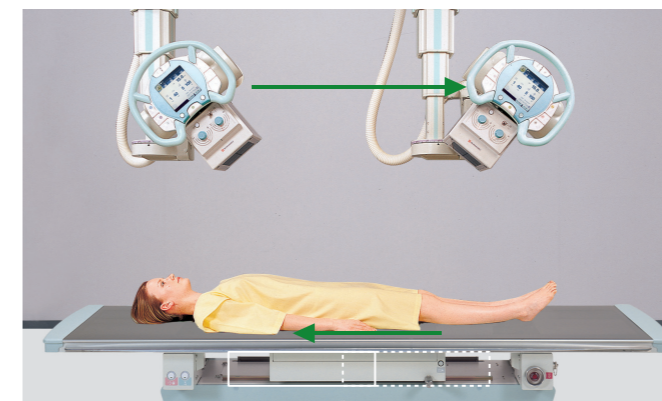
1600 mm vertical stroke



Column rotates freely and can be held at any angle

High-Performance Features Simplify Tomography option

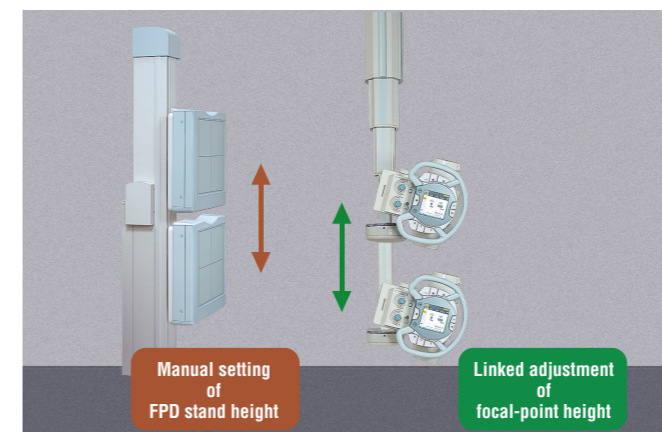
This system provides high-performance electronic tomography. Tomography is possible at any table height without mechanical linkages through easy-to-set parameters at the X-ray tube support.



Accurate link-less linear tomography uses automatic control

Ceiling-Mounted X-ray Tube Support Linked with X-ray Bucky Stand and X-ray Bucky Table

The focal point of the X-ray tube unit moves up and down in conjunction with the vertical positioning of the X-ray Bucky stand and X-ray Bucky table. This allows the operator to attend the patient in a standing position while positioning the equipment.



Manual setting of FPD stand height

Linked adjustment of focal-point height

Collimation Function for Fast and Reliable FOV Adjustment

The aperture is equipped with an auto collimator for automatic adjustment of the aperture according to the view size and SID. (PBL compatible auto-collimation function)
The exposure field can be adjusted from the X-ray Bucky stand (via optional collimation remote function). This enables fast and reliable adjustment of the field of view and prevents unnecessary patient X-ray exposure.

Easily Attach Line Marker to Collimator option

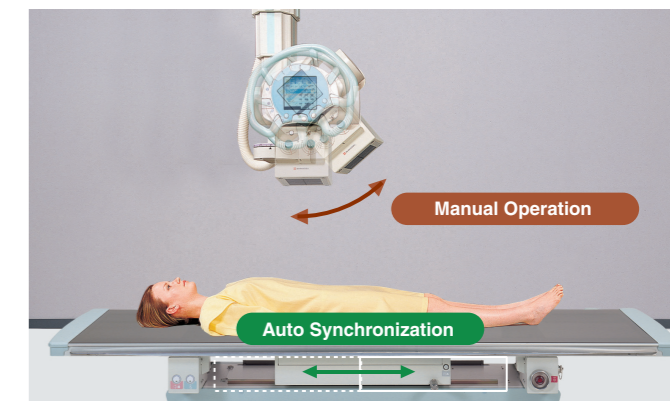
Red laser mark clearly indicates center of the radiation field.

Quick Clip-Stop Rotation of Collimator option

When rotating the collimator relative to the X-ray tube, the collimator can be click-stopped in 3 positions, 0 degrees and ± 45 degrees, allowing quick adjustment of collimation. (The collimator can also be quickly returned to the original (0°) position.)

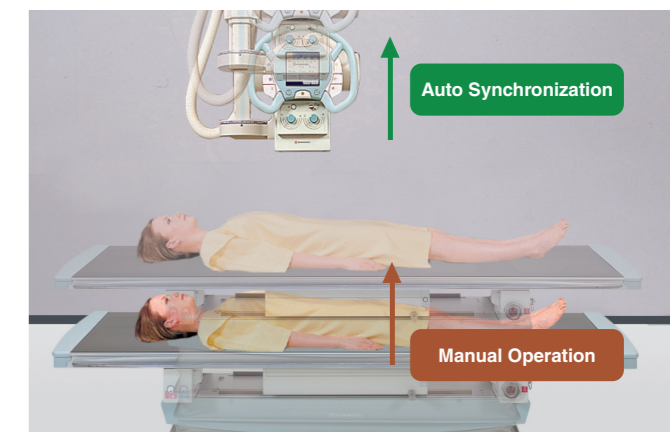
Bucky Unit Longitudinal Travel Follows X-ray Field option

Easily synchronize the longitudinal travel of the table's Bucky unit with the X-ray tube support position. In addition, for oblique radiography, the X-ray field can be controlled according to the APR. Synchronization between the X-ray field and Bucky unit provides fast positioning even for complex orthopedic positioning.



Bucky unit synchronization for oblique radiography

For a supine patient, the X-ray tube automatically moves to a preset SID, enabling accurate and fast positioning.

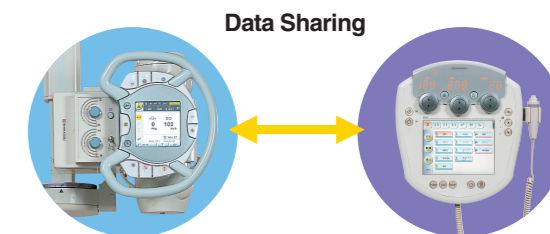


Auto Synchronization

Manual Operation

Easily Set X-ray Tube Parameters and Communicate with X-ray High-Voltage Generator

Use both the high-voltage generator and the X-ray tube to change radiography conditions (kV, mA). When settings are changed on the X-ray tube, the intercommunication function immediately updates the settings in the generator and displays new settings there.

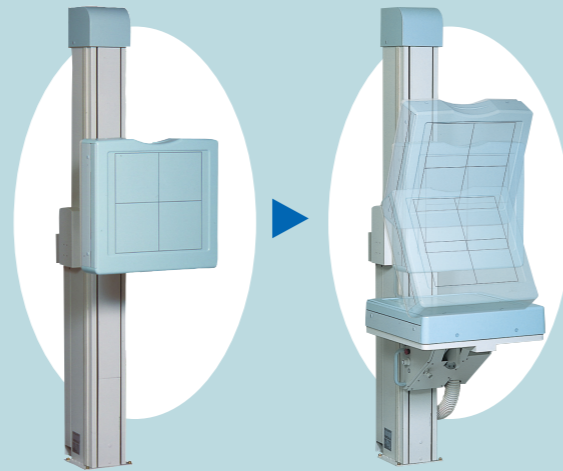


Data Sharing

High-Performance X-ray Bucky Stand & X-ray Bucky Table

Equipped With a Tilting FPD Unit, this Bucky Stand Accommodates a Wide Range of Positioning

The BK-120FT Bucky stand FPD unit can be adjusted from vertical to horizontal (0 degrees) in 15-degree increments. This FPD unit's ability to incline 20 degrees downwards from vertical allows it to accommodate a wide variety of positioning for standard radiography.



New Bucky System Effectively Removes Scattered X-rays

This new Bucky system (one-way Bucky system) varies grid oscillation speed in accordance with the exposure time, effectively removing X-rays scattered by the patient and maximizing the FPD's image quality for sharp images.

Detachable Grids for a Variety of Examination Needs

Easily select and attach a suitable grid according to the region to be examined. The type of grid currently attached is displayed on the operation panel of the CH-200 X-ray tube support for easy confirmation.

Durable Bucky Table Design

This Bucky table can support 295 kg (650 lbs). The ceiling-mounted X-ray tube support coupled with the Bucky table ensures easy operation and features both a highly rigid design and a durable shock-absorption mechanism. RADspeed safire is a high-reliability, easy-to-maintain, long-life radiography system.

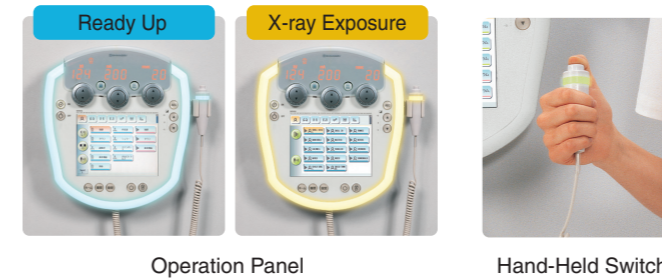
295 kg
Maximum lifting weight



Easy-to-Operate X-ray High-Voltage Generator

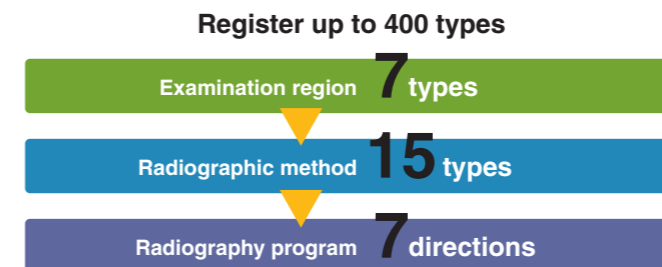
New Illumination Function Allows Full Concentration on Examination

This system uses illumination and sound from the operation panel and from the hand-held switch of the high-voltage generator to indicate X-ray system information, such as the completion of X-ray exposure and the X-ray tube type. This allows the operator to perform radiography at the desired timing and to concentrate on the patient.



Advanced APR for Instant Setting of Radiographic Conditions

Up to 400 types of radiographic conditions can be programmed and registered using combinations of the examination region and the examination technique. Radiography programs can store radiographic conditions for up to seven directions.



Multi-Function Dial for Easy Entry of Settings

Use the multi-function dial to easily set radiographic conditions. Turning the jog wheel quickly changes settings in larger increments, with Up/Down buttons for fine tuning. Use both in combination for quick and easy entry of settings.



Radiography Program Settings Linked to DR Console

When using the DR console examination menu, radiography parameters are also automatically sent to the X-ray high-voltage generator. Manual adjustment of radiography settings (kV, mA) is also possible.