



## ***XR-8500 C/D***

High Frequency Digital Radiography System

SCO Engineering GmbH  
Auf der Heide 15  
D-37351 Dingelstädt  
Federal Republic of Germany

[www.sco-engineering.com](http://www.sco-engineering.com)

<http://www.sco-med.com>

## How to evaluate the quality of A-Si flat panel detector

There are two main performance indexes to evaluate the imaging quality of flat panel detector, DQE(detection of quantum efficiency) and spatial resolution. DQE value decides the resolving power of flat panel detector for different tissue density, while spatial resolution decides the resolving power for same tissue with small fine structure.

### The factors affect the DQE value

- ※ Scintillation coating and transistor which transfer visible light into electrical signals.
- ※ The material and processing of scintillation coating affect the transfer capability from x-ray to visible light, and then affect the DQE value. Currently there are two materials of scintillation coating, cesium iodide and gadolinium oxysulfide..
- ※ The conversion method also affects the DQE value. flat panel detector consists of scintillation + TFT (thin film transistor), visual light could irradiate on the TFT array without photon loss. because based on the equal size between TFT array and scintillation coating, the DQE value is higher.

### The factors affect the spatial resolution

- ※ The spatial resolution depends on the array size of thin film transistor in unit area, the larger array size and more thin film transistor make the spatial resolution higher.

### The relationship between DQE(detection of quantum efficiency) and spatial resolution



For the same flat panel detector, the DQE value will change due to the different spatial resolution.

$$DQE = S^2 \times MTF^2 / NPS \times X \times C$$

- S: Mean signal intensity
- MTF: modulation transfer function
- X: X-ray exposure intensity
- NPS: Noise power spectrum
- C: X-ray coefficient of quantum

## Introduction of XR-8500 C/D

### Technical features



Pictures for reference only, subject to our available products

- ※ The high imaging output 55kW and 65kW allows short-time radiography, virtually eliminating any motion blurring .
- ※ Flexible mechanical design ensures the intelligent, friendly and convenient operation.
- ※ Powerful network functions satisfy the requirements for all levels of hospitals.
- ※ Intelligent and friendly user interface make it easy for new operator.
- ※ Convenient image processing system and high definition medical display system provide efficient and accurate diagnosis.

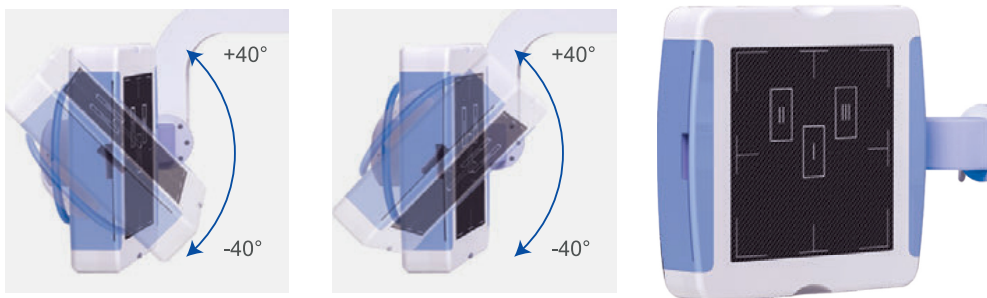
### X-ray source

- ※ Our 60kHz generator provide the right amount of penetration, reducing exposure times and retakes.
- ※ Automatic exposure control(AEC) enables auto selection of radiographic factors, save time, eliminate retakes, increase diagnostic capability and lower the radiation dose.



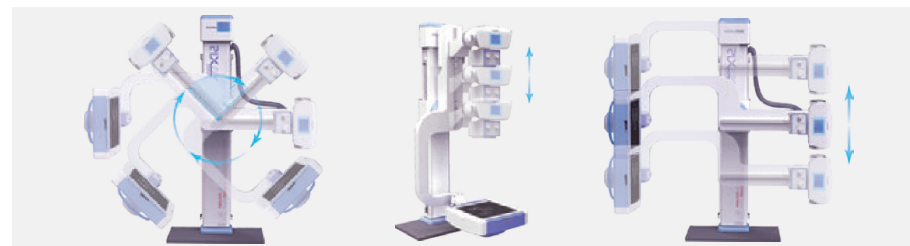
### Dectector

- ※ Flat panel detector improves your workflow, exam speed and comfort with efficiency.
- ※ A-si detector with CSI screen, excellent spatial resolution.
- ※ Active area:17" x 17", Rotate angle: +40° ~ -40° .

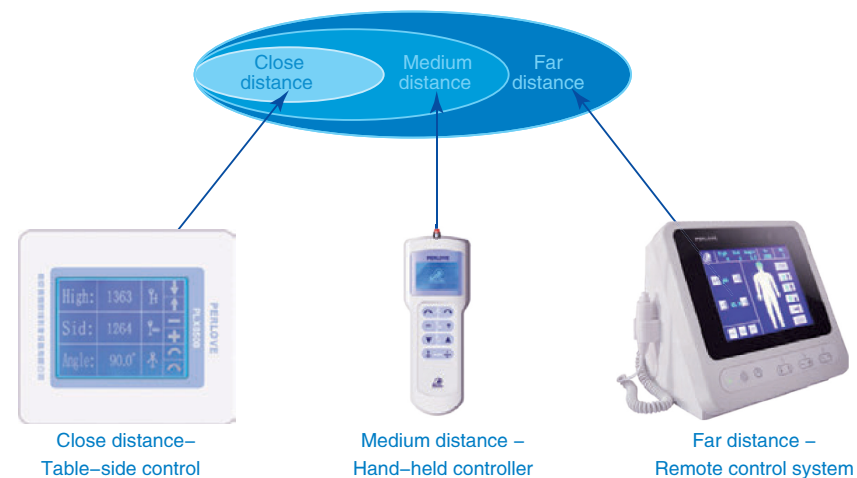


### Mechanical controlling system

- ※ Multi-automatic protection and error code indicator ensure convenient maintenance.
- ※ Attractive design U-arm frame, fully automatic motorized movement, widely used for standing and decubitus positions.
- ※ Safety features protect against collision with patient and obstacles.
- ※ Multi kinds of control method provide instant access to patient data and key parameters.



- ※ Multi kinds of control methods: Table-side control, hand-held control, remote control  
Doctors could operate the equipment beside the patient with the LCD touch screen on tube face.  
5 meters wire hand-held controller realizes the medium-distance control.  
Outside workstation permit the communication between doctors and patients, prevent doctors from the radiation.

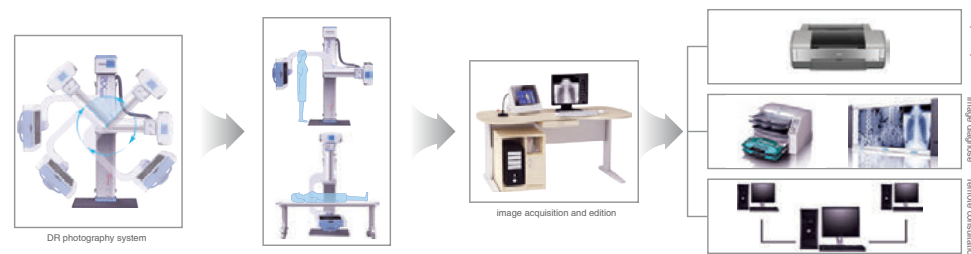


### Remote control console

- ※ Human graphic operation design with APR ensures intelligent control.
- ※ User could modify and store the preset parameters according to requirements.



### Digital Solutions



- ※ Microphone and remote exposure protect doctors from unnecessary x-ray radiation.



- ※ Multiple infra-red devices realize the self-protecting function.



- ※ Optional: Dry film printer.(multiple brands)



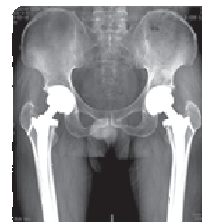
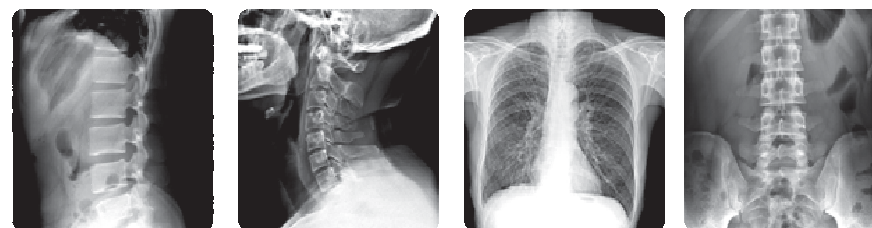
### Workstation

- ※ Apply with international advanced medical imaging processing technology.
- ※ High definition medical LCD display provides sharp images.
- ※ Dicom 3.0 network interface for integration with PACS,RIS or HIS system. work-list registration for seamless integration in your hospital environment.
- ※ Gigabit network connect with DR detector make the image acquisition conveniently and safely.

### Clinical Application

#### High-quality images ensure the accurate diagnosis

Advanced frame design, high quality x-ray generator and digital flat panel detector ensure the excellent images.



### Technical Parameters

Model	XR-8500C	XR-8500D
Power Output	55kW	65 kW
Frequency	60kHz	60kHz
Tube Current	10-500mA	10-650mA
Tube Voltage	40-150kV	40-150kV
mAs	0.1-630mAs	0.1-630mAs
Exposure Time	0.001-12.5s	0.001-12.5s
Focus Size	0.6/1.2	0.6/1.2
Detector Type	Flat panel detector	Flat panel detector
Vision Size	17"x17"	17"x17"
Spatial Resolution Limit	3.6Lp/mm	3.6Lp/mm
Pixel Size	3Kx3K	3Kx3K
Power	380V ,50Hz	380V ,50Hz