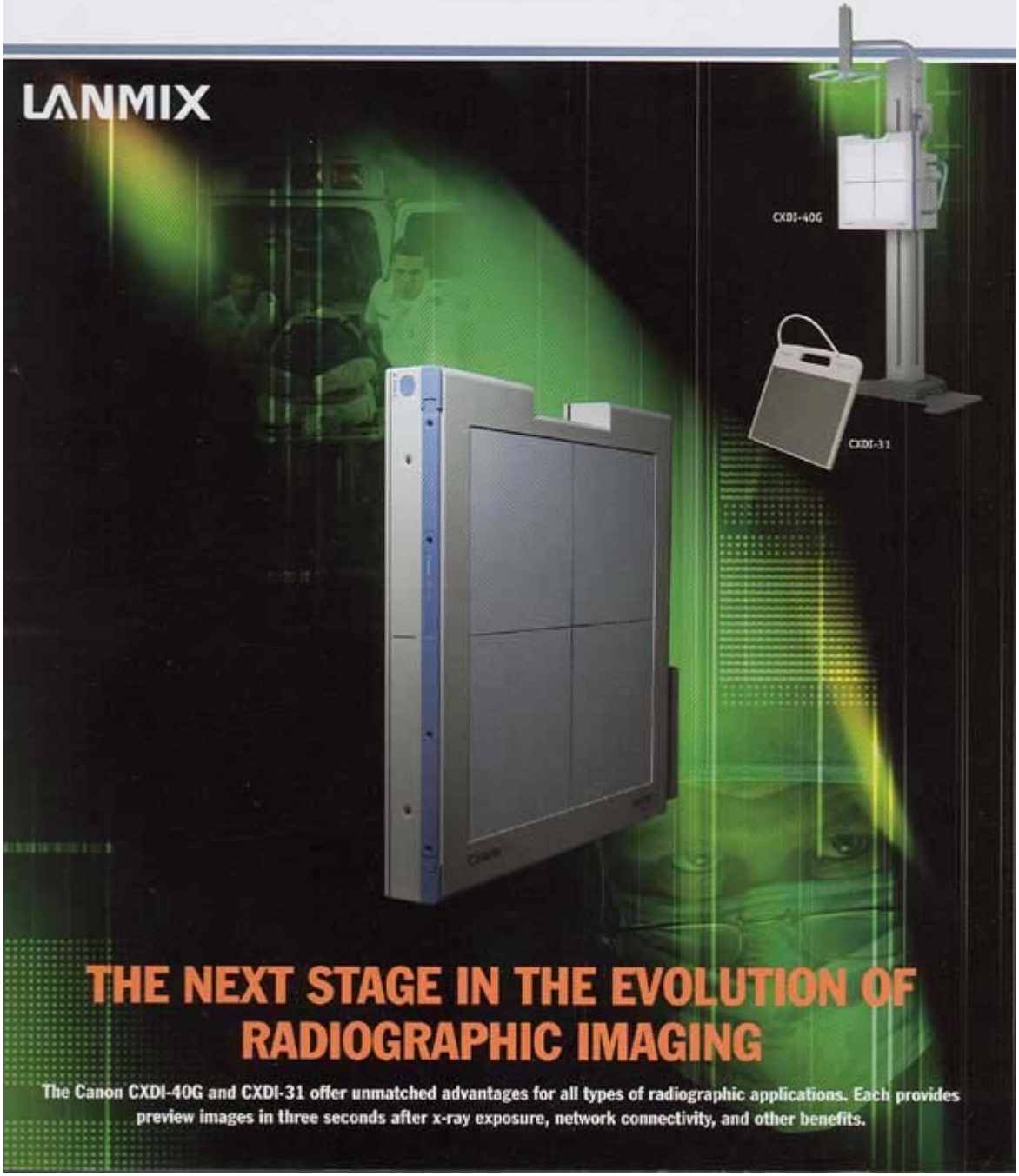
Canon

Digital Radiography
GENERAL OVERVIEW

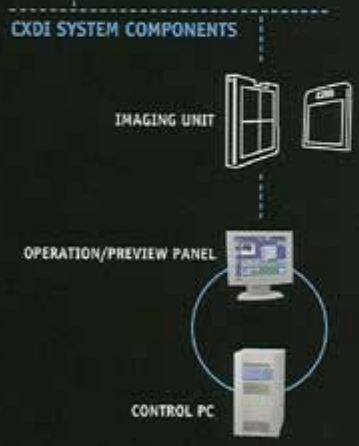
CXDI-40G / CXDI-31



THE NEXT STAGE IN THE EVOLUTION OF RADIOGRAPHIC IMAGING

The Canon CXDI-40G and CXDI-31 offer unmatched advantages for all types of radiographic applications. Each provides preview images in three seconds after x-ray exposure, network connectivity, and other benefits.

Canon Forges Ahead with the State of the Art in X-ray Imaging



As digital radiography continues to become the standard in x-ray imaging, Canon strives to give medical professionals the finest digital solutions available anywhere. That's one reason why the Canon CXDI systems cover all types of general radiography. The CXDI-40G can be installed in a table or used with an upright or universal stand, while the innovative CXDI-31 adds total portability to your options. Both systems increase efficiency in and beyond the radiography department, thanks to a filmless, labor-saving image capture process and the network-based distribution of diagnostic images. Canon's long track record with digital radiography ensures the highest level of quality during manufacturing, resulting in advanced systems you can rely on in either routine or critical situations.

CXDI Systems

Preview Images in Three Seconds

The CXDI systems produce a preview image immediately after the patient has been exposed to x-rays. This allows the radiographer/technologist to confirm the suitability of the image on the spot. Not having to wait for film development means faster exam times—especially when capturing multiple images.

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Superior Image Quality

Canon's advanced LANMIT sensor technology delivers high-resolution images in 4,096 grayscale. Furthermore, an expansive 10^4 dynamic range coupled with various image processing functions provide medical personnel with optimum imaging, and benefit patients by reducing the need for retakes.

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Compact, Portable Design (CXDI-31)

The CXDI-31 is an innovative, portable digital radiography system that offers the extra advantage of flexible positioning. Its compact and lightweight flat panel detector can be set up just like a traditional film/screen cassette, which makes it ideal for diverse applications including pediatric, orthopedic, and trauma imaging.

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Network Connectivity

The CXDI systems are DICOM 3.0 compliant for seamless integration into PACS and HIS/RIS networks. Captured images can be transmitted immediately to desired network locations, such as a remote viewing workstation, digital image archive, or printer.

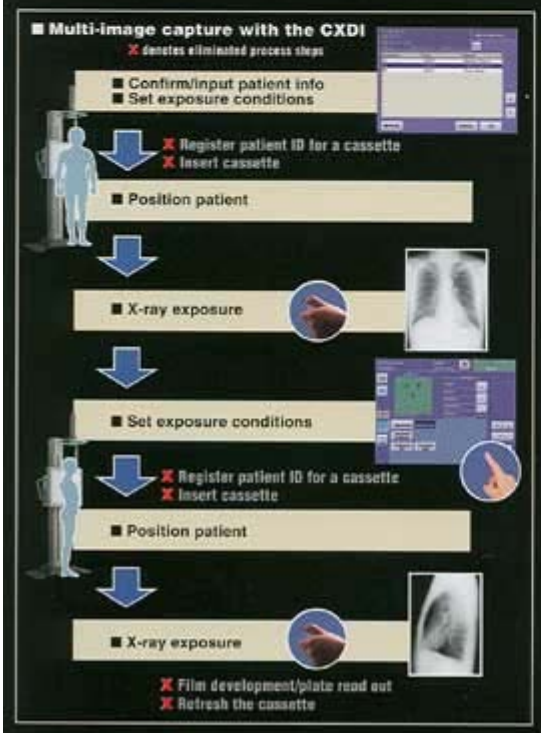
An Improved Workflow That Leads to Faster Exams and Higher Patient Throughput

The most significant advantage of the CXDI systems is their streamlined workflow. By minimizing the number of steps involved in image capture, the systems promise to make x-ray procedures easier and more efficient than ever. Here's how they work. A session begins by entering patient data into the Operation/Preview Panel, either manually or via HIS/RIS (DICOM Worklist). Next, exposure conditions are selected to match the targeted anatomical area. After x-ray exposure, a preview image appears on-screen in approximately three seconds.* The radiographer/technologist can confirm—right there and then—whether patient positioning is acceptable, and have the system complete final image processing. The image is now ready for network distribution or printing.

Another aspect of the CXDI systems' efficiency is the interval between image acquisitions. There is virtually no wait before the systems are ready to capture the next image.

** Actual times may vary slightly depending on various factors, such as image size.*

PRODUCTIVITY



Extensive Networkability

The CXDI systems are compliant with DICOM 3.0 networking standards, and can be smoothly integrated into imaging networks. As part of a PACS (Picture Archiving and Communication System), the CXDI systems allow for the immediate transfer of images to storage devices and printers, as well as to physicians and healthcare professionals working in other locations. Connection to HIS (Hospital Information System) and RIS (Radiology Information System) promotes the effective exchange of information between administrators and radiologists.

Canon's Advanced Technology Provides Front-running Image Quality

High image quality is absolutely essential in medical imaging. And when it comes to quality, the CXDI systems are among the finest x-ray imaging devices available. Each system is built around Canon's exclusive flat panel detector—the LANMIT—that delivers image resolution of over 6 million pixels for all systems. The systems produce refined, high-contrast images in 4,096 grayscale levels, and have an outstanding 10^4 dynamic range. This makes it possible to capture images that would otherwise appear over- or underexposed on film, thus providing excellent results for every type of radiographic imaging. Also, because images are generated by the CXDI systems through direct digital capture, they can be adjusted on the spot for optimum clarity with the numerous image processing features included. Further benefits come from the systems' scintillator, which is made of the same rare-earth GOS phosphor found in film/screen systems. It offers stability against changes in temperature and humidity, provides the ideal contrast for general radiographic imaging, and allows radiographers/technologists to leverage their expertise when using the CXDI systems.

HIGH QUALITY

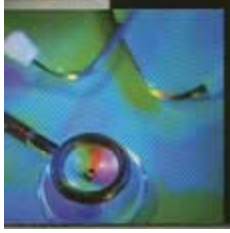
Initial image

Display Enhancement

Total Quality Solution

The CXDI systems have been designed to maximize quality at every process step, from image capture to image display. On the capture side, the LANMIT's clear image data is enhanced by Canon's specifically-designed electronic circuitry, which contributes to a high pre-sampling MTF (Modulation Transfer Function) and high NEQ (Noise Equivalent Quanta). On the display side, there are easy-to-use features for automatic image adjustment. Display Enhancement Processing, for example, adjusts contrast in the high- and low-density areas of an image to create more visible detail. This function is particularly useful with chest and abdominal images. Among the other processing features are image sharpening, grayscale transformation, and automatic adjustment of image size to the collimated area.

The Superior Alternative to Traditional X-ray Equipment



With the introduction of the CXDI-40G, Canon once again offers an efficient, cost-effective, and reliable upgrade to your current film-based radiographic system. The CXDI-40G is the next generation of the popular CXDI-11 and CXDI-22 digital imaging systems. It features all the elements that made the CXDI-11/CXDI-22 the preferred system at so many medical institutions—the largest imaging area in the industry (43 x 43 cm/17 x 17 in.), high image resolution (7.2 million pixels), and usability with various tables and stands. The CXDI-40G has some unique characteristics as well. Its imaging unit, which includes the new LANMIT 3 sensor, is slimmer and lighter than previous models, with new, easy-to-use features for improved operability.

Upright Stand

Universal Stand

Bucky Table

LANMIX

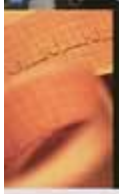
LANMIX is a new name that represents the total solution offered by Canon, through the combination of our LANMIT (Large Area Flat-Panel a-Si Sensor and TFT) detector and other X-ray imaging equipment and software. In the future, expect more great products from Canon under this new name.

CXDI-40G

Canon's LANMIT® Technology

The core component of the CXDI systems is the LANMIT, a flat panel detector comprised of an amorphous silicon (A-Si) sensor and TFT array. Developed exclusively by Canon, the LANMIT is the product of our industry-leading expertise with semiconductors and sensor manufacturing, and has been tested extensively to ensure maximum reliability. Several key characteristics contribute to the LANMIT's high performance. First, it offers stable image quality in a wide range of operating environments—a major reason for its integration into such diverse DR systems. Second, the LANMIT is inherently a low-noise system. And third, its intelligent design provides both a high fill factor and high resolution, a combination that results in high sensitivity.

Digital Radiography






As the world's first portable flat panel digital radiography system, the CXDI-31 brings the efficiency of digital technology to a wide range of radiographic needs. Immediate benefits are obtained even with cassette applications. The CXDI-31 features the innovative LANMIT 2 sensor in its ultra-compact imaging unit, which is only

A Portable Imaging Solution That Expands the Scope of Digital Radiography

2 cm (0.8 in.) thick with a weight of 2.8 kg (6.2 lbs). Positioning is remarkably simple. The unit can be easily used for a table application, or attached to a stand or patient trolley. This facilitates image capture from virtually any angle, making the CXDI-31 especially useful for imaging the shoulders, neck, skull, and extremities. Its imaging area is 23 x 29 cm (9 x 11 in.), and is formed by a matrix of 6 million pixels that each measures a mere 100 microns. The CXDI-31 can be used alone or in conjunction with the CXDI-40G, with both systems operated by a single control station.

CXDI-31

CXDI-31

Ideal for Diverse Applications

The key strength of the CXDI-31 is its remarkable versatility. It can be conveniently used in neonatal and pediatric applications, and is also recommended for use with orthopedic patients because of the excellent results it delivers with bone imaging. Thanks to the system's portability, the CXDI-31 can be effectively used during emergency medical procedures in either the operating room or emergency room. In these and other situations, the CXDI-31 will help boost efforts to provide timely, efficient, and high-quality services to your patients.

Digital Radiography

Specifications

	CXDI-40G System	CXDI-31 System
Purpose	General radiography	
Method	Flat panel detector: Scintillator & Amorphous Silicon (a-Si)	
Detector	LANMIT 3	LANMIT 2
Scintillator	GOS (Gd_2O_2S:Tb)	
Grid	Choice of 10:1, 12:1 (180 cm), 10:1, 8:1 (110 cm), etc., removable	Choice of 4:1, 8:1, 10:1 (110 cm), removable
Application	Available with table, upright stand, universal stand or other stands	
Pixel	2,688 x 2,688 (7,200,000 pixels)	2,256 x 2,878 (6,493,000 pixels)
Image size (automatic sizing)	Up to 43 x 43 cm (17" x 17")	Up to 22.6 x 28.8 cm (9" x 11")
Pixel pitch	160 x 160 µm	100 x 100 µm
A/D	14 bit	
Grayscale	4,096 grayscale (12 bit)	
Preview image access time*	Approx. 3 seconds after x-ray exposure	
Total image processing*	Approx. 20 seconds after x-ray exposure	
Interface	DICOM 3.0, Ethernet 10/100 Base T	
Data output	DICOM 3.0 compatible, Print Management Service Class (SCU), Storage Service Class (SCU) (JPEG transfer syntax available)	
Storage	Temporary storage available in the Control PC	
Voltage	100V, 120V, 230/240V (50/60Hz)	
Power consumption	300VA maximum	
Operation environment	5 – 35°C (41 – 95°F), 30 – 75% RH (non-condensing)	10 – 35°C (50 – 95°F), 30 – 75% RH (non-condensing)
Certification	FDA510(k), FCC Class A, UL 2601-1, EN60601, CE0197	
Dimensions (W x L x H) **Sensor Unit**	Upright Stand Type: 554 x 550 x 118.7 mm, 26.7 kg (w/o grid) (21.8" x 21.7" x 4.7", 59 lbs.) Table Type: 550 x 589 x 67.5 mm, 21.2 kg (w/o grid) (21.7" x 23.2" x 2.7", 46.7 lbs.) Universal Type: 554 x 550 x 101 mm, 20.8 kg (w/o grid) (21.8" x 21.7" x 4", 45.9 lbs.)	324 x 327 x 20 mm, 2.8 kg (12.8" x 12.9" x 0.8", 6.2 lbs.)
Operation/Preview Panel	399 x 394 x 150 mm, 6.6 kg (15.7" x 15.5" x 5.9", 14.5 lbs.)	
Control PC	300 x 502 x 593.5 mm, 27.0 kg (11.8" x 19.8" x 23.4", 59.5 lbs.)	

* Actual times may vary due to various factors.

Other options

Please contact an authorized Canon dealer.

HIS/RIS communication:
- DICOM Basic Modality Worklist Management Service Class (SCU)
- DICOM Modality Performed Procedure Step Service Class (SCU)
- Other non-DICOM communication

X-ray generator communication

Specifications are subject to change without notice.

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