

GE Innova 3100^{IQ} Fact Sheet

GE INNOVA 3100^{IQ}

ALL-DIGITAL CARDIOVASCULAR AND INTERVENTIONAL IMAGING SYSTEM

Description and Overview

The GE Innova® 3100^{IQ} is an all-digital X-ray imaging system that's optimized for cardiovascular, angiographic and interventional imaging.

Cardiologists in the cardiac cath lab use the GE Innova 3100^{IQ} to view inside the body while performing diagnostic procedures and treating potential coronary artery blockages that could cause heart attacks or other serious cardiovascular damage.

In addition, the GE Innova 3100^{IQ} is also used in angiographic procedures to assist physicians in diagnosing and treating a wide range of vascular conditions throughout the body. It enables physicians to more easily visualize vascular detail through all body thickness and view fine vessel detail right to the skin surface of the extremities.

Thanks to its design and the optimum size of its digital flat panel detector, the Innova 3100^{IQ} allows physicians to perform cardiac, angiographic, vascular and interventional procedures on one system in one room.

In many cases, the detailed images produced by the GE Innova 3100^{IQ} enhance physicians' ability to treat their patients using minimally invasive techniques in lieu of major surgery.

Major Features & Benefits

- The ability to view hard-to-see small blood vessels and anatomy with greater clarity, even in larger patients who are generally more difficult to image.
- Revolutionary image quality that allows physicians to visualize the smallest medical instruments and devices such as catheters, guidewires and stents during procedures that require exacting precision.
- Considerable reduction in overall radiation exposure needed for an exam compared to conventional fluoroscopy systems.

Basic X-ray Description and Overview

X-ray is a medical diagnostic tool that allows the visualization of internal structures within the human body. This aids physicians in diagnosing disease, viewing internal abnormalities and assessing the extent of trauma damage.

Traditional X-ray Technology

In a traditional X-ray system, an imaging chain – comprised of an image intensifier, a TV pickup tube or CCD camera and a set of lenses – creates an analog X-ray signal. This signal is then translated into digital format through a multi-step process. Each step of the process through the analog devices introduces

electronic noise and what is called “artifact” into the signal, both of which degrade the quality of the X-ray image.

The GE All-Digital Detector

The Innova 3100^{IQ} uses GE’s patented all-digital flat panel X-ray detector technology, which enables physicians to visualize small, fine vessels and anatomy with exceptional detail.



The GE digital detector on the Innova 3100^{IQ} system replaces the entire imaging chain of a traditional X-ray image intensifier system. By converting X-ray signals into digital images at the point of acquisition, the detector captures information with minimal loss over the full range of typical exposures to produce exceptional image clarity. It also minimizes the artifacts and distortions associated with conventional X-ray systems.

By eliminating many of the components and conversion steps that typically degrade image quality in traditional X-ray image intensifier systems, the Innova 3100’s detector provides superior image quality that allows physicians to see more than ever before when performing cardiovascular and interventional procedures, which in turn helps to increase their clinical confidence.

- The detector delivers exceptional image quality at a reduced radiation dose to both the patient and the physician compared to traditional X-ray exams. This is due in large part to the detector’s high Detective Quantum Efficiency, or DQE, a widely recognized measure of image quality over patient dose. The higher DQE, when compared to traditional systems, allows for outstanding object detectability.
- The detector provides improved contrast dynamic range compared to conventional X-ray systems. This dramatically increases the visibility of hard-to-see blood vessels, anatomy and interventional devices such as stents and catheters. It enables the system to provide images with fine detail from the thickest, densest parts of the body to the periphery of the extremities in a single image.
- The detector’s sensitivity to exposure by X-rays is linear across the range of usable exposures, while traditional image intensifier systems vary greatly in their sensitivity to exposure.

GE’s Commitment to Cardiac Care

GE Healthcare is a global leader in medical information and technology. GE offers a comprehensive range of high-performance cardiology systems designed to help cardiologists optimize productivity and cardiac disease management while maximizing efficiency. Its offerings include networking and productivity tools, healthcare information systems, patient monitoring systems, conventional and digital X-ray, computed tomography (CT), cardiovascular magnetic resonance (CVMR), ultrasound, nuclear medicine, stress testing, ECG, Holter, electrophysiology, hemodynamic recording, radiopharmaceuticals, diagnostic contrast agents and a full range of value-added services to help healthcare providers achieve the best possible return on their cardiology investments.

About GE Healthcare

GE Healthcare provides transformational medical technologies that will shape a new age of patient care. GE Healthcare’s expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, disease research, drug discovery and biopharmaceuticals is dedicated to detecting

disease earlier and tailoring treatment for individual patients. GE Healthcare offers a broad range of services to improve productivity in healthcare and enable healthcare providers to better diagnose, treat and manage patients with conditions such as cancer, Alzheimer's and cardiovascular diseases.

GE Healthcare is a \$14 billion unit of General Electric Company (NYSE: GE) that is headquartered in the United Kingdom. Worldwide, GE Healthcare employs more than 42,500 people committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com.

American Heart Association Web site
www.americanheart.org

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