

RaySafe i2

Real-time radiation insight

Like a Canary in a coal mine

In the early days of coal mining, canaries were used as warning systems. If the little yellow bird stopped singing, the miners knew that the level of dangerous gases had substantially increased and it was time to exit the mine.

In the operating room, RaySafe i2 is the modern-day canary. By providing real-time, accurate and easy-to-interpret dose information, RaySafe i2 helps healthcare workers to better understand scatter radiation and decide when it is time to adjust their working behavior to avoid unnecessary exposure. By continuous control of exposure data it is possible to reduce dose to the personnel. Clinical studies have indicated around 40% staff dose reduction.

RaySafe i2 helps build a Radiation Safety Culture™

RaySafe i2 dosimetry system helps create a successful radiation safety culture. Once in place, both healthcare workers and management benefit from the radiation insight gained. Moreover, focus is returned to treating patients, versus worrying about unnecessary radiation exposure.

Understanding + Behavior + Control = Dose Reduction



Dosimeter



The RaySafe i2 dosimeter measures and records dose and dose rate every second. Data is wirelessly transferred via radio to the i2 real time display. Accumulated dose is stored in the dosimeter by hour for 5 years and the dose rate is stored by second for the last hour of exposure. It is maintenance free and the expected dosimeter life time is 3 to 5 years dependent on use. The i2 dosimeter should be worn outside the lead apron for best online dose rate performance. It can be personalized with different colors and names.

Real Time Display Features

By tapping the dosimeter name on the touch screen, more detailed information about the personal dose history can be accessed:

1. A dose dashboard with total dose history and trip meters



2. Annual dose in number and in relation to a configurable yearly limit



3. Detailed views presenting time stamped dose history

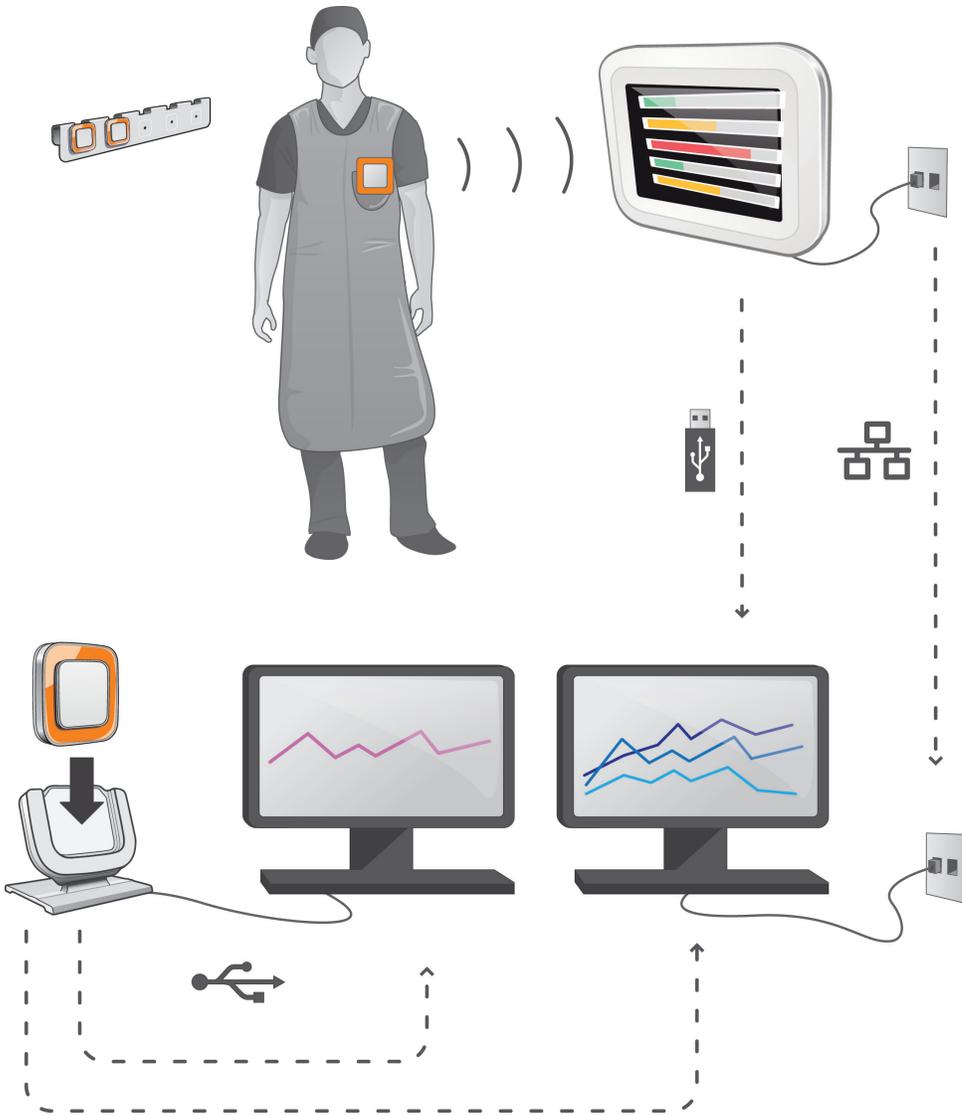


Real Time Display

The RaySafe i2 real time display is a 10.4" touch screen which is placed in the examination room. It shows real time dose exposure from all dosimeters in range, up to eight at a time. Color indication bars (red, yellow, green) represent dose rate levels with a logarithmic scale. The accumulated dose per individual user is displayed next to the color indication bars.



RaySafe i2 Overview



RaySafe i2 Dose Viewer

The RaySafe i2 dose viewer software is used for administrating dosimeters and viewing personal dose information while connected to the RaySafe i2 cradle. The software allows you to view dose data history, change dosimeter names and colors and reset dose history.

RaySafe i2 Dose Manager

The RaySafe i2 dose manager is advanced software for analyzing, reporting and archiving dose information. In addition to i2 dose viewer's features, i2 dose manager handles multiple dosimeters and can retrieve the dose information from multiple real time displays through the hospital network or via USB storage.

System Specifications

Dosimeter	
Weight	30 g (1.06 ounces)
Operational Quantity	Hp(10)
X-ray Dose Range	1 μ Sv – 10 Sv
X-ray Dose Resolution	1 μ Sv
X-ray Dose Uncertainty	5% or 1 μ Sv
X-ray Dose Rate Range and Linearity	+/- 10% 40 μ Sv/h – 150 mSv/h +/- 20% 150 mSv/h – 300 mSv/h
Energy Range X-, γ -rays	N40 – N120 (33 keV – 101 keV)
Average Dosimeter Lifetime	3 – 5 years, depending on daily use

Real-Time Displays	
Dose Unit	Sv or rem
Dimensions	300 x 250 x 60 mm 11.8 x 9.8 x 2.4 inch
Weight	1240 g (43.74 oz)
Display	10.4" touch screen
Resolution	640 x 480 pixels
Storage	Dose rate by second and accumulated dose by hour for dosimeters in range. For 50 dosimeters the memory size allow storage of up to 5 years accumulated dose and dose rate for the last 250 hours of exposure each.
Communication	Wireless radio communication with dosimeters
Ethernet	10/100 Mbit/s port for the dose manager connection
Power Source	The real time display uses a power supply connected to 120 V/230 V

Software Requirements

Dose Manager PC	
Operating System	Windows 7, Vista or XP
Operating Memory	At least 2 GB
Hard Disk Space	40 GB with at least 15 GB available
Requirement	40 GB with at least 15 GB available space
USB Connection	One available 2.0 port

Dose Viewer PC	
Operating System	Windows 7, Vista or XP
Operating Memory	At least 1 GB
USB Connection	One available 2.0 port

RaySafe i2 does not replace the legal dosimetry system. It does not measure direct radiation which is a requirement for legal dosimetry, only scattered radiation. The i2 system is made primarily for the user's radiation exposure awareness.

Catalog #	Description
E7100RA	RaySafe i2 System (Includes Base Station, 4 Dosimeters, and Dose Viewer Software)
E7100RB	Additional RaySafe i2 Dosimeter
E7100RC	RaySafe i2 Dose Manager Software
E7100RD	Additional RaySafe i2 Rack

Learn more about the RaySafe i2 dosimetry system.

- Call: 800-558-5102, opt. 2, opt. 1
- Email: gehaccessorysales@ge.com
- Contact your GE representative

Visit us online at gehealthcare.com/accessories

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GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are 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.

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