Definium™ 656 HD

Definitive insights. Exceptional experience.

Highest weight capacity

The bariatric elevating table provides the highest weight capacity of any GE Healthcare x-ray system. Its 400 kg (882 lbs) static capacity and 320 kg (705 lbs) dynamic capacity (patient centered on table) provides coverage for a wide variety of patient and clinical needs. The low loading height and fast movement allow for the safe transfer and positioning of patients of all sizes and mobility levels to reduce technologist physical effort and strain.

Flexibility and support

The motorized tilting wall stands are available in two configurations to satisfy different clinical demands, room layouts, and room sizes. Both wall stands support reverse tracking, and the extended arm wall stand offers stretcher support.

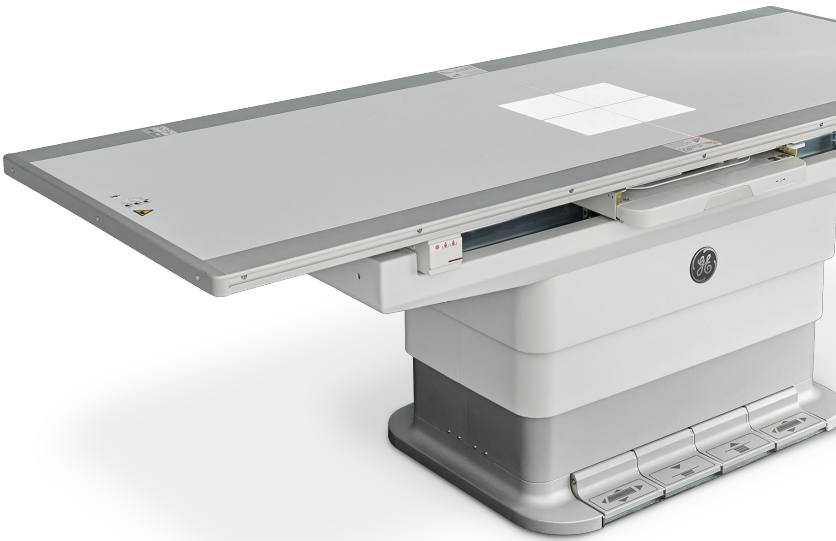# Give your radiology department a personal assistant.

The Definium 656 HD is a digital overhead tube suspension (OTS) system powered by high-resolution detectors and advanced image processing software. Versatile and easy to use, this system features the widest range of clinical applications, full component automation, the fastest motorized movement, and the highest weight capacity of any GE Healthcare x-ray system.

It's designed to reduce the physical and mental strain on technologists while allowing them to perform consistent, efficient exams with correct positioning. The combination of FlashPad™ detectors, advanced image creation applications, and AI-driven Helix™ Advanced Image Processing software provides radiologists with the clarity, contrast, and resolution to make clinical decisions with confidence—all at a low total cost of ownership.

Configurable to your room and needs

The Definium 656 HD can be configured to meet the custom needs and room size requirements of your radiology department, including:

• OTS-only system (without table or wall stand) for trauma rooms
• OTS with table and wall stand for standard general-purpose x-ray rooms
• OTS with wall stand and stretcher table for chest-specific rooms
• OTS with table-only system

Additional options include:

• Detector size and number
• Wall stand types
• Rail and bridge sizes
• Advanced clinical applications
• Intelligent workflow assistant applications
• Artificial intelligence (AI)

All configurations include cybersecurity features to help protect your system and yourclinical IT environment.

Enhanced workflows.
More precise positioning.

The Definium 656 HD works with and for your radiology department. In-room exam control, a common user interface, motorized positioners, and intelligent applications converge to assist technologists, facilitate efficient workflows, and expand patient coverage.

Speed and automation

A 5-axis motorized OTS with fast movement assists technologists with patient positioning. Through 2-way auto-tracking, auto-centering, auto-positioning, auto-angulation, and auto-column rotation capabilities, it increases efficiency, reduces physical workloads, and helps prevent injuries.

In-room workflows

A smart tube head console with a 12-inch touch screen provides complete in-room exam workflow control to help technologists stay close to their patients and avoid trips to the control room. This means better patient care and the ability to manage higher patient throughput.

• The Remote Control†, Remote Foot Pedal†, and Extended Handswitch† allow technologists to operate the system in the most convenient place, reducing unnecessary movement throughout the exam

• AutoRAD† features Auto Protocol Assist and Auto FOV, which automatically select the correct anatomy-specific protocol and collimation without any button presses after patient selection

Out-of-room precision

When taking exposures outside the room, live streaming video helps technologists stay connected to their patients, monitor patient safety, and reduce rejects from patient motion or incorrect orientation.

High-capacity workflows

With this dual technologist workflow, a new patient can be set up in the exam room, including auto-positioning and auto-tracking, while a second technologist processes the previous exposure and closes the exam in the control room. This increases efficiency in high-throughput scenarios.

Intelligent Workflow Suite

Live streaming video and 3D cameras on the Definium 656 HD solve for common errors and inefficiencies within the imaging department, including incorrect positioning, poor image quality caused by incorrect patient habitus, and ambiguities due to imaging conditions.
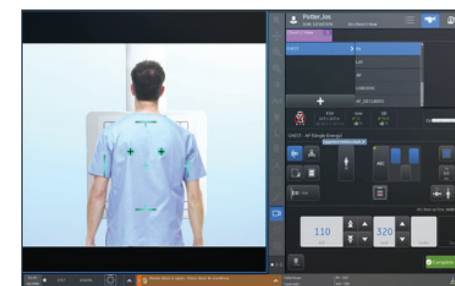

Position Assist†

Provides confidence in patient positioning at the time of exposure by showing the detector boundaries, ion chamber locations, and active ion chambers on the video at the acquisition base.

Overlays are available on any patient anatomy and view, with real-time adjustments so the placement is correct regardless of patient size or parallax effects.

• See exactly where the ion chambers will align for confident patient positioning

• See which ion chambers are active for direct alignment to appropriate anatomy

• Works at the table or wall stand, even when the tube is angulated
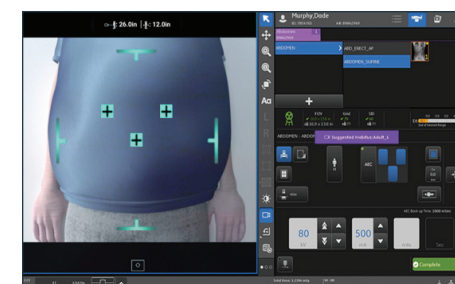
Technique Assist†

Helps create more consistent images by automatically measuring the thickness of the patient and suggesting the patient habitus, so the imaging technique is optimized for the patient's real characteristics. Improving imaging technique impacts image quality and dose.

• The system assists by suggesting the patient habitus that should be selected based on the measured unique characteristics of each patient

• The suggested habitus is displayed above the selected habitus so that the selection can easily be changed

• Each habitus is programmable for different size ranges according to site-specific needs

Patient Snapshot†

Provides an optical picture, taken at the same time as the x-ray, to help radiologists understand foreign objects and other unique exam conditions that often slow down diagnosis.

The system attaches an optical picture as a secondary DICOM capture when sent to the PACS, providing contextual awareness of the exam conditions for the radiologist:

• Presence of external objects, such as lines and clothing

• Positioning limitations and patient orientation

• Deviations from ideal imaging conditions

• Specifics of the x-ray acquisition parameters

# Advanced applications. Precise views. Clinical excellence.

To give radiologists the views they need to make clinical decisions with confidence, Definium 656 HD uses high-quality detectors, advanced applications, and AI-driven image processing. It's a combination that reduces variability and provides optimal image quality with the clarity, contrast, and resolution to make decisive decisions.

Extraordinary detail. Low dose.

FlashPad™ HD wireless digital detectors capture extraordinary detail at a low dose with a DQE of 75% at 0 lp/mm. With 100 um pixels, the detectors provide 4x higher resolution than 200 micron pixel detectors, helping to distinguish fine structures.

Available in three sizes, FlashPad detectors are always ready when you need them. Detectors automatically charge in their holders, connect wirelessly to registered systems, and can be shared between the latest fixed and mobile GE Healthcare x-ray systems.
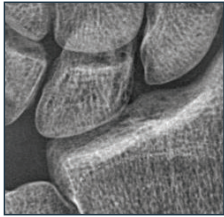
Outstanding clarity and anatomical detail

Helix 2.2 advanced imaging processing provides outstanding clarity and exceptional anatomical detail across image types with anatomy-specific image enhancement.

• Automated AI Brightness and Contrast (AIBC) delivers improved consistency despite variations in exposure technique and challenging exam conditions

• Detail Preserving Noise Reduction Filter (DPNR) offers significant noise reduction capabilities while minimizing the effect on fine details

• Local Contrast Enhancement (LCE) provides improved contrast for chest, ankle joint, foot, and patella images

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Enhanced insights

Dual Energy Subtraction[†] goes beyond image processing. A dual-energy chest exam is performed by acquiring two images at different energy levels separated by 160 milliseconds.

Three images are generated—standard (high kv), soft tissue (low kv), and bone (subtracted)—leading to the detection of abnormalities that may have been obscured in a conventional radiograph.

Critical data, less dose

VolumeRAD™ digital tomosynthesis with Metal Artifact Reduction[†] provides multi-level image slice data similar to a CT at very low doses.

• Obtain multiple cross-section images of the anatomy in a single sweep including chest, abdomen, extremities, spine, skull, and sinuses

• Resolve inconclusive x-rays in orthopedic and trauma cases efficiently and achieve superior lung nodule detection sensitivity compared to a conventional chest x-ray

• View weight-bearing and pediatric obstruction studies at a lower dose than CT

Expanded capabilities

Auto Image Paste[†] enhanced with Auto Spine provides a fast, precise, and highly-automated seamless long bone and spine image stitching at the wall stand or at the table, creating a single stitched image that extends beyond the size of the detector.

Ideal for scoliosis exams, the Auto Spine algorithm follows the contour of the spine for vertical equalization, enabling a natural balance of brightness and contrast along the patient body.

Easy to learn, support, and trust.

The Definium 656 HD assists your entire radiology department, including managers. The complete system and individual components are reliability tested for hundreds of thousands of cycles to ensure smooth operations over a long product lifetime. Powerful analytics allow performance assessment of equipment and staff across your entire fleet of systems while world-renowned GE Healthcare service and support are readily available to help when needed.

A common user interface

Common, current GE Healthcare software layouts and workflows reduce training needs and allow technologists to easily move between systems.

Downloadable software updates

Securely download the latest updates and cybersecurity patches from the cloud. It's fast and reliable, and it doesn't require a field service engineer.

iCenter™ asset management[†]

iCenter is a software platform designed to optimize x-ray equipment utilization and balance workloads with powerful healthcare data analytics.

Repeat/reject analysis[†]

An automated quality assurance tool allows technologists to capture repeated or rejected images. The reports can be exported in DVD, CD, or USB format. The Definium 656 HD is also compatible with GE's X-Ray Quality Application featuring Repeat Reject Analytics.

X-Ray Quality Application[†]

A web-based solution that connects to multiple compatible radiography systems to help identify root causes of rejects, enhance training, drive efficiency, and reduce patient exposure.

InSite™ Remote Service Platform (RSvP)

This essential platform provides remote diagnostics and troubleshooting for fast solutions, often without a field engineer visit.

GE Healthcare Services

Turn to our highly trained experts for 24-hour troubleshooting and repair, as well as access to a strategic global network of:

• Warehouses and parts

• 8,000+ service engineers[1]

• 1,200+ applications specialists[1]

GE logo

Building a world that works

About GE Healthcare

GE Healthcare is a leading global medical technology and digital solutions innovator. GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications, and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world.

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