

What's new on a Definium™ 656 upgrade?

Gen 2 to Gen 5.1 upgrade



When you upgrade your current Definium™ 656 digital X-ray system to Gen 5.1, you can use AI enhancements and new workflow capabilities to improve image quality, work faster, and deliver better care to more patients.

Feature	Benefit(s)
Elevating Table	
<i>Existing table (when previously installed)</i>	
Table bucky is upgraded to a new version	Allows new FlashPad™ HD detectors to be used with QuickCharge in bin charging. A simple rotating housing allows the orientation of the 35x43 cm (14x17 in) detector to easily change, and provides the capacity for the 43x43 cm (17x17 in) detector
More grid options are now available, 110 cm and 120 cm	Provides higher quality images
New OTS Covers	
Tube head cover	Makes your system look almost new
OTS carriage cover	Makes your system look almost new
Wall Stand	
<i>Existing wall stand (when previously installed)</i>	
Wall stand bucky is upgraded to a new version	Allows new FlashPad HD detectors to be used with QuickCharge in bin charging. A simple rotating housing allows the orientation of the 35x43 cm (14x17 in) detector to easily change, and provides the capacity for the 43x43 cm (17x17 in) detector
More grid options are now available, 100 cm and 120 cm	Provides higher quality images
Reverse Tracking—the wall stand automatically moves vertically to follow vertical movement of the OTS or changes in angulation of the OTS	Reduces walking steps and manual exertion for the technologist making patient alignment easier and more efficient
New FlashPad™ HD Detectors	
<i>Make great images</i>	
Quadruple resolution	Pixel size reduced from 200 um to 100 um, which increases the number of pixels in the same area and increases the resolution. This means additional information is available for sharper processing and, ultimately, improved image quality overall
75% DQE (improved from 65%)	Delivers exceptional dose efficiency at minimal dose, below ALARA reference
Multiple detector sizes (x3)	Available in 25 x 30 cm (10 x 12 in), 35 x 43 cm (14 x 17 in) and 43 x 43 cm (17 x 17 in) wireless detectors
Reduced weight (previously 4.5 kg for 16" x 16" detector)	1.8 kg (4 lb), 3.2 kg (7 lb), 3.8 kg (8.4 lbs) For better ergonomics for technologists
Faster wireless data transfer [UWB (500 Mbps), to WIFI (Dual band, 1733 Mbps)]	Faster preview image and faster processed final image despite larger image / file size
QuickShare	Hassle-free management of multiple wireless detectors. Once registered, QuickShare allows the detector to work across multiple compatible GE HealthCare systems with no additional configuration required. Pairing enables registered detectors to connect wirelessly to the host system within seconds
QuickConnect	Adaptive wireless technology enables automatic channel switching to improve image transfer and avoid wireless interference with other equipment on the hospital network
QuickCharge	In-bin charging: detectors charge when they are in the table or wall stand, providing peace of mind of knowing detectors will be ready when you need them
AutoGrid†	Software that moves scatter radiation from an image while providing equivalent image contrast in lieu of using a physical anti-scatter grid for use with the detector in wireless mode. Can reduce setup time by up to 24% ¹



New OTS Covers



New FlashPad HD Detectors

†Denotes optional features

1. Source: GE HealthCare bench testing, White Paper, GE HealthCare's AutoGrid™ Software (JB77154XX)

Feature	Benefit(s)
New Helix™ 2.2 Advanced Image Processing <i>Enhance great images</i>	
Up to 40% increase in detectability of fine structures	Exceptional image quality and details in areas such as subtle fractures, stress fractures, arthritic erosions, bone union, bone healing, and soft tissue injury detail
Anatomy-specific image enhancement	Processing parameters can be customized individually by anatomy, by patient size, and by view to match the desired look. This also makes it very versatile and adaptable to meet a hospital's desired image quality look in a very granular way for each anatomy and patient
Excellent handling of metal implants	Remove the metal halo effect of X-ray image with the dedicated algorithm
AI Brightness & Contrast (AIBC)	Uses artificial intelligence to deliver enhancements in image presentation consistency, in particular for challenging images and can be used for 59 anatomy / view combinations
Local Contrast Enhancement (LCE)	An algorithm that delivers improved contrast for chest images, which helps in spine visualization and lung detail. Also improves ankle joint (AP), foot (AP), and patella (Tangential) images
Detail Preserving Noise Filter (DPNR)	DPNR is a noise reduction algorithm that delivers significant noise reduction capabilities while minimizing the effect on fine details
Workflow Enhancements <i>Improve efficiency</i>	
Redesigned UI and workflow	Redesigned user interface for fewer clicks and intuitive workflow and has common layout and workflow with the latest GE mobile radiography systems to allow technologists to seamlessly move between systems
QuickTools	Customizable toolbar for most frequently used operations for enhanced workflow
QuickEnhance	QuickEnhance applies a custom image look to a captured image in a single click. It is customizable by anatomy for multiple uses, including instrument check, implant visualization, and line placement. For example, it can help with line placement assessment without additional dose to the patient
Real-time IP Looks	Allows faster and easier fine-tuned customizations. Custom IP Looks can be set as the default look or the look achieved with the QuickEnhance tool
IQ Compare	Allows the simultaneous viewing of the standard and customized Looks to simplify comparisons between the different options
Lightning-fast imaging (<1s preview, <6s final image)	The time to get a preview image is reduced from 3 seconds to less than 1 with image quality being similar to the final image, allowing fast assessment of the acquisition by the technologist and improving workflow
24" in monitor	24" Workstation UI with optional touch screen reduces desktop space compared to two 19" monitors while improving workflow
Helix™ Workstation ¹	An additional workstation that accepts images from multiple FlashPad™ HD systems or PACS for quality control, editing, and reprocessing images without disrupting the normal operation of the X-ray room
Advanced Applications <i>Enhancements are included for free with the upgrade for those who already own the advanced application. Applications may be optionally purchased</i>	
Auto Image Paste ¹	Create images that extend beyond the size of the detector with a single highly automated and efficient procedure at the wall stand or at the table
Auto Image Paste ¹ now with AutoSpine	AutoSpine—An intelligent algorithm that follows the contour of the spine for vertical equalization, enabling a natural balance of brightness and contrast along the patient body
VolumeRAD™ ¹	Digital Tomosynthesis provides additional diagnostic information with multi-level image slices
VolumeRAD ¹ with MAR algorithm	Metal artifact reduction (MAR) improves image quality by removing an undershoot (black lines that appear in the X-ray), a “white ring” effect around metal hardware, and multi-plane streaking throughout the image
VolumeRAD ¹ with workflow enhancements	Potential 45% reduction in exam time
Dual Energy Subtraction ¹	Separates soft tissue and bone structures to allow detection of abnormalities possibly obscured in a conventional radiograph
Quality Applications	
Quality Care Suite ¹	Conducts AI-based automated quality checks to detect errors in the X-ray acquisition and processing for chest X-rays
Critical Care Suite ¹	World's first on-device artificial intelligence (AI) solution that can help triage critical conditions such as pneumothorax
Repeat-Reject Analysis ¹	Zero in on root causes, enhance training, drive efficiency, and help reduce unnecessary dose. Connect automatically to compatible X-ray systems and use web-based dashboards to manage quality assurance
iCenter™ ¹ through remote connectivity	Optimize utilization of your X-ray equipment, balance workload using the full power of healthcare data analytics, and benchmark your X-ray experience against peer groups from four million assets serviced by GE HealthCare
OnWatch™ ¹ remote service	90% of service calls are diagnosed or fixed remotely in less than 30-minutes (P90=27)
Fleet Management	
IT security / Cybersecurity package	Protect and encrypt data at rest and in transit. Anti-virus protection against new threats
Remote software download	Ability to download and install critical quality and cybersecurity software updates with minimal system downtime
Intelligent calibration	Reduces calibration time of the system from 70 minutes to 18 minutes when a full calibration needs to take place
Quality Assurance Procedure (QAP)	Was recommended to be completed every 7 days; now only has to be completed every 30 days
Existing protocol import	Existing protocols and Image Processing (IP) looks are compatible with Gen 5.1 of the system and can be easily imported once the upgrade is complete
Multiple language support	Protocols and the user interface can now be displayed in Chinese, Japanese, or Korean languages

¹Denotes optional features