

# Equipment Specifications

## Digital Radiography

VA Pittsburgh Healthcare System, VISN 4  
646-B92005

### A. REQUIREMENT OVERVIEW

VA Pittsburgh Healthcare System is requesting the purchase of one digital radiographic x-ray system to replace an existing and aging system. This imaging equipment is intended for general radiographic 2D examinations and will be used for a variety of procedures, supplementing the currently available equipment.

Facility	Quantity
VA Pittsburgh Healthcare System, VISN 4	1

### B. TECHNICAL REQUIREMENTS

#### 1. System configuration

<input type="checkbox"/>	a. Fixed wall digital detector
<input type="checkbox"/>	b. Fixed table digital detector
<input checked="" type="checkbox"/>	c. Wireless digital detector
<input checked="" type="checkbox"/>	d. Additional wireless digital detector

#### 2. Unit physical specifications

a. Minimum generator output power [kW]	80 kW
b. Minimum number of generator phases	3-phase
c. Minimum generator voltage range [kV]	360-480 kV
d. Maximum radiographic mA exposure @ 100 kVp	800 kVp
e. Minimum wireless detector size [in x in]	15 in x 15 in
f. Maximum wireless detector weight with battery installed [lbs]	10 lbs
g. Maximum 2 <sup>nd</sup> wireless detector size [in x in]	17 in x 17 in
h. Maximum 2 <sup>nd</sup> wireless detector weight [lbs]	14 lbs
i. Minimum spatial resolution [lp/cm]	70 lp/cm
j. Maximum pixel size [µm]	200 µm
k. Maximum time for image display [s]	9 s
l. Minimum tube height from floor when used with wall stand [in]	11 in
m. Maximum table patient weight dynamic limit [lbs]	800 lbs



n. Minimum table patient weight dynamic limit [lbs]	650 lbs
o. Minimum table patient weight static limit [lbs]	750 lbs
p. Maximum table patient weight static limit [lbs]	900 lbs
q. Minimum heat capacity [kHU]	350 kHU
r. Minimum cooling rate [HU/min]	55,000 HU/min
s. Minimum table height from floor [in]	19 in
t. Wall bucky tilt range [deg]	-20 deg to 90 deg
u. Maximum area available for system configuration [sf] – refer to submitted floor plan	265.2 sf

3. Additional specifications

<input checked="" type="checkbox"/>	a. High-frequency generator with automatic dose rate control				
<input checked="" type="checkbox"/>	b. Flat-panel wireless detector				
<input checked="" type="checkbox"/>	c. Protective weight-bearing cover for wireless detector				
<input checked="" type="checkbox"/>	d. Charging station for wireless detector (as required by vendor)				
<input checked="" type="checkbox"/>	e. Grid attachments for wireless detector (as required by vendor)				
<input checked="" type="checkbox"/>	f. Table holder for wireless detector				
<input checked="" type="checkbox"/>	g. Mobile holder for wireless detector				
<input checked="" type="checkbox"/>	h. Tube mount <table border="0" style="margin-left: 20px;"> <tr> <td><input checked="" type="radio"/></td> <td>Overhead</td> </tr> <tr> <td><input type="radio"/></td> <td>Floor-mounted</td> </tr> </table>	<input checked="" type="radio"/>	Overhead	<input type="radio"/>	Floor-mounted
<input checked="" type="radio"/>	Overhead				
<input type="radio"/>	Floor-mounted				
<input checked="" type="checkbox"/>	i. Bucky tracking for the table and wall stand				
<input checked="" type="checkbox"/>	j. Tube crane positioning, with protocol-based movement (option)				
<input checked="" type="checkbox"/>	k. Automatic tube positioning				
<input checked="" type="checkbox"/>	l. In-room protocol adjustment via tube head or other in-room mounted system				
<input checked="" type="checkbox"/>	m. Ability to change between tabletop, upright bucky, or table bucky from tube head				
<input checked="" type="checkbox"/>	n. Free-floating manual tabletop				
<input checked="" type="checkbox"/>	o. Motor-driven tabletop movement in the X and Y axis at stated maximum weight capacity				
<input checked="" type="checkbox"/>	p. Automatic parameter selection				
<input checked="" type="checkbox"/>	q. Removable/adjustable patient hand grips				
<input checked="" type="checkbox"/>	r. Dual energy imaging				
<input checked="" type="checkbox"/>	s. Linear tomography				
<input checked="" type="checkbox"/>	t. Post-processing image enhancement for lines, soft tissue, etc.				
<input checked="" type="checkbox"/>	u. Foot controls on each side of table				
<input checked="" type="checkbox"/>	v. Ability to tether wireless detectors				

4. Workstation Requirements

<input checked="" type="checkbox"/>	a. Minimum number of acquisition workstations	1
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<input checked="" type="checkbox"/>	b. Minimum acquisition workstation monitor size [in]	19 in
<input checked="" type="checkbox"/>	c. Minimum acquisition workstation hard drive size [GB]	250 GB
<input checked="" type="checkbox"/>	d. Minimum number processing workstations	1
<input checked="" type="checkbox"/>	e. Minimum processing workstation monitor size [in]	19 in
<input checked="" type="checkbox"/>	f. Minimum processing workstation hard drive size [GB]	250 GB
<input checked="" type="checkbox"/>	g. UPS for x-ray control/image recovery to bring the workstation down safely	
<input checked="" type="checkbox"/>	h. Ability to send images directly from the control panel (no separate workstation required)	

5. Software Requirements

<input checked="" type="checkbox"/>	a. Stitching – ability to stitch multiple long-axis images with options for automated and manual process
<input checked="" type="checkbox"/>	b. Bone suppression – ability to suppress overlaying bone such as ribs on chest images
<input checked="" type="checkbox"/>	c. Ability to apply multiple image processing algorithms both pre- and post-acquisition to allow for soft tissue and/or bone enhancement
<input checked="" type="checkbox"/>	d. Tissue equalization to correct over-penetrated and under-penetrated areas within image
	e. Automatic brightness and contrast for image quality
<input checked="" type="checkbox"/>	f. Dose monitoring – the system must be able to supply a technology that allows for monitoring and tracking of radiation dose provided to a patient and send report digitally to local PACS
<input checked="" type="checkbox"/>	g. Dose reduction – the system must have systems in place to facilitate regular protocol optimization and reduced radiation dose to the patient
	h. Detector Exposure Index with dose tracking
<input checked="" type="checkbox"/>	i. Repeat rate – ability to track repeat/retake data to include such items as technologist (required unique identifier), reason for repeat, patient dose, exam type, etc. The data should be exportable to Excel or other databases for tracking, trending, and combining with data from other imaging sources within the facility.
<input checked="" type="checkbox"/>	j. Security – ability to protect sensitive patient data using unique user authentication

6. Security/Connectivity Requirements

<input checked="" type="checkbox"/>	a. OEM-supported operating system
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<input checked="" type="checkbox"/>	b. Latest DICOM print, store, commit, radiation dose structured report (RDSR), and modality worklist
<input checked="" type="checkbox"/>	c. Encrypted hard drive
<input checked="" type="checkbox"/>	d. PACS compatibility – Philips IntelliSpace
<input checked="" type="checkbox"/>	e. Vista Imaging

7. Added Value

Specifications listed below are not required, but preferred. Vendors who do not include the below specifications in the submitted offer will not be docked or excluded from consideration. Specifications listed below will be evaluated based on added value.

<input checked="" type="checkbox"/>	a. Additional year(s) of warranty
<input checked="" type="checkbox"/>	b. Version/platform long-range plan

### C. TRAINING REQUIREMENTS

1. Clinical Training

<input checked="" type="checkbox"/>	a. On-site clinical applications training for [4] technologists during go-live
<input checked="" type="checkbox"/>	b. On-site follow-up clinical applications training for [4] technologists once technologists have hands-on experience with the system

2. Biomedical Technician Training

**Please reference the “Instructions to Offers” section 2.8.g for further information about the type of information to provide by equipment type not by specific request. Please also reference the “Instructions to Offers” section 7.3.3. for response format.**

Technical training information to include detailed information about the curriculum and length of the biomedical technical training required for each equipment type.

Although the NAC will not award this training along with the equipment, it is imperative that the customer is informed that this training is available. Vendors must demonstrate that they can provide any required off-site training, therefore off-site training should be quoted as an optional item. Off-site training will be purchased at the time of need via a modification (if the original order remains open) or via a separate order. No travel expenses for any VA employees will be included in any HTME equipment or training order.

### D. SERVICE REQUIREMENTS

- VPN/Remote Access – The vendor shall provide any and all equipment service programs, such as remote diagnostics, during the warranty period. The vendor shall provide post-warranty remote diagnostic service program as an “Add Option” with the offer. The system shall provide vendor remote diagnostics via VPN. The vendor shall either utilize the VA national site-to-site VPN or work with the



Office of Cyber and Information Security and the VAMC Information Systems Security Officer to establish a client-based VPN.

2. Service and Operator Manuals – The vendor shall provide the following documentation for the proposed systems:
  - a. Two (2) copies of operator instruction manuals (one (1) electronic and one (1) physical copy)
  - b. Two (2) copies of a service manuals (one (1) electronic and one (1) physical copy)

\*Vendors can include the physical copy as a priced line item in their quote as applicable.

3. Minimum Warranty – The system and accessories shall be covered under the manufacturer’s warranty and shall include all parts and labor for one year following acceptance by the VAMC. This warranty must include PMs as required by the manufacturer. The manufacturer’s factory-trained field service representatives shall perform installation and maintenance during the warranty period.

Vendors are encouraged to include any offerings for service, warranty, and training that may exceed the minimum requirements, to include information on their service support structure during and after the warranty period. Vendors who do not include any added value offerings for service, warranty, and training will not be docked or excluded from consideration. However, any such offerings will be evaluated based on added value.

## **E. OTHER INFORMATION/DOCUMENTATION REQUESTED**

1. Please reference the “Instructions to Offers” section 2.8a-h for further information about the type of information to provide by equipment type not by specific request. Please also reference the “Instructions to Offers” section 7.3.3. for response format.
  1. Completed pre-procurement assessment form (6550 Appendix A)
  2. Completed Manufacture Disclosure Statement for Medical Device Security (MDS2) form
  3. Federal Information Processing Standard (FIPS) 140-2 certification
  4. Product brochures
  5. Technical specification sheets, to include dimensions and weight of the system
  6. Typical drawings (pdf version of the CAD drawings)
  7. Technical training- Biomedical: information to include detailed information about the curriculum and length of the biomedical technical training required for each equipment type.
    - Although the NAC will not award this training along with the equipment, it is imperative that the customer is informed that this training is available. Vendors must demonstrate that they can provide any required off-site training, therefore off-site training should be quoted as an optional item. Off-site training will be purchased at the time of need via a modification (if the original order remains open) or via a separate order. No travel expenses for any VA employees will be included in any HTME equipment or training order.
  8. Support information to include your company’s support structure during and after the warranty period
    - On-line or telephonic applications support and availability (include third party coverage)
    - A listing of field service engineer locations and availability
    - A listing of part depots

## **F. TRADE-IN**

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| <input checked="" type="checkbox"/> | a. In instances where sanitization of ePHI compromises the OS and/or application software, or requires the removal of internal storage media, the vendor accepts the equipment “as is” and can |
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elect at their own discretion to contract with the original equipment manufacturer (OEM) to restore the system.

The following equipment is available for trade-in. Please reflect any credits provided for trade-in equipment in the proposal.

Station	646
Manufacturer	GE Healthcare
Model	Definium 8000
EE/Asset Number	335625
Serial Number	412688RM2

