

# Equipment Specifications

## Digital Portable Radiography

VISN 16/GV (Sonny) Montgomery VA Medical Center

586-B90032

### A. REQUIREMENT OVERVIEW

GV Sonny Montgomery VA Medical Center requires two Portable Digital X-ray Machines for x-rays away from the radiology department with Collapsible column, small foot print, ability to move portable from tube head and 125 micron flat panel detector in 14" x 17".

Facility	Quantity
GV (Sonny) Montgomery VAMC	2

### B. TECHNICAL REQUIREMENTS

#### 1. Unit physical specifications

a. High frequency generator power [kW]	32
b. Generator kV range [kV]	40 to 135
c. Tube maximum kVp [kVp]	135
d. Generator mAs range [mAs]	.30 to 320
e. Minimum exposure time [ms]	1 mS
f. Maximum exposure time [s]	1 s
g. Minimum tube rotation from axis in both directions [degrees]	-30 / +90
h. Minimum computer hard drive [GB]	40G
i. Maximum SID [cm]	205
j. Minimum SID [cm]	65
k. Maximum tube reach	1205mm
l. Minimum tube reach	635mm
m. Number of wireless detectors	1
n. Number of fixed detectors	0
o. Minimum detector size [cm x cm]	35 x 40
p. Minimum detector resolution [lp/mm]	4
q. Maximum pixel size [µm]	125 micron
r. Maximum wireless detector weight with battery installed [lbs]	5.5 lbs
s. Detector distributed weight limit [lbs]	680lbs
t. Minimum detector field of view [cm x cm]	35 x 40
u. Detector provision for shock/crush damage protection (cover, bumper, etc.)	Grid Cap
v. X-ray tube minimum kUH [kUH]	300



w. X-ray tube focal spot range [mm]	.7 / 1.3mm
x. Drive battery type	Gel Cell
y. Minimum detector battery life without recharge [exposure/hour at kVp and mAs]	140 exposure (100sec interval)
z. Maximum charge time from no charge [hr]	2 hr
aa. Multi leaf tube collimation with light field accuracy [%]	2%
bb. Minimum collimator rotation [deg]	+/- 90
cc. Maximum image display time [s]	2 sec
dd. Minimum display monitor size [in]	19"
ee. Minimum retractable cord length for unit [ft]	8'
ff. Maximum system dimensions [cm]	60
gg. Maximum system weight [kg]	440kg
hh. Maximum height	1270mm

## 2. Additional specifications

<input checked="" type="checkbox"/>	a. High frequency generator
<input checked="" type="checkbox"/>	b. Automatic dose control
<input checked="" type="checkbox"/>	c. On-board image touch screen display
<input checked="" type="checkbox"/>	d. Integrated dose reporting with RDSR reports
<input checked="" type="checkbox"/>	e. Ability to fully expose a 14x17 field at 40 inches (even when collimator is rotated)
<input checked="" type="checkbox"/>	f. Multiple IP destinations for images to be sent
<input checked="" type="checkbox"/>	g. kV range in increments of approximately 1kV
<input checked="" type="checkbox"/>	h. Collapsible column
<input checked="" type="checkbox"/>	i. Ability to release and move tube from arm (free release handles)
<input checked="" type="checkbox"/>	j. LED positioning light
<input checked="" type="checkbox"/>	k. Algorithms to reprocess for tubes and lines
<input checked="" type="checkbox"/>	l. Manual movement of portable when batteries are depleted
<input checked="" type="checkbox"/>	m. Ability to move portable from tube head
<input checked="" type="checkbox"/>	n. High efficiency detector
<input checked="" type="checkbox"/>	o. Ability to charge detector battery on unit
<input checked="" type="checkbox"/>	p. Trickle charge method for detector battery
<input checked="" type="checkbox"/>	q. Backup tether for DR Detector
<input checked="" type="checkbox"/>	r. Adjustable motor drive (low speed/high speed)
<input checked="" type="checkbox"/>	s. Battery charge level indicator (estimated time/exposure remaining)
<input checked="" type="checkbox"/>	t. Ability to make exposures on wall outlet connection
<input checked="" type="checkbox"/>	u. Standard wall outlet connection with retractable cord
<input checked="" type="checkbox"/>	v. On board computer (DR reconstruction and display)
<input checked="" type="checkbox"/>	w. Pre-programmed exposure settings



<input checked="" type="checkbox"/>	x. On-board user monitor with pop-up keyboard
<input checked="" type="checkbox"/>	y. Repeat/Retake analysis
<input checked="" type="checkbox"/>	z. Option for wireless and wired exposure control
<input checked="" type="checkbox"/>	aa. Positioning handles on collimator, not on tube head
<input checked="" type="checkbox"/>	bb. Grid and Gridless processing technology available
<input checked="" type="checkbox"/>	cc. SID positioning aids (e.g. laser alignment)
<input checked="" type="checkbox"/>	dd. Wireless transmission of images to PACS
<input checked="" type="checkbox"/>	ww. Adjustable Height Drive Handle

### 3. Software Solutions

<input checked="" type="checkbox"/>	a. Rapid image display
<input checked="" type="checkbox"/>	b. Image annotation
<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. Ability to apply standard image editing functions, such as but not limited to; rotate, flip, zoom, window, level, etc.
<input checked="" type="checkbox"/>	e. Monitoring of Dosage- The system must be able to supply a technology that allows for monitoring and tracking of radiation dose provided to a patient. DAP accuracy must be 99% reproducible with <2% deviation.
<input checked="" type="checkbox"/>	f. Dose Reduction- The system must have systems in place to facilitate regular protocol optimization and reduced radiation dose to the patient.
<input checked="" type="checkbox"/>	g. 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.

### 4. Security/Connectivity Requirements

<input checked="" type="checkbox"/>	a. OEM-supported operating system
<input checked="" type="checkbox"/>	b. Latest DICOM print, store, commit, radiation dose structured report (RDSR), and modality worklist
<input checked="" type="checkbox"/>	c. Wireless connectivity to VA network – Compatible with 802.11b/g/n and FIPS 140-2 compliant
<input checked="" type="checkbox"/>	d. Encrypted hard drive
<input checked="" type="checkbox"/>	e. PACS compatibility – CareStream
<input checked="" type="checkbox"/>	f. Password Protected

### 5. 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. Start up in 1 minute
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## C. TRAINING REQUIREMENTS

### 1. Clinical Training

<input checked="" type="checkbox"/>	a. On-site clinical applications training for 30 technologists during go-live
<input checked="" type="checkbox"/>	b. On-site follow-up clinical applications training for 30 technologists once technologists have hands-on experience with the system
<input checked="" type="checkbox"/>	c. On-site super user training during go-live for 30 personnel
<input checked="" type="checkbox"/>	d. Technologists who complete the clinical applications training shall receive continuing education credits (CMEs).
<input checked="" type="checkbox"/>	e. Vendors shall be responsible for accommodating different personnel shifts for clinical applications training during go-live.

### 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.
- Service and Operator Manuals – The vendor shall provide the following documentation for the proposed systems:
  - 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

**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="checked" type="checkbox"/> | a. VA has no trade-in units to offer. |
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