

TECHNICAL SPECIFICATION FOR CR SYSTEM & DRY THERMAL IMAGER

S.NO	TECHNICAL SPECIFICATION
I	IMAGE READER SYSTEM
a)	The system should be compatible for general radiography.
b)	The system should have the capability to process at least 60 plates per hour of largest size 14x17 inches
c)	CR System should comprise of C.R. Reader (digitizer), Console System, and Dry imager with multiple firm formats.
d)	Should have reading grey scale of 12 bits/pixel or more. Constant spatial /Reading resolution should be 5 pixels/mm, 10pixel/mm.
e)	The initial film preview time should be less than 50 seconds for cassette size of 14x17
f)	Should have the following sizes of Flexible image plates and compatible cassettes. a) 35 cm x 43 cm or (14"x17") : 2nos b) 24 cm x 30 cm or (10"x12") : 1nos c) 20 cm x 25 cm or (8"x 10") : 1nos
g)	Should have a console consisting of at least 17" LCD/TFT display to view images of resolution 1k x 1k
h)	Should be possible to take print outs directly. Mechanism for printing Multiple Images in one film, with the possibility of slide and true size printing.
i)	Should have a protocol for verifying the connectivity status of configured image destinations.
j)	Should have Customizable Graphic User Interface
k)	Should be capable to store more than 5000 images
l)	Indication of Over Exposure on the preview module.
m)	Capability of interfacing to HL7, Non-HL7, Proprietary, DICM Work list or-user defined, Windows/DOS /Linux based interface protocols to HIS/RIS.
n)	Customizable Graphic User Interface (GUI) in Identification station with facility of selecting DICOM print & Storage destination
o)	Mechanism for User release from Preview terminal in case of Auto-routing Images to Pre-defined DICOM Destinations.
p)	Solution for storing patient demographic data for multiple exams in RIS/non RIS environment.
q)	It should be possible to put a custom configurable data field in the demographic information of the patient linked with the image.
r)	CD and DVD Burner
s)	Various image-processing protocols should be available for the respective regions of the body.
t)	Built in routine for using predefined image processing parameters for image quality enhancement.
u)	Mechanism for storing the Patient image based on name, date, exam, etc.
v)	Capability of storing user defined image processing parameters.
w)	Capability of overwriting predefined image parameter with user-defined parameters & storing these two images separately.
x)	Manual correction typographically in Patient Demographic module, in case of any problem with RIS connection.
y)	Capability of changing W/L, Flipping, Rotating, Zooming, Collimating Annotating incoming image

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II	DRY THERMAL IMAGER SYSTEM
a)	Should be a dry thermal Chemistry single camera with a resolution of 300 dpi or more.
b)	Should have a gray scale resolution of at least 12 bits
c)	Capable of Printing Images in DICOM 3.0 format or newer version.
d)	Should have one tray online and the same system can be upgradable to two online if required.
e)	The imager should support daylight loading of films.

III	General
a)	Offered system must be CE or FDA Approved.
b)	The availability of above mentioned features and technical specification must be substantiated with authentic published documents from manufacturer or regulatory bodies.
c)	Warranty of the machine should be minimum 1 years from the date of successful installation at BHEL, Haridwar. Vendor should quote the CMC rate with all spares for 5 yrs. The price of CMC with spares of offered machine shall not be considered for Tender evaluation. The same is required for reference purpose.
d)	Imaging reader system and dry imager system should be from the same manufacturer.
e)	The successful bidder will have to ensure onsite training of end users free of cost.
f)	Should be able to run on UPS suitable capacity.
g)	Vendor should ensure the deputation of their personnel for rectification of issue under warranty obligation within 48 Hours of reporting the issue. Failing to do so BHEL will be within their rights to get the job done at the risk and cost of supplier.
h)	Vendor should give PDI call before 15 days from the P.O delivery date.
i)	Vendor to furnish a CD copy containing video of offered machine with at least two no. of Chest X- ray images.

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