

Stationary Gamma Cameras

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ADAC LABORATORIES									
COMPANY		Vertex Plus		Solus Epic		Cardio Epic		Genesis Epic	
Model									
System Type	Two single-crystal detectors; dual head variable angle digital camera	Two single-crystal detectors; dual head digital camera	Two single-crystal detectors; dual head fixed 90° digital camera	Two single-crystal detectors; single-head digital rectangular camera	One single-crystal detector; single-head mobile camera	Transcam			
SPECT Capability	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Whole body	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
DETECTOR ASSEMBLY									
Crystal dimensions, cm	20 × 25 in	20 × 25 in	20 × 25 in	20 × 25 in	20 × 25 in	20 × 25 in	20 × 25 in	20 × 25 in	12 in
Thickness, mm	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	0.25 in
No. of PMTs	55	55	55	55	55	55	55	55	37
Diameter, cm	49 each 3 in diameter; 6 each 2 in diameter	49 each 3 in diameter; 6 each 2 in diameter	49 each 3 in diameter; 6 each 2 in diameter	49 each 3 in diameter; 6 each 2 in diameter	49 each 3 in diameter; 6 each 2 in diameter	49 each 3 in diameter; 6 each 2 in diameter	49 each 3 in diameter; 6 each 2 in diameter	49 each 3 in diameter; 6 each 2 in diameter	2 in
Digital Detectors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SYSTEM PERFORMANCE									
UFOV, cm	50.8 × 38.1	50.8 × 38.1	50.8 × 38.1	50.8 × 38.1	50.8 × 38.1	50.8 × 38.1	50.8 × 38.1	50.8 × 38.1	10.25
Max. count rate, cps	≥200 kcps	≥200 kcps	≥200 kcps	≥200 kcps	≥200 kcps	≥200 kcps	≥200 kcps	≥200 kcps	220
Deadtime, μsec	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	2.7
Energy range, keV	50-600	50-600	50-600	50-600	50-600	50-600	50-600	50-600	1-190
Intrinsic spatial resolution, mm									
FWHM, UFOV	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.8
FWTM, UFOV	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	7.9
Extrinsic spatial resolution (LEAP)									
FWHM @ 10 cm, mm	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	10.2
FWTM @ 10 cm, mm	16	16	16	16	16	16	16	16	18.4
System sensitivity, LEAP, cm/μCi	285	285	285	285	285	285	285	285	290
Intrinsic energy resolution, FWHM, 140 keV	≤9.8%	≤9.8%	≤9.8%	≤9.8%	≤9.8%	≤9.8%	≤9.8%	≤9.8%	10.9%
Intrinsic spatial linearity, mm									
Integral UFOV	0.55	0.5	0.5	0.5	0.5	0.5	0.5	0.5	<1.5
Differential UFOV	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	<0.8
Intrinsic uniformity, uncorrected									
Integral UFOV	±2.5	±2.5	±2.5	±2.5	±2.5	±2.5	±2.5	±2.5	±4.5%
Differential UFOV	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0	±2.0	±3.5%
COLLIMATORS									
LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; ultra high energy	LEGP; LEHR; LEHS; LE, thyroid; LE, diverging
DETECTOR/YOKE MOTION									
Whole-body scan									
Rate, cm/min	1-190	1-190	1-190	1-190	1-190	1-190	1-190	1-190	1-190
Mode	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass
Area, cm	51 × 206	51 × 206	51 × 206	51 × 206	51 × 206	51 × 206	51 × 206	51 × 206	51 × 206
Contouring	Manual; automatic	Manual; automatic	Manual; automatic	Manual; automatic	Manual; automatic	Manual; automatic	Manual; automatic	Manual; automatic	Manual; automatic
Yoke rotation, degrees	370, ±185°	370, ±185°	370, ±185°	370, ±185°	370, ±185°	370, ±185°	370, ±185°	370, ±185°	370, ±185°
Radius, cm	4.4-14.7	4.4-14.7	4.4-14.7	4.4-14.7	4.4-14.7	4.4-14.7	4.4-14.7	4.4-14.7	4.4-14.7
Detector rotation, degrees	180, one detector	180, one detector	180, one detector	180, one detector	180, one detector	180, one detector	180, one detector	180, one detector	180, one detector
Clearance									
Maximum, cm	29.4, between detectors-LEAP	29.4, between detectors-LEAP	29.4, between detectors-LEAP	29.4, between detectors-LEAP	29.4, between detectors-LEAP	29.4, between detectors-LEAP	29.4, between detectors-LEAP	29.4, between detectors-LEAP	29.4, between detectors-LEAP
Minimum, cm	8.8, between detectors-LEAP	8.8, between detectors-LEAP	8.8, between detectors-LEAP	8.8, between detectors-LEAP	8.8, between detectors-LEAP	8.8, between detectors-LEAP	8.8, between detectors-LEAP	8.8, between detectors-LEAP	8.8, between detectors-LEAP

COMPANY **ADAC LABORATORIES**

Model	Vertex Plus	Solus Epic	Cardio Epic	Genesis Epic	Argus Epic	Transcam	Polaris
OPERATOR CONSOLE							
Persistence scope	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Zoom control	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anatomic marker	No	No	No	No	No	No	No
Ratemeiter	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scaler	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time readout	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Information density	Yes, whole-body	Yes, whole-body	Yes	Yes, whole-body	Yes, whole-body	Yes, whole-body	No
Energy selection							
Automatic	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto peaking	Yes	Yes	Yes	Yes	Yes	Optional	No
Image rotation control	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PHA window capacity	3 peaks	3 peaks	3 peaks	3 peaks	3 peaks	1 peak	Yes
Window selection							
Automatic	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto uniformity correction	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nonuniform attenuation correction method	Optional	Optional	Optional	No	No	No	No
COMPUTER							
Acquisition							
Processing	Sun Sparc+, Micro Sparc II Risc processor	Micro Sparc II and Sparc processor	Sun Sparc+, Micro Sparc II Risc processor	Sun Sparc+, Micro Sparc II Risc processor	Sun Sparc+, Micro Sparc II Risc processor	Sun Sparc+, Micro Sparc II Risc processor	Sun Sparc+, Micro Sparc II Risc processor
Data transfer	DICOM; Ethernet; floppy disk; 3.3 Interfile	DICOM; Ethernet; floppy disk; 3.3 Interfile	DICOM; Ethernet; floppy disk; 3.3 Interfile	DICOM; Ethernet; floppy disk; 3.3 Interfile	DICOM; Ethernet; floppy disk; 3.3 Interfile	DICOM; Ethernet; floppy disk; 3.3 Interfile	DICOM; Ethernet; floppy disk; 3.3 Interfile
Display matrix	1152 x 900	1152 x 900	1152 x 900	1152 x 900	1152 x 900	1152 x 900	1152 x 900
Storage	Hard disk 2.1 GB; floppy 1.4 MB; streamer tape 150 MB; optical 1.3 GB	Hard disk 2.1 GB; floppy 1.44 MB; streamer tape 150 MB; optical 1.3 GB	Hard disk 2.1 GB; floppy 1.44 MB; streamer tape 150 MB; optical 1.3 GB	Hard disk 2.1 GB; floppy 1.44 MB; streamer tape 150 MB; optical 1.3 GB	Hard disk 2.1 GB; floppy 1.44 MB; streamer tape 150 MB; optical 1.3 GB	Hard disk 2.1 GB; floppy 1.44 MB; streamer tape 150 MB; optical 1.3 GB	Hard disk 2.1 GB; floppy 1.44 MB; streamer tape 150 MB; optical 1.3 GB
Heat loading/BTU/hr (Gantry only)	6500	6500	6500	4500	4500	4500	4500
Stability (max °C change/hour)	2.8	2.8	2.8	2.8	2.8	5	5
Humidity, %	45-75	45-75	45-75	45-75	45-75	45-75	45-75
Power requirements	208V, 30A	208V, 30A	208V, 30A	208V, 30A	208V, 30A	115V, 15A	115V, 15A
H x W x D, in	68 x 62 x 42	68 x 62 x 42	68 x 62 x 42	65 x 41 x 36	81 x 36 x 108	59 x 39 x 26	59 x 39 x 26
Weight, lb	3950	3950	3950	3000	3500	300	650
Special Features	Epic digital detectors with remote diagnostics; 90 or 180 degree SPECT configuration; Vantage non-uniform attenuation correction; molecular coincidence detection imaging.	Epic digital detectors with remote diagnostics; 90 cm open ring gantry; MacroVision/Provision visual programming; molecular coincidence detection imaging.	Epic digital detectors with remote diagnostics; 90° semi-automatic configuration; easy semi-automatic collimator exchange; Vantage non-uniform attenuation correction.	Epic digital detectors with remote diagnostics; open dual ring gantry design; MacroVision/Provision visual programming.	Open cantilevered gantry design with Epic digital detectors; Pegasys Sun Sparc workstation; MacroVision/Provision visual programming environment.	Compact lightweight design; easy maneuverability; long bedside reach; 38.6 in; built-in battery; 2 hr charge; Pegasys computer workstation with X windows and DICOM compatibility.	Autoport gain adjustment; high count rate capability; compact light weight design; Pegasys workstation with over 200 software applications.

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COMPANY	ELSCINT, INC.									
	Apex Cardial	APEX SPX-4M	APEX Helix	APEX Helix-HR	APEX SPX-6	APEX SPX-6HR	APEX SPX-4	APEX SPX-4HR	Varicam	
System Type	Two single-crystal detectors	One single-crystal detector	Two single-crystal detectors	Two single-crystal detectors	One single-crystal detector	One single-crystal detector	One single-crystal detector	One single-crystal detector	Two single-crystal detectors	
SPECT Capability	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Standard	
DETECTOR ASSEMBLY										
Crystal dimensions, cm	18.5 x 12	18	23.5 x 18	23.5 x 18	23.5 x 18	23.5 x 18	18	18	59.7 x 45.7	
Thickness, mm	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	9.525	
No. of PMTs	51	37	59	95	59	95	37	61	59	
Diameter, cm	45-23.7, 6-1.5"	3	53-3", 6-1.5"	85-3", 10-1.5"	53-3", 6-1.5"	85-3", 10-1.5"	3	2.3	53 x 7.6 x 3.8	
Digital Detectors										
SYSTEM PERFORMANCE										
UFOV, cm	16 x 10	15.75	21 x 16	21 x 16	21.6 x 16	21.6 x 16	15.75	15.75	54 x 40	
Max. count rate, cps	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	
Deadtime, μ sec	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	
Energy range, keV	40-250	40-200	40-400	40-400	40-400	40-400	40-400	40-400	40-520	
Intrinsic spatial resolution, mm										
FWHM, UFOV	3.2	4.2	3.9	3.3	4.3	3.3	4.2	3.4	3.9	
FWTM, UFOV	6.5	8.2	7.6	6.5	8.2	6.7	8.2	6.7	7.6	
Extrinsic spatial resolution (LEAP)										
FWHM @ 10 cm, mm	8.6	9.0	9.0	8.6	9.0	8.7	9.0	8.7	9.0	
FWTM @ 10 cm, mm	15.6	15.9	16.9	15.6	15.9	15.6	15.9	15.6	16.9	
System sensitivity, LEAP, cpm/ μ Ci	560	270	540	560	270	270	270	270	540	
Intrinsic energy resolution, FWHM, 140 keV	10.5%	10.6%	9.8%	9.8%	10.6%	10.6%	10.6%	10.6%	9.8%	
Intrinsic spatial linearity, mm										
Integral UFOV	0.5	0.4	0.5	0.5	0.7	0.5	0.4	0.4	0.5	
Differential UFOV	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Intrinsic uniformity, uncorrected										
Integral UFOV	4.0%	4.0%	3.8%	3.8%	4.5%	3.9%	4.6%	4.0%	3.8%	
Differential UFOV	2.6%	2.4%	2.5%	2.5%	2.4%	2.4%	2.4%	2.4%	2.5%	
COLLIMATORS										
LEAP: LEHR; LEHS; LEUHS	LEAP: LEHR; LEHS; LEUHS	LEAP: LEHR; LEHS; LEUHS	LEAP: LEHR; LEHS; MEGP; HEGP: Single pinhole; Fanbeam; LEUHS	LEAP: LEHR; LEHS; MEGP; HEGP: Single pinhole; Fanbeam; LEUHS	LEAP: LEHR; LEHS; MEGP; HEGP: Single pinhole; Fanbeam; LEUHS	LEAP: LEHR; LEHS; MEGP; HEGP: Single pinhole; Fanbeam; LEUHS	LEAP: LEHR; LEHS; MEGP; HEGP: Single pinhole; LEUHS	LEAP: LEHR; LEHS; MEGP; HEGP: Single pinhole; LEUHS	LEGP: LEHR; LEHS; MEGP; HEGP: Fanbeam; pinhole; UHEGP; LEUHS	
DETECTOR/YOKE MOTION										
Speed of motion										
Linear, cm/min.	NA	NA	5-150	5-150	5-150 (whole body mode)	5-150 (whole body mode)	5-150 (whole body mode)	5-150 (whole body mode)	5-150	
Vertical, cm/min.	80	20 or 100	30 or 150	30 or 150	80	80	80	80	80	
Tomographic rotation, deg/min.	133-360	NA	9-1080	9-1080	90-360	90-360	90-360	90-360	90-360	
Whole-body scan										
Rate, cm/min.	NA	NA	5-150	5-150	5-150	5-150	5-150	5-150	5-150	
Mode	NA	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass; double-pass	Single-pass; double-pass	Single-pass	
Area, cm	NA	54 x 200	54 x 200	54 x 200	54 x 200	54 x 200	60 x 200	60 x 200	54 x 200	
Contouring										
Yoke rotation, degrees	± 360	± 360	Unlimited	Unlimited	± 360	± 360	± 360	± 360	Unlimited	
Radius, cm	0-25	NA	4-12	4-12	0-25	0-25	0-25	0-25	10.1-30.5	
Detector rotation, degrees	± 30 to ± 90	± 150	0-90	0-90	± 75 to ± 185	± 75 to ± 185	± 75 to ± 185	± 75 to ± 185	0-90	
Clearance										
Maximum, cm	52	N/A	N/A	N/A	52 (detector face down)	52 (detector face down)	53 (detector face down)	53 (detector face down)	N/A	
Minimum, cm	25	N/A	N/A	N/A	26 (detector face up)	26 (detector face up)	26 (detector face up)	26 (detector face up)	N/A	

COMPANY **ELSCINT, INC.**

Model	Appt: Cardial	APEX SPX-4M	APEX Helix	APEX Helix-HR	APEX SPX-6	APEX SPX-6HR	APEX SPX-4	APEX SPX-4HR	Varicam
OPERATOR CONSOLE									
Persistence scope	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Yes
Zoom control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anatomic marker	No	No	No	No	No	No	No	No	No
Ratemeter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scaler	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time readout	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Information density	No	No	No	No	No	No	No	No	No
Energy selection									
Automatic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto peaking	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Image rotation control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PHA window capacity	4 peaks	4 peaks	4 peaks	4 peaks	4 peaks	4 peaks	4 peaks	4 peaks	4 peaks
Window selection									
Automatic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto uniformity correction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Whole-body upgrade	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nonuniform attenuation correction method	No	No	Yes	Yes	Optional	Optional	Optional	Optional	Standard
COMPUTER									
CPU	80486/66 MHz	80486/66 MHz	80486/66 MHz	80486/66 MHz	80486/66 MHz	80486/66 MHz	80486/66 MHz	80486/66 MHz	Pentium 90 MHz, 48 MB DRAM
Processing									
Data transfer									DICOM: Ethernet; floppy disk; Interfile
Display matrix									
Storage	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	512 x 512	1280 x 1024
	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 340 MB; floppy disk 1.2 MB; 800 optical disk optional	Hard disk 1000 MB; optional optical disk - 800 MB/cartridge
Heat loading/BTU/hr (Gantry only)	6300	7000	7000	7000	6300	6300	6300	6300	6300
Stability (max °C change/hour)	3	3	3	3	3	3	3	3	3
Humidity, %	40-60% noncondensing	40-60% noncondensing	40-60% noncondensing	40-60% noncondensing	40-60% noncondensing	40-60% noncondensing	40-60% noncondensing	40-60% noncondensing	40-60
Power requirements	115V, 20 amps	115V, 20 amps	115V, 20 amps	115V, 20 amps	115V, 20 amps	115V, 20 amps	115V, 20 amps	115V, 20 amps	115V, 20A
H x W x D, in	68 x 78 x 39	76 x 75 x 32	69 x 51 x 39	69 x 51 x 39	68 x 78 x 39	68 x 78 x 39	68 x 78 x 39	68 x 78 x 39	69 x 59 x 39
Weight, lb	2426	2203	5060	5060	2426	2426	2426	2426	5800
Special Features									
Fixed 90° detector geometry with 32-bit computer based on 80486/66 MHz CPU, 90° gantry swivel and camera heads (tilt to vertical position enabling quick transition from upright to supine imaging positions).									
Large field of view, mobile with three speed forward and reverse drive, 3.5 ft. turning radius and integrated CPU and slip ring gantry. Continuous or step-and-shoot multiple rotation SPECT; continuous multiple rotation SPECT with evolving images. Home positions, auto body contouring, touch ruler, dual collimator exchange and heavy duty patient handling system.									
Integrated digital camera with a 32-bit computer-based on a 80486/66 MHz CPU and slip ring gantry. Continuous or step-and-shoot SPECT; continuous multiple rotation SPECT with evolving images. Home positions, auto body contouring, touch ruler, dual collimator exchange and heavy duty patient handling system.									
Integrated digital camera system with extra large FOV and multi-processor array, full simultaneity in acquisition and processing, clip programming, continuous or step-and-shoot whole-body acquisition.									
Integrated digital camera system with extra large FOV and multi-processor array, full simultaneity in acquisition and processing, clip programming, continuous or step-and-shoot whole-body acquisition.									
Integrated digital camera system with extra large FOV and multi-processor array, full simultaneity in acquisition and processing, clip programming, continuous or step-and-shoot whole-body acquisition.									
Integrated digital camera system with 80486/66 MHz CPU, 12 Mbyte RAM and multi-processor array. Full simultaneity in acquisition and processing, clip programming.									
Integrated digital camera system with 80486/66 MHz CPU, 12 Mbyte RAM and multi-processor array. Full simultaneity in acquisition and processing, clip programming.									
All digital, variable-angle, all-purpose slip-ring camera; continuous step-and-shoot SPECT; WB with automatic body contouring, multiple rotation, SPECT with evolving images protocol.									

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COMPANY		GE MEDICAL SYSTEMS					
Model	Millennium MPR/MPS	Starcam AC/T	Starcam XRT	Optima	Maxus		
System Type	One single-crystal detector	One single-crystal detector	One single-crystal detector	Two single-crystal detectors	Two single-crystal detectors		
SPECT Capability	Yes	Yes	Yes	Yes	Yes		
Whole body	Yes						
DETECTOR ASSEMBLY							
Crystal dimensions, cm	MPR, 37 × 51; MPS, 37 × 37	18 in, circular	20 × 14.5 in	13.3 × 72 in	20 × 14.5 in		
Thickness, mm	9	9.5; 0.5 in	9.5	0.25 in	9.5		
No. of PMTs	MPR, 48; MPS, 36	61	91	37 per detector	91 per detector		
Diameter, cm	7.5	2 in, hexagonal	2 in, hexagonal	2 in, hexagonal	2 in, hexagonal		
Digital Detectors	Yes						
SYSTEM PERFORMANCE							
UFOV, cm	MPR, 37 × 51; MPS, 37 × 37	15.4 in	20 × 14.5 in	12.6 × 6.7 in	20 × 14.5		
Max. count rate, cps	325 kcps	≥325,000	>320,000	325,000	<320,000		
Deadtime, μsec	0.7	2.4	<1.0	<1.0	<1.0		
Energy range, keV	55-400	50-400	55-400	55-170	55-400		
Intrinsic spatial resolution, mm							
FWHM, UFOV	3.9	≤3.8	≤3.8	≤3.3	≤3.8		
FWTM, UFOV	7.4	≤7.2	≤7.4	≤6.2	≤7.4		
Extrinsic spatial resolution (LEAP)							
FWHM Ø 10 cm, mm	10	10.0	10.2	8.5	10.2		
FWTM Ø 10 cm, mm		N/A		N/A			
System sensitivity, LEAP, cpm/μCi	316	270	330	305 per detector	330 per detector		
Intrinsic energy resolution, FWHM, 140 keV	9.7%	≤11.0%	≤9.8%	≤9.8%	≤9.8%		
Intrinsic spatial linearity, mm							
Integral UFOV	0.5	≤0.8	≤0.7	≤0.5	≤0.7		
Differential UFOV	0.2	≤0.2	≤0.15	≤0.2	≤0.15		
Intrinsic uniformity, uncorrected							
Integral UFOV	3.5	≤7%	≤5%	≤4.4%	≤±5%		
Differential UFOV	2.5	≤4%	≤3%	≤±3%	≤±3%		
COLLIMATORS							
	LEGP; LEHR; MEGP; HEGP; pinhole	LEGP; LEHR; MEGP; HEGP; pinhole with three apertures; LEHS; LE-diverging parallel; medium-energy diverging parallel	LEGP; LEHR; MEGP; HEGP; pinhole with three apertures; LE-diverging parallel; ME-diverging parallel	LEGP; LEHR; LEHS; LETC; MEGP; HEGP; pinhole with three apertures	LEGP; LEHR; LEHS; LEHR	LEGP; LEHR; LEHS; MEGP; HEGP; LETC	
DETECTOR/YOKE MOTION							
Whole-body scan							
Rate, cm/min	Max 40 mm/sec	1-240	1-240	N/A	1-240		
Mode	Single-pass; dual-pass	Single-pass	Single-pass	N/A	Single-pass		
Area, cm		45 × 200	45-200	N/A	51 × 250		
Contouring	Manual; automatic						
Yoke rotation, degrees	-20 to 90	±380	±380	±540	±540		
Radius, cm	0-35	4.9	4.9	11-17	7.1-22.8		
Detector rotation, degrees	72	±380	±380	N/A	±380		
Clearance							
Maximum, cm		53 in	53 in	N/A	53 in		
Minimum, cm		22 in	22 in	N/A	22 in		

COMPANY **GE MEDICAL SYSTEMS**

Model	Millennium MPP/MPS	Starcam AC/T	Starcam XC/T	Starcam XR/T	Optima	Maxus
OPERATOR CONSOLE						
Persistence scope	Yes	Yes	Yes	Yes	Yes	Yes
Zoom control	Yes	Yes	Yes	Yes	Yes	Yes
Anatomic marker	No	Yes	Yes	Yes	Yes	Yes
Patentmeter	Yes	Yes	Yes	Yes	Yes	Yes
Scaler	Yes	Yes	Yes	Yes	Yes	Yes
Time readout	Yes	Yes	Yes	Yes	Yes	Yes
Information density	No	Yes	Yes	Yes	Yes	Yes
Energy selection						
Automatic	Yes	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes	Yes
Auto peaking	Yes	Yes	Yes	Yes	Yes	Yes
Image rotation control	Yes	Yes	Yes	Yes	Yes	Yes
PHA window capacity	3 peaks; 4 energy sets	3 peaks	3 peaks	3 peaks	3 peaks	3 peaks
Window selection						
Automatic	Yes	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes	Yes
Auto uniformity correction	No	Yes	Yes	Yes	Yes	Yes
Nonuniform attenuation correction method	No	Yes	Yes	Yes	Yes	Yes
COMPUTER						
Acquisition	Pentium PC					
Processing	HP 715/100 Unix workstation					
Data transfer	DICOM; Ethernet; Interfile; Starlink					
Display matrix	1024 × 1024					
Storage	1.2 GB patient data; 2.0 GB total	2200	2200	2200	2430	10230
Heat loading/BTU/hr (Gantry only)		3	3	3	3	3
Stability (max °C change/hour)		40-60	40-60	40-60	20-80	40-80
Humidity, %	20-80					
Power requirements	-120V ± 10%; 15A, 60Hz	115/220V, 50/60Hz	115/220V, 50/60Hz	115/220V, 50/60Hz	115/220V, 50/60Hz, 16/24A	208V, 60Hz, 30A
H × W × D, in		57 × 90 × 53	57 × 90 × 53	57 × 90 × 53	160 × 116 × 208	170 × 155 × 520
Weight, lb		1531	1531	1531	1936	5688
Special Features						

Stationary Gamma Cameras

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COMPANY		HITACHI MEDICAL CORP. OF AMERICA		PARK MEDICAL SYSTEMS, INC.	
Model	SpectraDigital V250DSP	SpectraDigital 1500S	SpectraDigital 2600S	Isocam I/II	
System Type	Two single-crystal detectors; 90° variable angle SPECT camera system with 180 SPECT positioning and auto collimator changing	Two single-crystal detectors; open gantry design general purpose imaging	Two single-crystal detectors; fixed 180° jumbo 22 × 126 UFOV detectors	One single-crystal detector; two single crystal detectors	
SPECT Capability	Yes	Yes	Yes	Standard	Standard
Whole body	Standard	Standard	Standard	Standard	Standard
DETECTOR ASSEMBLY					
Crystal dimensions, cm	58 × 42	58 × 41	61 × 43	58.6 × 44.5	58.6 × 44.5
Thickness, mm	9.5	9.5	9.5	9.5; optional 0.5 in	9.5; optional 0.5 in
No. of PMTs	56	55	84 sq Hamamatsu/detector	86	86
Diameter, cm	52, 7.62; 4, 5.08	49, 7.62; 6, 50.8	84, 6.09, square	6 hexagonal	6 hexagonal
Digital Detectors	Yes, individual PMT digitizers and software decoding	Yes, individual PMT digitizers and software decoding	Yes, individual PMT digitizers and software decoding	Yes	Yes
SYSTEM PERFORMANCE					
UFOV, cm	51 × 38 rectangular	50 × 36, rectangular	56 × 40, rectangular	56.6 × 41.9	56.6 × 41.9
Max. count rate, cps	400 kcps	300 kcps	400 kcps	230 kcps	230 kcps
Deadtime, μ sec	1.4	1.6	1.6	1.2	1.2
Energy range, keV	50-511	50-400	50-400	50-561	50-561
Intrinsic spatial resolution, mm					
FWHM, UFOV	≤3.4	≤3.6	≤3.2	2.7	2.7
FWTM, UFOV	≤5.95	≤6.3	≤5.6	5.1	5.1
Extrinsic spatial resolution (LEAP)					
FWHM @ 10 cm, mm	9	9.7	9	8.8	8.8
FWTM @ 10 cm, mm	17	19.1	16	16.5	16.5
System sensitivity, LEAP, cpm/ μ Ci	293	292	283	275	275
Intrinsic energy resolution, FWHM, 140 keV	9.6%	10%	≤9.6%	9.5%	9.5%
Intrinsic spatial linearity, mm					
Integral UFOV	≤0.15	≤0.15	≤0.15	0.6	0.6
Differential UFOV	≤1.2	≤1.5	≤1.2	0.15	0.15
Intrinsic uniformity, uncorrected					
Integral UFOV	≤2%	≤3.5%	≤3%	±2.5%	±2.5%
Differential UFOV	≤1.5%	≤1.5%	≤1.5%	±1.5%	±1.5%
COLLIMATORS	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; LEUHR	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; LEUHR	LEGP; LEHR; LEHS; MEGP; HEGP; HEHR; fanbeam; pinhole; LEUHR	LEGP; LEHR; LEHS; MEGP; HEHR; fanbeam; pinhole; ultrahigh-energy; LEUHR	LEGP; LEHR; LEHS; MEGP; HEHR; fanbeam; pinhole; ultrahigh-energy; LEUHR
DETECTOR/YOKE MOTION					
Whole-body scan					
Rate, cm/min	0-200	0-200	0-200	10	10
Mode	Single-pass; sequential spot whole-body; dynamic whole-body; continuous sweep; 512 × 2048 acquisition and display resolution	Single-pass; sequential spot whole-body; dynamic whole-body; continuous sweep; 256 × 1024 acquisition and display resolution	Single-pass; sequential spot whole-body; dynamic whole-body; continuous sweep; 256 × 1024 acquisition and display resolution	Single-pass, dual-detectors; dual-pass, single-detector	Single-pass, dual-detectors; dual-pass, single-detector
Area, cm	51 × 210	50 × 200	56 × 210	56 × 213	56 × 213
Contouring	Manual; automatic; touch sensors; contour sensors	Manual; automatic; teaching and retrace; touch sensors	Manual; automatic; teaching and retrace; touch sensors	Step-and-shoot	Step-and-shoot
Yoke rotation, degrees	0, 90	-45 to 180	-5 to 185	Unlimited, slip-ring	Unlimited, slip-ring
Radius, cm	0-36, 70 aperture	0-35	0-30	0-35.8	0-35.8
Detector rotation, degrees	0-360	0-360; 180	0-360; 180 only	Fixed	Fixed
Clearance					
Maximum, cm	108	99.5	125	130.2	130.2
Minimum, cm	10	10	20	16.8	16.8

COMPANY		HITACHI MEDICAL CORP. OF AMERICA		PARK MEDICAL SYSTEMS, INC.	
Model	SpectraDigital V250DSP	SpectraDigital 150DS	SpectraDigital 260DS	Isocam I/II	
OPERATOR CONSOLE					
Persistence scope	Yes	Yes	Yes	Yes	No
Zoom control	Yes	Yes	Yes	Yes	Yes
Anatomic marker	Yes	Yes	Yes	Yes	No
Ratemeter	Yes	Yes	Yes	Yes	Yes
Scaler	Yes	Yes	Yes	Yes	Yes
Time readout	Yes	Yes	Yes	Yes	Yes
Information density	Yes, whole-body	Yes with timed spot whole-body	Yes with timed spot whole-body	Yes	Yes
Energy selection					
Automatic	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes
Auto peaking	Yes	Yes	Yes	Yes	Not required
Image rotation control	Yes	Yes	Yes	Yes	90° increments
PHA window capacity	4 PHAs, 2 sub-PHAs for scatter correction	4 peaks	4 peaks	Yes	16 simultaneous
Window selection					
Automatic	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes
Auto uniformity correction	Yes	Yes	Yes	Yes	Yes
Nonuniform attenuation correction method	No	No	No	No	Optional
COMPUTER					
Acquisition	Executed at camera station, setup via Pentium and Windows 95	Executed at camera system	Executed at camera system	Sun Sparc 20; simultaneous acquisition/processing	
Processing	RISC workstation compliant with UNIX, X11R5, OSF-MOTIF	RISC workstation compliant with UNIX, X11R5, OSF-MOTIF	RISC workstation compliant with UNIX, X11R5, OSF-MOTIF		
Data transfer	DICOM; Ethernet; floppy disk; Interfile; Modem FTP	DICOM; Ethernet; floppy disk; Interfile; Modem FTP	DICOM; Ethernet; floppy disk; Interfile; Modem FTP	Ethernet; floppy disk; V3.3 Interfile	
Display matrix	1280 x 1024 min	1280 x 1024	1280 x 1024 min	1152 x 900	
Storage	2 GB hard disk standard 64-128 MB RAM standard	2 GB hard disk standard 64-128 MB RAM standard	2 GB hard disk standard 64-128 MB RAM standard	QIC tape; optical disk; single and jukebox	
Heat loading(BTU/hr (Gantry only))	5500	8000	8000	8000 max	
Stability (max °C change/hour)	3	3	3	3	
Humidity, %	30-80, noncondensing	30-80, noncondensing	30-80, noncondensing	40-80, noncondensing	
Power requirements	220V ± 10V, 25A, 60Hz ± 1Hz, triple-phase	115V ± 5V, 40A, 60Hz ± 1Hz, single-phase	115V ± 5V, 40A, 60Hz ± 1Hz, single-phase	208V, 20A dedicated breaker; 115V-15A dedicated breaker;	
H x W x D, in	74.1 x 62.9 x 137.8	75.9 x 48.8 x 141.7	75.9 x 48.8 x 141.7	86.75 x 70.5 x 142.8	
Weight, lb	3960	4000	4000	I, 4550; II 6050	
Special Features	Variable angle SPECT/whole-body system features fully-digital DSP design and software decoding and slip ring transfer; Works-In-Progress (WIP) include attenuation correction and coincidence acquisition.	Open Gantry SPECT/whole-body system features fully-digital design and software decoding; imaging is virtually unrestricted accommodating hospital bed and weight bearing protocols.	Fixed 180° angle SPECT/whole-body system features fully-digital design and software decoding; jumbo high-resolution detectors are ideal for oncological applications.	½ in NaI crystal; holo-spectral processing; depth-of-interaction; iterative reconstruction; macro programming language; nonuniform attenuation correction without external source; variable angle detectors; software upgradeable.	

Stationary Gamma Cameras

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COMPANY		PICKER INTERNATIONAL, INC.			
Model		Prism 1000XP	Prism 1500XP	Prism 2000XP	Prism 3000XP
System Type		One single-crystal detector, single ring gantry field upgradeable to dual detectors	One single-crystal detector, cantilevered gantry for over bed work	Two single-crystal detectors	Three single-crystal detectors
SPECT Capability		Standard	Standard	Standard	Standard
Whole body		Standard	Standard	Standard	Standard
DETECTOR ASSEMBLY					
Cystal dimensions, cm		47 x 59.3	47 x 59.3	47 x 59.3	29.2 x 43.8
Thickness, mm		9.5	9.5	9.5	9.5
No. of PMTs		55	55	55	49 hex
Diameter, cm		49-7.62; 6-5.08	49-7.62; 6-5.08	49-7.62; 6-5.08	41-6; 8-5.4, half hex
Digital Detectors		Yes	Yes	Yes	Yes
SYSTEM PERFORMANCE					
UFOV, cm		38.1 x 50.8	38.1 x 50.8	38.1 x 50.8	24 x 40
Max. count rate, cps		240 kcps	240 kcps	240 kcps	240 kcps
Deadtime, μ sec		1.6	1.6	1.6	1.6
Energy range, keV		50-511	50-511	50-511	50-511
Intrinsic spatial resolution, mm					
FWHM, UFOV		3.9	3.9	3.9	3.3
FWTM, UFOV		7.1	7.1	7.1	6.2
Extrinsic spatial resolution (LEAP)					
FWHM @ 10 cm, mm		8.3	8.3	8.3	8
FWTM @ 10 cm, mm		14.5	14.5	14.5	13.8
System sensitivity, LEAP, cps/ μ Ci		245	245	245	230
Intrinsic energy resolution, FWHM, 140 keV		10.3%	10.3%	10.3%	10%
Intrinsic spatial linearity, mm					
Integral UFOV		0.6	0.6	0.6	0.6
Differential UFOV		0.2	0.2	0.2	0.2
Intrinsic uniformity, uncorrected					
Integral UFOV		Corrected value $\pm 3.5\%$	Corrected value $\pm 3.5\%$	Corrected value $\pm 3.5\%$	Corrected integral unit $\pm 3.5\%$
Differential UFOV		Corrected value $\pm 3.5\%$	Corrected value $\pm 2.5\%$	Corrected value $\pm 2.5\%$	Corrected differential unit $\pm 2.5\%$
COLLIMATORS					
		LEGP; LEHR; LEHS; MEGP; HEGP; fanbeam; pinhole; LEUHR; HR-Fan; UHR-Fan; CARDIOFAN	LEGP; LEHR; LEHS; MEGP; HEGP; fanbeam; pinhole; LEUHR; HR-Fan; UHR-Fan; CARDIOFAN	LEGP; LEHR; LEHS; MEGP; HEGP; fanbeam; pinhole; LEUHR; HR-Fan; UHR-Fan; CARDIOFAN; UHE-Par	LEGP; LEHR; LEHS; MEGP; HEGP; fanbeam; LEGP; LEHR; LEHS; MEGP; HEGP; HEGP; HEHR; maximum sensitivity (MS)
DETECTOR/YOKE MOTION					
Whole-body scan					
Rate, cm/min		3-300	3-300	3-300	5-200
Mode		Single-pass	Single-pass	Single-pass	Single-pass
Area, cm		10,058 sq cm	10,058 sq cm	10,058 sq cm	4673 sq cm
Contouring		Manual; automatic	Manual; automatic	Manual; PrismPath learn mode contouring	Manual; PrismPath learn mode contouring
Yoke rotation, degrees		360	360	360	360
Radius, cm		21 radial travel	21 radial travel	21 radial travel	18.5
Detector rotation, degrees		-1 to 91	-1 to 91	-1 to 91	N/A
Clearance					
Maximum, cm		68	68	68	70
Minimum, cm		26	26	26	33

COMPANY PICKER INTERNATIONAL, INC.

Model	Prism 1000XP	Prism 1500XP	Prism 2000XP	Prism 3000XP	Sim 400
OPERATOR CONSOLE					
Persistence scope	Yes	Yes	Yes	Yes	Yes
Zoom control	Yes	Yes	Yes	Yes	Yes
Anatomic marker	No	No	No	No	Yes
Ratemeter	Yes	Yes	Yes	Yes	Yes
Scaler	Yes	Yes	Yes	Yes	Yes
Time readout	Yes	Yes	Yes	Yes	Yes
Information density	Yes, whole-body	Yes, whole-body	Yes, whole-body	No	Yes
Energy selection					
Automatic	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes
Auto peaking	Yes	Yes	Yes	Yes	Yes
Image rotation control	Yes	Yes	Yes	Yes	Yes
PHA window capacity	8 peaks	8 peaks	8 peaks	4 peaks	Yes
Window selection					
Automatic	Yes	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes	Yes
Auto uniformity correction	Yes	Yes	Yes	Yes	Yes
Nonuniform attenuation correction method	Optional	Optional	Optional	Optional	No
COMPUTER					
Acquisition	Yes	Yes	Yes	Yes	Macintosh Power PC
Processing	Yes	Yes	Yes	Yes	Macintosh Power PC
Data transfer	DICOM; Ethernet; floppy disk; Interfile	DICOM; Ethernet; floppy disk; Interfile	DICOM; Ethernet; floppy disk; Interfile	DICOM; Ethernet; floppy disk; Interfile	Ethernet; floppy disk; Interfile
Display matrix	1280 × 1024	1280 × 1024	1280 × 1024	1280 × 1024	1280 × 1024
Storage	64 MB main memory; 1.2 GB hard disk; 1.2 GB tape	64 MB main memory; 1.2 GB hard disk; 1.2 GB tape	64 MB main memory; 1.2 GB hard disk; 1.2 GB tape	64 MB main memory; 1.2 GB hard disk	Optical; magnetic; magneto-optical
Heat loading/BTU/hr (Gantry only)	3725	4400	3725	3725	4000
Stability (max °C change/hour)		3	3	3	5
Humidity, %	45-80, noncondensing	45-80, noncondensing	45-80, noncondensing	45-80, noncondensing	20-60, noncondensing
Power requirements	208/220/240V, 15A, 50/60Hz	208/220/240V, 20A, single phase, 50/60Hz	208/220/240V, 20A, single phase, 50/60Hz	208/220/240V, 30A, 50/60Hz	115V, 15A, 50/60Hz
H × W × D, in	117 × 68 × 73	93 × 68 × 75	117 × 68 × 73	66 × 43 × 67	74.5 × 56.5 × 31.8
Weight, lb	3750	3830	3750	3575	720
Special Features	3D cardiac perfusion/motion quantification; cequal; Cedars-Sinai PTO; gated SPECT; mammography positioners; pediatric table; WIP scatter correction and point spread function correction.	3D cardiac perfusion/motion quantification; cequal; Cedars-Sinai PTO; gated SPECT; mammography positioners; WIP scatter correction and point spread function correction.	3D cardiac perfusion/motion quantification; cequal; Cedars-Sinai PTO; gated SPECT; mammography positioners; scatter correction; PSF correction; WIP position coincidence detection and transmission attenuation correction.	Fast gated SPECT; 3D cardiac perfusion/motion quantification; cequal; Cedars-Sinai PTO; STEP transmission attenuation correction; Xenon ICBF; mammography positioners; PSF correction; WIP scatter correction.	Designed for long-term clinical reproducibility of FPRNA studies and exhibits insurance of imaging characteristics throughout the observable count rate range to 1,000,000 cps.

Stationary Gamma Cameras

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SIEMENS MEDICAL SYSTEMS					
Model	Multispect 3/Icon P	Multispect 2/Icon P	Diacam HD/Icon P	Orbiter 37 HD/Icon P, 75 HD/Icon P	
System Type	Triple detector gamma camera	Two single-crystal detectors	One single-crystal detector	One single-crystal detector	One single-crystal detector
SPECT Capability	Yes	Yes	Yes	Yes	Yes
Whole body	Standard	Standard	Standard	Standard	Yes
DETECTOR ASSEMBLY					
Crystal dimensions, cm	43.7 x 33	59.1 x 44.5	59.1 x 44.5	59.1 x 44.5	44.5
Thickness, mm	9.5	9.5	9.5	9.5	9.5
No. of PMTs	76 per detector	59 per detector; 53 three in PMTs, 6 two in PMTs	59, 53 three in PMTs, 6 two in PMTs	59, 53 three in PMTs, 6 two in PMTs	37, 75
Diameter, cm	5.08	7.6; 5.08	7.6; 5.08	7.6; 5.08	7.6; 5.08
Digital Detectors	No	No	No	Yes	No
SYSTEM PERFORMANCE					
UFOV, cm	31 x 41	53.3 x 38.7	53.3 x 38.7	53.3 x 38.7	38.7
Max. count rate, cps	>240 kcps	>240 kcps	>240 kcps	>240 kcps	>240 kcps
Deadtime, μ sec	0.4	0.4	0.4	Proprietary	0.4
Energy range, keV	50-511	50-511	50-511	50-511	50-511
Intrinsic spatial resolution, mm	≤ 3.9	≤ 4.7	≤ 4.7	3.8	37, ≤ 4.5 ; 75, ≤ 3.7
FWHM, UFOV	≤ 7.4	≤ 9	≤ 9	7.3	37, ≤ 8.6 ; 75, ≤ 7.1
Extrinsic spatial resolution (LEAP)					
FWHM Φ 10 cm, mm	7.6, LEHR collimator, CFOV	7.8, LEHR collimator, CFOV	7.8, LEHR collimator, CFOV	≤ 7.4 , LEHR collimator, CFOV	37, 9.3, LEAP collimator, CFOV; 75, 9, LEAP collimator, CFOV
FWHM Φ 10 cm, mm	13.8, LEHR collimator, CFOV	14.4, LEHR collimator, CFOV	14.4, LEHR collimator, CFOV	≤ 7.8 , LEHR collimator, CFOV	37, 16.6, LEAP collimator, CFOV; 75, 13.9, LEAP collimator, CFOV
System sensitivity, LEAP, cpm/ μ CI	351 $\pm$ 10%	351 $\pm$ 10%	351 $\pm$ 10%	≤ 250	351 $\pm$ 10%
Intrinsic energy resolution, FWHM, 140 keV	$\leq 10.1\%$ in UFOV	$\leq 10.5\%$ in UFOV	$\leq 10.5\%$ in UFOV	9.2% in UFOV	$\leq 10.1\%$ in UFOV
Intrinsic spatial linearity, mm	≤ 0.6	≤ 0.6	≤ 0.6	≤ 0.5	≤ 0.6
Differential UFOV	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2
Intrinsic uniformity, uncorrected	$\pm 4.3\%$	$\pm 4.3\%$	$\pm 4.3\%$	$\pm 3.9\%$	$\pm 4.3\%$
Differential UFOV	$\pm 3\%$	$\pm 2.7\%$	$\pm 3\%$	$\pm 2.7\%$	$\pm 3\%$
COLLIMATORS					
LEAP, LEHR, LEHS, MEGP, HEGP, fanbeam; CARDIOFOCAL; LEUHR	LEAP, LEHR, LEHS, MEGP, HEGP, single pinhole; fanbeam; CARDIOFOCAL; 511keV; LEUHR	LEAP, LEHR, LEHS, MEGP, HEGP, single pinhole; fanbeam; CARDIOFOCAL; 511keV; LEUHR	LEAP, LEHR, LEHS, MEGP, HEGP, single pinhole; fanbeam; CARDIOFOCAL; 511keV; LEUHR	LEAP, LEHR, LEHS, MEGP, HEGP, single pinhole; fanbeam; CARDIOFOCAL; 511keV; LEUHR	LEAP, LEHR, LEHS, MEGP, HEGP, single pinhole; fanbeam; CARDIOFOCAL; 511keV; LEUHR
DETECTOR/YOKE MOTION					
Whole-body scan	Up to 224, motor driven	Up to 224, motor driven	Up to 224, motor driven	Up to 224, motor driven	3-244
Rate, cm/min	Single-pass	Single-pass	Single-pass	Single-pass	Single-pass; dual-pass also supported
Mode	200 x 41	200 x 53.3	200 x 53.3	200 x 53.3	200 x 68
Area, cm	Automatic	Automatic	Automatic	Manual	Manual
Contouring	N/A	N/A	N/A	Manual	Manual
Yoke rotation, degrees	25-60	25-60	25-60	35.6	365, clockwise; 90, counterclockwise
Radius, cm	-5 to 365	-5 to 365	-5 to 365	150	14.5
Detector rotation, degrees	60	60	60	139	300
Clearance	25	25	25	74.3	31.54
Maximum, cm					0
Minimum, cm					

SIEMENS MEDICAL SYSTEMS

COMPANY	SIEMENS MEDICAL SYSTEMS			
Model	Multispect 3/Icon P	Multispect 2/Icon P	Diacam HD/Icon P	Diacam HD3/Icon P
OPERATOR CONSOLE				
Persistence scope	Optional	Optional	Optional	Optional
Zoom control	Yes	Yes	Yes	Yes
Anatomic marker	Yes	Yes	Yes	Yes
Ratemeter	Yes	Yes	Yes	Yes
Scaler	Yes	Yes	Yes	Yes
Time readout	Yes	Yes	Yes	Yes
Information density	No	No	No	No
Energy selection				
Automatic	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes
Auto peaking	Yes	Yes	Yes	Yes
Image rotation control	Yes	Yes	Yes	Yes
PHA window capacity	3 peaks; additional peak for scatter subtraction	3 peaks; additional peak for scatter subtraction	3 peaks; additional peak for scatter subtraction	3 peaks; additional peak for scatter subtraction
Window selection				
Automatic	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes
Auto uniformity correction	Yes	Yes	Yes	Yes
Nonuniform attenuation correction method	Optional			
COMPUTER				
Acquisition	Power Macintosh 8100/110 for digital acquisition	Power Macintosh 8100/110 for digital acquisition	Power Macintosh 8100/110 for digital acquisition	Power Macintosh 8100/110 for digital acquisition
Processing	Power Macintosh 9500/132	Power Macintosh 9500/132	Power Macintosh 9500/132	Power Macintosh 9500/132
Data transfer	DICOM; Ethernet; floppy disk; Interfile	DICOM; Ethernet; floppy disk; Interfile	DICOM; Ethernet; floppy disk; Interfile	DICOM; Ethernet; floppy disk; Interfile
Display matrix	1152 x 870	1152 x 870	1152 x 870	1152 x 870
Storage	Hard disk 2 GB, internal, standard; floppy disk 1.4 MB, 3.5 in floppy disk drive; CD ROM drive, standard; 1.3 GB MOD external drive, optional; 1 GB external SCSI disk; optional; 2 GB DAT external drive, optional	Hard disk 2 GB, internal, standard; floppy disk 1.4 MB, 3.5 in floppy disk drive; CD ROM drive, standard; 1.3 GB MOD external drive, optional; 1 GB external SCSI disk; optional; 2 GB DAT external drive, optional	Hard disk 2 GB, internal, standard; floppy disk 1.4 MB, 3.5 in floppy disk drive; CD ROM drive, standard; 1.3 GB MOD external drive, optional; 1 GB external SCSI disk; optional; 2 GB DAT external drive, optional	Hard disk 2 GB, internal, standard; floppy disk 1.4 MB, 3.5 in floppy disk drive; CD ROM drive, standard; 1.3 GB MOD external drive, optional; 1 GB external SCSI disk; optional; 2 GB DAT external drive, optional
Heat loading/BTU/hr (Gantry only)	4000	4000	1500	1500
Stability (max °C change/hour)	4.4	4.4	4.4	4.4
Humidity, %	Not to exceed 80 noncondensing	Not to exceed 80 noncondensing	Not to exceed 80 noncondensing	Not to exceed 80 noncondensing
Power requirements	200-240V, 50/60Hz, 20A, single-phase	200-240V, 50/60Hz, 20A, single-phase	200-240V, 50/60Hz, 20A, single-phase	200-240V, 50/60Hz, 20A, single-phase
H x W x D, in	74 x 41 x 68, gantry with detector	74 x 41 x 68, gantry with detector	74 x 86 x 60, gantry with detector	73 x 95 x 35.25, gantry with detector
Weight, lb	3724, gantry with detector	3423, gantry with detector	2793, gantry with detector	3209, gantry with detector
Special Features	Unit is equipped with large field of view detectors, automatic collimator exchange and AUTOCOLOUR for SPECT and whole body; system designed with continuous PMT tuning and bonded optics; uniformity does not change with energy and there is no need for uniformity correction floods at different energies.	System is designed with continuous PMT tuning and bonded optics; uniformity does not change with energy and there is no need for uniformity correction floods at different energies.	Designed with continuous PMT tuning and bonded optics; uniformity does not change with energy and there is no need for uniformity correction floods at different energies.	Designed with continuous PMT tuning and bonded optics; uniformity does not change with energy and there is no need for uniformity correction floods at different energies.

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SMV AMERICA

COMPANY	Vision FX-40		Vision FX-80		Vision DST		Vision DST-XL		Vision DS7		Vision DSX	
Model	One single-crystal detector		Two single-crystal detectors		Two single-crystal variable-angle rectangular detectors		Two jumbo single-crystal variable-angle rectangular detectors		One single-crystal detector		One single-crystal detector	
System Type	Standard		Standard		Standard		Standard		Standard		Standard	
SPECT Capability	Standard		Standard		Standard		Standard		Standard		Standard	
Whole body	Standard		Standard		Standard		Standard		Standard		Standard	
DETECTOR ASSEMBLY	44 x 59, true rectangle		44 x 59, true rectangle		43 x 33		60 x 46.5		39		68.6 x 46	
Crystal dimensions, cm	9.5		9.5		9.5; 12.7 available		9.5; 12.7 available		9.5; 12.7 available		9.5; 12.7 available	
Thickness, mm	58		58 per head, 116 total		58 per head, 116 total		94 per head, 188 total		61		94	
No. of PMTs	50, 7.5 hex; 8, 7.5 half hex		50, 7.5 hex; 8, 7.5 half hex, per head		50, 5.8 hex; 8, 3.8 circular, per head		86, 6 cm hex; 8, 3.8 circular, per head		6		86, 6 cm; 8, 3.8 cm	
Diameter, cm	Yes		Yes		Yes		Yes		Yes		Yes	
Digital Detectors	Yes		Yes		Yes		Yes		Yes		Yes	
SYSTEM PERFORMANCE	51 x 38		51 x 38		40 x 30		54 x 40		39		54 x 40	
UFOV, cm	250,000		250,000		250,000		250,000		250,000 with high count rate option		250,000 with high count rate option	
Max. count rate, cps	N/A, detector is capable of parallel processing; time spec is n/a to its mode of operation		N/A, detector is capable of parallel processing; time spec is n/a to its mode of operation		N/A, detector is capable of parallel processing; time spec is n/a to its mode of operation		N/A, detector is capable of parallel processing; time spec is n/a to its mode of operation		N/A, detector is capable of parallel processing; time spec is n/a to its mode of operation		N/A, detector is capable of parallel processing; time spec is n/a to its mode of operation	
Deadtime, μ sec	50-550		50-550		40-511		40-511		40-400		40-400	
Energy range, keV	3.5		3.5		3.2		3.4		3.4		3.4	
Intrinsic spatial resolution, mm	FWHM, UFOV		FWHM, UFOV		FWHM, UFOV		FWHM, UFOV		FWHM, UFOV		FWHM, UFOV	
FWHM, UFOV	6.5		6.5		6.1		6.3		6.3		6.3	
FWHM, UFOV	8.9		8.9		8.8		8.8		8.2		8.9	
Extrinsic spatial resolution (LEAP)	FWHM @ 10 cm, mm		FWHM @ 10 cm, mm		FWHM @ 10 cm, mm		FWHM @ 10 cm, mm		FWHM @ 10 cm, mm		FWHM @ 10 cm, mm	
FWHM @ 10 cm, mm	250		250		331		330		190		190	
System sensitivity, LEAP, cpm/ μ Ci	9.75		9.75		9.8		9.8		9.75%		11	
Intrinsic energy resolution, FWHM, 140 keV	0.25		0.25		0.36		0.36		0.36		0.36	
Intrinsic spatial linearity, mm	0.2		0.2		0.17		0.17		0.17		0.17	
Integral UFOV	2.5		2.5		1.9%		1.9		1.6%		2.5	
Differential UFOV	1.5		1.5		1.5%		1.5		1.5%		2	
COLLIMATORS	LEGP; LEHR; MEGP; fanbeam; pinhole; SHEGP; MEHR		LEGP; LEHR; MEGP; fanbeam; pinhole; SHEGP; MEHR		LEGP; LEHR; LEHS; MEGP; HEGP; fanbeam; pinhole; LEUHR; LEWB; MEWB		LEGP; LEHR; LEHS; MEGP; HEGP; fanbeam; pinhole; LEUHR		LEGP; LEHR; LEHS; MEGP; HEGP; MEHR; LEWB; HEWB		LEGP; LEHR; LEHS; MEGP; HEGP; pinhole	
DETECTOR/YOKE MOTION	Whole-body scan		Whole-body scan		Whole-body scan		Whole-body scan		Whole-body scan		Whole-body scan	
Rate, cm/min	10-200		10-200		2-254		2-254		8-120		8-120	
Mode	Single-pass		Single-pass		Single-pass; continuous dual-head, anterior contouring or sequential spots		Single-pass; continuous dual-head, anterior contouring or sequential spots		Single-pass		Single-pass	
Area, cm	51 x 210		51 x 210		40 x 220; 55 x 220 w/LEWB or MEWB		55 x 220		50 x 220		54 x 220	
Contouring	Manual; automatic; optional trace auto-contouring		Manual; automatic; optional trace auto-contouring		Manual; semi-automatic		Manual; automatic; optional trace auto-contouring		Manual; semi-automatic		Manual; semi-automatic	
Yoke rotation, degrees	Infinite slip-ring		Infinite slip-ring		470, -90 to 380		470, -90 to 380		600, -20 to 580		600	
Radius, cm	8-36.5		8-36.5		0-86.4		0-86.4		0-86.4		0-86.4	
Detector rotation, degrees	-106 to 214		-106 to 214		-45 to 180		310		310		310	
Clearance												
Maximum, cm	71		71		127		127		124.5		127	
Minimum, cm	0		0		60		60		57.4		60	

SMV AMERICA

COMPANY		SMV AMERICA																			
Model		Vision FX-40				Vision DST				Vision DST-XL				Vision DS7				Vision DSX			
OPERATOR CONSOLE		Vision FX-40				Vision DST				Vision DST-XL				Vision DS7				Vision DSX			
Persistence scope		Video				Video				Video				Video				Video			
Zoom control		Yes				Yes				Yes				Yes				Yes			
Anatomic marker		Yes				Yes				Yes				Yes				Yes			
Ratemeiter		Yes				Yes				Yes				Yes				Yes			
Scaler		Yes				Yes				Yes				Yes				Yes			
Time readout		Yes				Yes				Yes				Yes				Yes			
Information density		No				No				No				No				No			
Energy selection																					
Automatic		Yes				Yes				Yes				Yes				Yes			
Manual		Yes				Yes				Yes				Yes				Yes			
Auto peaking		Yes				Yes				Yes				Yes				Yes			
Image rotation control		Yes				Yes				Yes				Yes				Yes			
PHA window capacity		4 peaks				4 per head, 8 total				4 per head, 8 total				4 peaks				4 peaks			
Window selection																					
Automatic		Yes				Yes				Yes				Yes				Yes			
Manual		Yes				Yes				Yes				Yes				Yes			
Auto uniformity correction		Yes				Yes				Yes				Yes				Yes			
Nonuniform attenuation correction method		Optional				Optional				Optional				No				No			
COMPUTER																					
Acquisition		IBM RS6000 Powerstation				Motorola 68040 32 bit acquisition processor				Motorola 68040 32 bit acquisition processor				Motorola 68040 32 bit acquisition processor				Motorola 68040 32 bit acquisition processor			
Processing		IBM RS6000 Powerstation				IBM RS6000 Powerstation				IBM RS6000 Powerstation				IBM RS6000 Powerstation				IBM RS6000 Powerstation			
Data transfer		DICOM; Ethernet; floppy disk; Interfile				DICOM; Ethernet; floppy disk; Interfile				DICOM; Ethernet; floppy disk; Interfile				DICOM; Ethernet; floppy disk; Interfile				DICOM; Ethernet; floppy disk; Interfile			
Display matrix		1280 x 1024				1280 x 1024				1280 x 1024				1280 x 1024				1280 x 1024			
Storage		1.2 GB hard drive, expandable by 1.2 GB; 1/4 in tape standard; 1.2 GB optical disk, optional; 20 GB optical jukebox, optional				1.2 GB hard drive, expandable by 1.2 GB; 1/4 in tape standard; 1.2 GB optical disk, optional; 20 GB optical jukebox, optional				1.2 GB hard drive, expandable by 1.2 GB; 1/4 in tape standard; 1.2 GB optical disk, optional; 20 GB optical jukebox, optional				1.2 GB hard drive, expandable by 1.2 GB; 1/4 in tape standard; 1.2 GB optical disk, optional; 20 GB optical jukebox, optional				1.2 GB hard drive, expandable by 1.2 GB; 1/4 in tape standard; 1.2 GB optical disk, optional; 20 GB optical jukebox, optional			
Heat loading/BTU/hr (Gantry only)		Approx. 2000				5000				5500				3000				4400			
Stability (max °C change/hour)		3				5				5				5				5			
Humidity, %		30-80				35-80				35-80				35-80				35-80			
Power requirements		115V, 20A				110V, 3 kVA				110V, 20A, ground				110V, 20A				110V, 30A, ground			
H x W x D, in		74.8 x 51.5 x 45.3				74.8 x 112 x 76				64 x 44 x 30				162 x 112 x 76				64 x 44 x 30			
Weight, lb		5513				4400				5690				2180				2200			
Special Features		Full digitization of PMT signals; innovative slip-ring gantry with digital data transfer; intuitive Windows-based acquisition interface; 80 cm patient opening; upgradeable to dual head.				Full digitization of PMT signals; innovative angle, variable axis design; 90° or 180° detector configuration; open gantry; standard high-speed touchscreen acquisition interface; upgradeable to coincidence, WIP.				Full digitization of PMT signals; variable angle design; open gantry 90° or 180° detector configuration; standard high speed touchscreen acquisition interface; upgradeable to coincidence, WIP.				Full digitization of PMT signals; jumbo head variable angle design; open gantry 90° or 180° detector configuration; standard high speed touchscreen acquisition interface; upgradeable to coincidence, WIP.				Full digitization of PMT signals; standard high-speed touchscreen acquisition interface; open gantry design; trajectory contouring, WB and SPECT; constant COR.			

Stationary Gamma Cameras

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COMPANY		TOSHIBA AMERICA MEDICAL SYSTEMS				TRIONIX RESEARCH LABORATORY, INC.					
Model		7100		7200		Blad XLT 20		Blad XLT 24		Triad XLT	
System Type		One single-crystal detector		Two single-crystal detectors		Two single-crystal detectors		Two single-crystal detectors		Three single-crystal detectors	
SPECT Capability		Standard		Standard		Standard		Standard		Standard	
Whole body		Standard		Standard		Standard		Standard		Standard	
DETECTOR ASSEMBLY											
Crystal dimensions, cm		55 x 40		55 x 40		57.7 x 45.6		66 x 44.5		43.8 x 29.2	
Thickness, mm		9.5		9.5		9.5		9.5		9.5	
No. of PMTs		51		51		59		71		49	
Diameter, cm		49 tubes, 7.6 cm; 2 tubes, 5.95 cm		49 tubes, 7.6 cm; 2 tubes, 5.95 cm		49, 7.62; 10, 5.08		49, 7.62; 22, 5.08		2.36	
Digital Detectors		Yes		Yes		Yes		Yes		Yes	
SYSTEM PERFORMANCE											
UFOV, cm		55 x 40		55 x 40		50 x 38		60 x 37		40 x 22	
Max. count rate, cps		230		230		115,000		115,000		115,000	
Deadtime, μ sec						3		3		3	
Energy range, keV		50-520		50-520		50-511		50-511		50-511	
Intrinsic spatial resolution, mm											
FWHM, UFOV		3.7		3.7		3.8		4.1		3.1	
FWTM, UFOV						6.8		7.4		5.6	
Extrinsic spatial resolution (LEAP)											
FWHM @ 10 cm, mm		4.7		4.7		9.6		9.8		9.2	
FWTM @ 10 cm, mm						16.7		18		16.3	
System sensitivity, LEAP, cpm/ μ Ci		295		295		338		338		338	
Intrinsic energy resolution, FWHM, 140 keV		10%		10%		9.7%		9.7%		9.6%	
Intrinsic spatial linearity, mm		<1.7		<1.7		0.4		0.5		0.38	
Integral UFOV		≤ 0.3		≤ 0.3		0.2		0.22		0.18	
Differential UFOV											
Intrinsic uniformity, uncorrected											
Integral UFOV				2.5%, CFOV		2.3%		2.5%		2.3%	
Differential UFOV				2.5%, CFOV		1.6%		1.8%		1.6%	
COLLIMATORS											
		LEGP, LEHR, LEHS; MEGP, HEGP; fanbeam; pinhole; LESHR, LEHR fanbeam; LESHR fanbeam; MEHR		LEGP, LEHR, LEHS; MEGP, HEGP; fanbeam; pinhole; LESHR, LEHR fanbeam; LESHR fanbeam; MEHR		LEGP, LEHR, MEGP, HEGP; HEHR; fanbeam; LEUHR; UHEHR		LEGP, LEHR, MEGP, HEGP; HEHR; fanbeam; LEUHR; UHEHR		LEGP, LEHR, MEGP, HEGP; HEHR; fanbeam; LEUHR; UHEHR	
DETECTOR/YOKE MOTION											
Whole-body scan						120, max computer controlled		120, max computer controlled		108, max computer controlled	
Rate, cm/min		5-200		5-200		Single-pass; simultaneous anterior and posterior		Single-pass; simultaneous anterior and posterior		Single-pass; automated 6-view whole-body	
Mode		Single-pass: WB/static; WB/SPECT		Single-pass: WB/static; WB/SPECT		Single-pass: WB/static; WB/SPECT		Single-pass; automated 6-view whole-body		Single-pass; automated 6-view whole-body	
Area, cm		205		205		200.7		202.7		136.7	
Contouring		Automatic		Automatic		Manual: whole-body SPECT up to 200.7 cm		Manual: whole-body SPECT up to 202.7 cm		Manual: whole-body SPECT up to 193.5 cm	
Yoke rotation, degrees						N/A		N/A		N/A	
Radius, cm											
Detector rotation, degrees		-15 to 375		-15 to 375		-0.8 to 368, 376 total		-8 to 368, 376 total		-8 to 368, 376 total	
Clearance											
Maximum, cm				35.6 with LEHR collimators		35.6 with LEHR collimators		35.6 with LEHR collimators		38.4 with LEHR collimators	
Minimum, cm				7.6 with LEHR collimators		7.6 with LEHR collimators		7.6 with LEHR collimators		13.6 with LEHR collimators	

TOSHIBA AMERICA MEDICAL SYSTEMS		TRIONIX RESEARCH LABORATORY, INC.		
COMPANY	7100	7200	Blad XLT 20	Blad XLT 24
Model	7100	7200	Blad XLT 20	Blad XLT 24
OPERATOR CONSOLE				
Persistence scope	Yes	Yes	Yes	Yes
Zoom control	Yes	Yes	Yes	Yes
Anatomic marker	Yes	Yes	No	No
Rotometer	Yes	Yes	Yes	Yes
Scaler	Yes	Yes	Yes	Yes
Time readout	Yes	Yes	Yes	Yes
Information density	Yes	Yes	No	No
Energy selection	Yes	Yes	Yes	Yes
Automatic	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes
Auto peaking	Yes	Yes	Yes	Yes
Image rotation control	Yes	Yes	Yes	Yes
PHA window capacity	3 peaks	3 peaks	4 peaks: up to 4 acquisition channels	4 peaks: up to 4 acquisition channels
Window selection				
Automatic	Yes	Yes	Yes	Yes
Manual	Yes	Yes	Yes	Yes
Auto uniformity correction	Yes	Yes	Yes	Yes
Nonuniform attenuation correction method	Optional	Optional	No	Yes
COMPUTER				
Acquisition	Sun SuperSparc 20	Sun SuperSparc 20	Sun SuperSparc 20, model 71	Sun SuperSparc 20, model 71
Processing	Sun SuperSparc 20	Sun SuperSparc 20	Sun SuperSparc 20, model 71	Sun SuperSparc 20, model 71
Data transfer	DICOM; Ethernet; floppy disk; Interfile	DICOM; Ethernet; floppy disk; Interfile	Ethernet; floppy disk; Interfile; modem	Ethernet; floppy disk; Interfile; modem
Display matrix	1280 x 1024	1280 x 1024	1024 x 875	1024 x 875
Storage	2.1 GB	2.1 GB	2.1 GB internal disk; 1.2 GB optical disk; 150 MB tape drives	2.1 GB internal disk; 1.2 GB optical disk; 150 MB tape drives
Heat loading/BTU/hr (Gantry only)				
Stability (max °C change/hour)	5	5	5304	6280
Humidity, %	30-80	30-80	2.8	2.8
Power requirements	208-240V, single phase, 2 wire	208-240V, single phase, 2 wire	30-60	30-60
H x W x D, in	79.1 x 58.7 x 66.9	79.1 x 58.7 x 66.9	86 x 144 x 42.5	83 x 128 x 54.5
Weight, lb	3410	3410	3450	4380
Special Features	On-line automatic body contouring; nine preset positions for the most common procedures; special acquisition combinations; SPECT/PLANAR, WB/STATIC, WB/SPECT, STATIC/DYNAMIC.	On-line automatic body contouring; nine preset positions for the most common procedures; special acquisition combinations; SPECT/PLANAR, WB/STATIC, WB/SPECT, STATIC/DYNAMIC.	SESAME scatter elimination; DSF resolution recovery; optimized 500 lb capacity study-specific tables; whole-body SPECT; largest FOV.	QuaSAR scatter elimination; nonuniform attenuation correction; resolution recovery; whole-body SPECT; ultrahigh-energy optimized collimators; 500 lb capacity table; largest FOV.