

1. Scan acquisition and user interface basics								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
The portion of the user interface where scans are prescribed	eXam Plan	Scan SetUp Window	Scan Protocol	Scan protocol	Exam Protocol	Scan Procedure	Examination	Patient Registration
Other portions of the user interface , such as where reconstructed images are viewed	Active display	Image Viewports	Image Viewer	Desktop	View Scan and Various Applications	Active viewer	Various “task cards”, such as “Viewing”	Review Filming Adv. Analysis Offline Recon
CT localizer radiograph (i.e. the scanned projection radiograph, often acquired by the CT system to allow the user to prescribe the start and end locations of the scan range)	Scanogram	Scout	Scanogram	Scout	Surview	Surview	Topogram	Scout
Axial scan mode: Data acquisition while the patient table remains stationary; the table position may be incremented between x-ray exposures to collect data over a longer z axis range.	Scan & View, Scan & Scan, Volume, Wide Volume (Aquilion One)	Axial	Normal	Axial	Axial	Axial Or Step&Shoot	Sequence	Axial
Helical or Spiral scan mode: Data acquisition while the patient table is continuously moving along the z axis.	Helical	Helical	Volume	Helical	Helical	Helical	Spiral	Helical
Dynamic scan mode - single detector width: Data acquisition at multiple time points over the same anatomic location(s) while the patient table remains stationary; x-ray exposure can be continuous or intermittent	Dynamic (Continuous or Intermittent)	Cine or zero interval Axial	Dynamic	Dynamic	Dynamic	Dynamic CT	Dynamic (continuous) or Serio (intermittent); scan mode name: DynMulti or DynSerio.	Perfusion
Dynamic scan mode - multiple detector widths: Data acquisition at multiple time points over the same anatomic location(s) while the patient table cycles back and forth between designated start and end locations in order image a region wider than the detector	N/A	Shuttle	N/A	Dynamic	N/A	Jog	Adaptive 4D Spiral; scan mode name: DynMulti4D or DynSerio4D (ECG triggered)	NA – not available yet
Interventional CT - Intermittent x-ray exposures	CT Fluoro (CTF)	SmartStep	guideShot	CT Fluoro (CTF)	Single CCT Continuous CCT	Single CCT (Continuous CT)	Model dependent: Biopsy or Intervention (i-Sequence/i-Spiral)	Axial or Helical
Interventional CT - Continuous x-ray exposures	CT Fluoro (CTF)	SmartView SmartView 3D	Not available	CT Fluoro (CTF)	Fluoro	CT Fluoro	Model dependent: CARE Vision or Intervention (i-Fluoro)	Currently not available
Table increment (mm) per 360 degree rotation of the x-ray tube (axial scan mode)	Couch movement (mm)	Interval	Table Feed (mm)	Increment (mm)	Interval	Increment (mm)	Feed (mm)	Increment (mm)

Scan acquisition and user interface basics, continued								
Generic description	CANON	GE	HITACHI	NEUROLOGIC A	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Table feed per 360 degree rotation of the x-ray tube (helical scan mode)	Couch speed (mm/rot)	Speed (mm/rot) Coverage Speed (mm/s)	Table Speed (mm/rot)	Pitch	Table speed (mm/rot)	Table speed (mm/rot)	Table Feed (mm/rot)*	Pitch
Field of measurement: Diameter of the circular region within the scan plane over which projection data are collected. Nominally equal to the diameter of the primary beam at isocenter in the axial plane.	CFOV (Calibrated Field of View)	Scan Field of View (SFOV, cm)	Scan Field of View (SFOV, mm)	Full Field of View (FFOV, cm)	SFOV	Not determined by tech; built into protocol	Not determined by tech; built into protocol	Scan Field of View (SFOV, mm)
Tube current: Number of electrons accelerated across an x-ray tube per unit time, expressed in units of milliampere (mA)	mA	mA	mA	mA	mA*	mA*	mA*	mA
Tube current-time product: The product of tube current and exposure time per rotation, expressed in units of milliampere • seconds (mAs). In axial scan mode, this is equal to tube current × (scan angle ÷ 360) × rotation time. In helical scan mode, this is equal to tube current × rotation time.	mAs	Not used on this system	Not used on this system	mAs	mAs	mAs	mAs	mAs
Effective tube current-time product: In helical scan mode, this is the product of tube current and rotation time (expressed in units of milliampere • seconds (mAs) ÷ pitch)	Effective mAs (= mAs/pitch)	Not used on this system	Not used on this system	mAs	mAs per slice =mAs/pitch	mAs per slice (= mAs/pitch)	Effective mAs (= mAs/pitch)	Effective mAs (=mAs/pitch)
Tube potential: The electric potential applied across an x-ray tube to accelerate electrons towards a target material, expressed in units of kilovolts (kV)	kV	kV	kVp	kV	kV	kVp	kV	kV
Pitch: Unitless parameter used to describe the table travel during helical CT; equal to table travel (mm) per gantry rotation ÷ total nominal beam width (mm)	CT Pitch Factor	Pitch	Pitch	Pitch	Pitch	Pitch	Pitch	Pitch
Automated patient instructions	Breath Control	AutoVoice	Auto Voice	Audio	Auto Voice	Auto voice	API (Automated Patient Instructions)	Auto-Voice

* Not able to be directly modified on the user interface. Value is calculated/determined by other settings.

2. Dose modulation and reduction tools								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Automatic exposure control (AEC): A scanner feature that automatically adapts the x-ray tube current to the overall patient size to achieve a specified level of image quality	Available in SURE Exposure	Available in AutomA and SmartmA	Available in IntelliEC	N/A	O-Dose	Available in DoseRight Automatic Current Selection (ACS)	Available in CARE Dose4D	uDose
Angular tube current modulation	not available as a separate item	SmartScan (CT/i only)	Adaptive mA	N/A	N/A	D-DOM (Dose Modulation)	CARE Dose	not available as a separate item
Longitudinal tube current modulation	SURE Exposure	AutomA	n/a	N/A	N/A	Z-DOM	not available as a separate item	not available as a separate item
Angular and longitudinal tube current modulation	SURE Exposure 3D (X, Y and Z Modulation)	SmartmA (x, y, z)	IntelliEC	N/A	O-Dose	3D-DOM	CARE Dose4D	uDose (x,y,z)
ECG-based tube current modulation	ECG Modulation	ECG Modulated mA	(1) ECG Dose Modulation	N/A	LowDose Ratio	DoseRight Cardiac	All features available in HeartView package (except (3), only available for SOMATOM Definition Flash) (2) Retrospective gated spiral mode: use "Pulsing" settings in Trigger card (3) prospective triggered sequence: use "Adaptive Cardio Seq." and "Pulsing" settings in Trigger card. prospectively triggered spiral	ECG Dose Modulation (ECG DOM)

							("Flash" mode)	
Image quality reference parameter for AEC	Standard Deviation or standard, low-dose, or high-quality	Noise Index Reference Noise Index / Reference kV	Standard Deviation (%) or standard, low-dose, or high-quality	N/A	Reference Image SNR	Reference image Dose Right Index	Quality reference mAs Reference kV	Dose Level Reference mAs
Automatic tube voltage selection	surekV	kV Assist Auto Prescription	N/A		Auto kV	N/A	CarekV CarekV slider	Currently not available
Organ based tube current modulation	Organ effective modulation	Organ Dose Modulation (ODM)	N/A		Organ Safe	Liver area DRI Brain area DRI	X-Care	Currently not available

3. Dual Energy CT Imaging								
Generic description	CANON	GE	HITACHI	NEUROLOGI CA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Dual-energy computed tomography: Dedicated CT imaging technology acquiring two data sets from two distinct photon energy levels with a minimal time interval.	Deep Learning Spectral CT	Gemstone Spectral Imaging (GSI)	Currently not available	Currently not available	Dual Energy CT	Spectral CT	Dual energy CT	Currently not available
Basis Materials: At a given energy, materials have unique photoelectric and Compton effects. Such materials, known as basis materials, must have sufficiently different attenuation characteristics to be used for material decomposition	Basis material	Material Density			Material basis	spectral base (SB)	Material	
Dual-energy bone removal: a dual-energy CT application to remove bony structures in angiography dual-energy CT images for vascular structure enhancement	N/A	Advanced Vessel Analysis (AVA) in GSI Volume Viewer (Post-processing application)				contrast enhanced structures [HU]	DE direct angio	
Effective atomic number (Z_{eff}): A description of the average atomic number for a heterogenous material	Effective Z	Effective Z			Z Effective	Z effective	Effective atomic Number Z	
Electron density images: CT images representing the density of the material electrons. Its value usually is normalized to water electron density.	Electron density	Not used on this system				Electron density [%EDW]	Rho	
Iodine map: Multi-energy CT material selective images of iodine equivalent materials with water equivalent materials removed.	Iodine map	Iodine (water) [100 µg/ml]			Iodine(water) density [mg/ml]	Iodine-no-water [mg/ml]* Iodine density [mg/ml]	Iodine overlay images, in color Iodine CM (HU), in grayscale Iodine (mg/ml), in grayscale	
Mixed or blended images: Blend the low and the high energy image sets into one new image set.	N/A	Not used on this system				N/A	Mixed (dual-source CT or with twin-spiral scans)	
Mono-E curves: A plot of a curve representing the variation of CT number of an ROI across multiple monoenergetic energies	Spectral Curve	True High kVP available Spectral HU Curve			Mono Curve	True conventional image available spectral plot	Composite (with Twinbeam technology) Monoenergetic Plus ROI	

Virtual mono-energetic: Synthetic images mimicking the appearance of images from a true mono-energetic photon source. These images are generated from the energy-independent information available during material decomposition.	Virtual monochromatic image	Monochromatic			Monoenergetic	mono-energetic (Mono-E) [HU]	monoenergetic and monoenergetic plus	
Virtual non-calcium: Multi-energy CT material selective images with calcium equivalent materials removed. It is usually used to visualize bone marrow	virtual non-calcium (VNCa)	Water(calcium)			Water(calcium) density [mg/ml]	Calcium suppression X index (CaSupp) [HU]*	virtual non-calcium (VNCa)	
Virtual non-contrast: Material selective images with the contrast (iodine) removed. Soft-tissue, fat and iodine are the base materials.	VNC Virtual non-contrast	VUE (Virtual Unenhanced HU)			VNC [HU]	VNC [HU]	Liver VNC (basis materials: fat, iodine and liver tissue) virtual unenhanced (basis materials are air, water and iodine)	

4. Multi-Slice Detector Geometry								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Multi-slice detector array design	Fixed (32 row and above); Adaptive (16 row and below)	Fixed	Asymmetric -16 slice; Fixed-64 slice	Fixed	Asymmetric:16 Fixed: 64,128	Model dependent: Fixed or Asymmetric	Model dependent: Adaptive or Fixed	Fixed
Detector configuration	Detector Configuration	Detector Configuration	Detector Configuration	Detector Configuration	Collimation N x T (mm)	Collimation N x T (mm)	Detector Configuration or Aqu (Acquisition) on Exam Card	Coverage

Detector Rows (N) and Slice Thickness (T) selection console screen images

GE

Detector Rows

2 4 8

Helical Thickness (mm)

0.625 1.25 2.5 3.75

5.0 7.5 10.0

Detector Configuration:
8 x 1.25

Beam Collimation:
10.0mm

Neusoft (Neuvis 16)

Resolution: Standard

Collimation: 16*1.5

Tilt: 0.0

Thickness: 3.00 mm

Increment: 3.000 mm

Hitachi

Thickness (mm)

0.625 1.25 2.5 3.75

5.0 7.5 10.0

Collimation

0.625x8 0.625x16 1.25x16

Table Pitch

0.5625 0.9375 1.0625 1.3125

1.5625 1.6875

Cancel OK

Toshiba

Scan Time (Total sec.)	Thickness (mm)	Range	Prescan Voice	Postscan Voice	CE
0.75 (0.75)	2.0 (8.0)	8.0	00	00	-
0.5 (4.8)	1.0 (32.0)	200.0	00	00	-

Thickness

0.5 x 64 = 32.0

0.5 x 32 = 16.0

1.0 x 32 = 32.0

1.0 x 24 = 24.0

16 ROWS > 2.0 x 16 = 32.0

4 ROWS >

Neusoft (Neuvis DUAL)

Recon Filter: Body Std.(B)

Center X(mm): 0.0 Increment(mm): 3.0

Center Y(mm): 0.0 Recon Matrix: 512

FOV (mm): 400 # of images: 136

Thickness(mm): 6.00 (6.00-20.00)

Rot. Time(s): 1.0

Collimation(mm): 2*5

Pitch: 1.50

Neurologica

Scan Type

Axial

8 rows

32 rows

8 rows

32 rows

Slice Thickness/Spacing

1.25 x 1.25

1.25 x 1.25

2.5 x 2.5

5.0 x 5.0

10.0 x 10.0

Philips

Resolution: standard

Collimation: 64x0.625

Pitch: 1.078

Thickness: 5 mm

Increment: 0.0 mm

Siemens (N determined by the scan protocol)

Slice: 5.0 mm Acq. 128 x 0.6 mm

0.6 0.75 1.0 1.5 2.0 3.0 4.0 5.0 6.0 7.0 8.0 10.0 Acq. 128 x 0.6 mm

1.5 2.0 3.0 4.0 5.0 6.0 7.0 8.0 10.0 Acq. 32 x 1.2 mm

No. of images: 41

UNITED IMAGING Console Screen Images

Coverage: 40mm

Increment: 40.0mm

Cycle Count: 1

Rot. Time: 0.35s

Cycle Time: 2.0s

Min Thickness: 0.625mm

Thickness: 1.0mm

Increment: 1.0mm

Image Count: 40

Label:

Coverage: 40mm

Pitch: 0.9375

Rot. Time: 0.38s

Scan Time: 2.0s

Min Thickness: 0.625mm

Slices/RT: 128

GE Revolution/Apex Platform

Coverage Speed

Table Positions	One or More
Detector Coverage	40
Number of Passes	Smart Coverage
Minimum Time Between P...	5
Scan Interval	40
Rotation Time	80
Total Exposure Time	100
	120
Primary Recon	140
Thickness	160

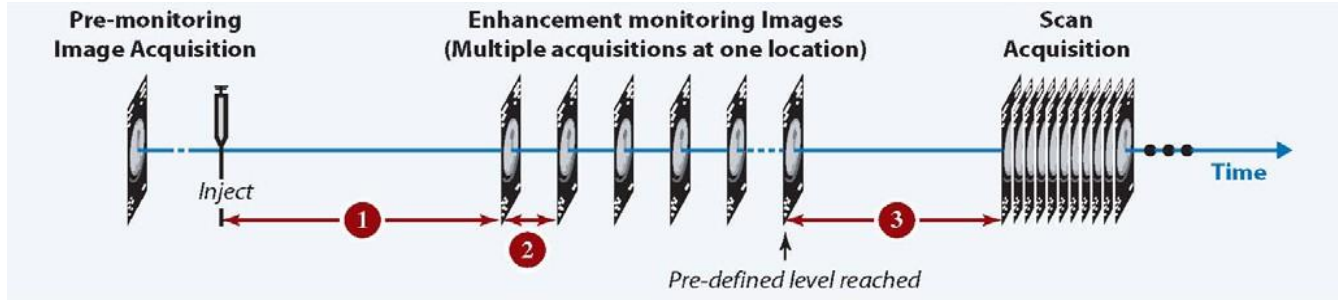
Primary Recon

Thickness	2.5
Matrix Size	0.625Z
Recon Type	0.625
Enhanced Contrast	1.25
Fine Z (#Z)	2.5
Image Enhance Filter	5.0
	None

5. Image Reconstruction and Display								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Window width: Range of CT numbers (maximum - minimum) that are distributed over the viewable grey scale of the display device or film	Window width	Window Width	Window Width	Window width	Window Width	Window Width	Window width	Window width
Window center: The CT number in the center of the viewable grey scale	Window level	Window Level	Window Level	Window level	Window Level	Window Center	Window center	Window Level
Reconstruction field of view: Width of the square region mapped to the reconstructed image matrix	DFOV (mm)	Display Field of View (DFOV) (cm)	DFOV (mm)	FOV (cm)	DFOV (mm)	DFOV (mm)	FoV (mm)	FOV (mm)
Prescribing the reconstruction parameters prior to scan acquisition	Prospective recon	Prospective recon Primary recon (Revolution/Apex Platform)	Multi Recon	Protocol	Prospective recon and add recons	Recon and Additional Recons	Recon Job	Recon Parameters
Prescribing the reconstruction parameters after scan acquisition	Retrospective or Raw data recon	Retrospective recon Secondary Recon (Revolution/Apex Platform)	Post Reconstruction	Post Recon	Offline Recon	Offline Recon or Re-Recon	Recon Job	Offline Recon
Reconstruction property that determines sharpness or smoothness of image in the axial plane	Filter convolution (FC)	Recon Type	Image Filter	Kernel	Filters	Reconstruction Filter	Kernel	Filter
Helical interpolation options to achieve a wider or narrower section sensitivity profile	Slice width independent of pitch	Full (narrower) or Plus (wider) mode	Slice width independent of pitch	Slice width	Slice width independent of pitch	Slice width independent of pitch	Slice width independent of pitch	Slice width independent of pitch
Nominal width of reconstructed image along the z axis	Image thickness	Thickness (mm)	Slice Thickness	Slice thickness	Slice Thickness	Thickness (mm)	Slice (mm)	Thickness (mm)
Distance between two consecutive reconstructed images	Reconstruction interval	Recon Interval Interval (Revolution/Apex platform)	Interval	Slice separation	Slice Increment	Increment	Position increment	Increment
Fast but lower-quality reconstructed images for rapid review of entire exam	SUREScan	QC Image Image Check	Real Time Reconstruction	Image Preview Image Check	Evolving	Evolving reconstructions	RT (Real-time reconstruction)	Preview
Off-center reconstruction coordinates are called	Center Position; (Vari Area)	RL Center; AP Center	Center x, y	Center x, center y	Center x, Center y	Center x, center y	Center x, Center y	X-Center, Y-Center

Flip or rotate the image orientation is called	Rotate/Mirror	Flip/rotate	Flip/Rotate	Flip/rotate	Flip & Rotate	Flip/rotate	Mirroring (Flip in Viewing card); Rotate	Image Flip
Image modifications to alter sharpness or smoothness (done in image space without reconstructing images)	Filter, QDS	Image Filters Image Enhance Filters (Revolution/Apex Platform)	Filter	N/A	Enhancement	Image enhancement filter	Evaluation > Image Manipulation (Viewing card)	Enhancement
Advanced Image Reconstruction	AIDR, AIDR 3D, AiCE,	ASIR, ASIR-V, DLIR (TrueFidelity)		ClearView	ClearView	iDose, IMR,	SAFIRE, ADMIRE	KARL3D, RIO, DELTA

6. Contrast Media Tools								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Bolus tracking: Scanner feature to automatically initiate a prescribed axial, helical or dynamic scan when a threshold level of contrast enhancement is reached at a specified region of interest	SUREStart	Smart Prep	Predict Scan	Bolus Tracking	Bolus Tracking	Bolus Tracking	CARE Bolus (includes Test Bolus and Bolus Tracking)	Bolus Tracking
Test Bolus: Scan mode used to measure the contrast transit time using a small injection of contrast media	Dynamic study	Take axial scans at zero table feed and process with MIROI	Not available	Test Bolus	TIBT	Time Lapse TIBT	Test Bolus	Test Bolus
Time-attenuation curve (TAC): Graph of the contrast enhancement versus time	Time Density Curve	Smart Prep graph or MIROI graph	Monitoring Graph	Contrast curve	Time Lapse Graph	Time Lapse graph	Enhancement Curve	Time-density curve
Threshold: CT number (HU) where bolus tracking tool will trigger the system to begin the scan	Threshold ROI (HU)	Transition ROI Threshold Enhancement Threshold (Revolution/Apex platform)	Threshold	CT threshold	Threshold	Threshold	Level	Threshold
Scanner feature used to quantitatively evaluate the TAC	Real Time Monitoring	MIROI (multiple image region of interest)	No special name	Algorithm	Real Time ROI monitoring	Tracker ROI Tools	DynEva (dynamic evaluation)	Tracker
Monitoring delay: Time from injection to the start of monitoring scans (Time 1 in figure below)	Delay (on SUREStart)	Monitoring Delay	Scan Delay	Time delay	Post Injection Delay	Post Injection Delay	Delay (on monitoring scan)	Post Injection Delay
Monitoring interval: Time between consecutive monitoring scans to (Time 2 in figure below)	Real time monitoring or pulsed monitoring (seconds)	Monitor ISD (InterScan Delay)	Monitoring Time	Temporal resolution	Cycle Time	Cycle time	Cycle time	Cycle Time
Scan delay: Time from when threshold is reached and prescribed axial, helical or dynamic scan begins (Time 3 in figure below)	Delay (on helical)	Diagnostic delay	Scan Delay	Delay	Post Threshold Delay	Post Threshold Delay	Delay (on scan)	Scan Delay



7. Multi-planar formats and 3-D Processing								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Reformatted image at an oblique plane (not an axial, coronal, or sagittal)	Oblique	Oblique reformat	Oblique MPR	Digital tilt	Oblique	Oblique	Oblique	Oblique
Saving images at various viewing angles about a volume or surface rendered object	Key Frame Movie	Batch Loop	Multi-Slice /Angle	Capture	Batch Tool	Cine	Radial Ranges	3D Image Save
Saving images at various planes through a volume	Batch MPR	Batch Reformat	Multi planar reformat	Capture	MPR Batch	Batch MPR	Parallel Ranges	MPR Image Save
Surface-rendered object	ShadedVol (Shaded volume rendering (SVR))	3D	Shaded Surface Display (SSD)	3D	SSD (Shaded surface display)	SSD 3D (Shaded Surface Display – 3D)	Shaded Surface Display (SSD)	Shaded Surface Display (SSD)
Volume-rendered object	Shaded Vol	Volume Rendered image (VR)	Volume Rendering	Volume Rendered image (VR)	Volume Rendering (VR)	Volume Rendering	Volume Rendering Technique (VRT)	VolRen

8. Service and Application Tools								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
X-ray tube warm up	Warm up	Tube Warm-up Condition Now (Revolution/Apex platform)	Warm up	Warmup	Tube Warm-up	Tube conditioning	Check-up (calibrate and check values); Calibrate (part of Check- up, can be performed separately)	Tube Warm-up
Daily calibrations	Selectable air calibrations can be scheduled after warm- up	Fast Cals (done in daily prep)	Air cals built into Warm up	Daily Calibration	N/A-Air calibrations/ weekly	Not necessary to do daily calibrations	Quality Daily	Daily Service Air Calibration IQ Check
Application information	E-Learning Center	Learning Solutions or User Manual	Sentinel (Remote Service)	On-line help	On-line Help	On-line Help	On-line Help; CT Life (task card)	On-line help User Manual
Application support assistance	In Touch Center	Insite or Ilinq	CT Applications Helpline	Service center	Neusoft Helpline	Customer Care Solutions Center	Uptime	Applications Specialist or Field Service Engineer

9. Workflow								
Generic description	CANON	GE	HITACHI	NEUROLOGICA	NEUSOFT	PHILIPS	SIEMENS	UNITED IMAGING
Scheduled (but not yet scanned) patient list is called	Modality Worklist Manager	Patient Schedule	MWM-modality worklist management	Modality Worklist Manager	Worklist	Scheduled (HIS-RIS) and Catalog-(manual list)	Patient Browser – Scheduler	Patient Administration - RIS
Already scanned patient list is called	Directory	List/Select File Manager (Revolution/Apex Platform)	Patient List	Patient Browser – Local Database	Study List	Archive Manager	Patient Browser – Local Database	Patient Administration - Local
User comments or text added to an image is called	Annotation	User annotation	Comment	Annotation	Annotation	Label (series) and Annotation (image)	Comment	Text Arrow and text
Filming tools are called	Filming	Auto/manual film composer	Filming	Printer	Filming	Filming	Film Sheet on Filming task card	Filming
Data page summarizing scan parameters, CTDIvol and DLP	Summary and Exposure Record	Exam Text Page or Series Text Page Dose SC or Dose SR	Text Page	Image Parameters	Image Information Dose Report	Exam Summary	Patient Protocol (series number 501)	DoseReport
Sorting patient list	Click on sort field (name, date, etc.)	Sort	Click on sort field (name, date, etc.)	Sort	Select field to sort (name, patient ID, etc.) and left click on header to sort.	Click on sort field (name, date, etc.)	In Patient Browser: select “Sort” or “Filter” functions in menu bar	Click on sort field (name, date, etc.) and Universal Search Bar