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XR CT, VAMC FAYETTEVILLE, AR

PO# 564-B70012

TRADE-IN
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| Line # | Description | Qty |
|---|---|---|
| 1 | **Ingenuity Elite Configuration** | 1 |

**Ingenuity Elite Configuration**

Welcome to the benefits of 128-slice scanning, improved spatial resolution and excellent advanced clinical capabilities. The kind of scanning that offers low dose while maintaining high image quality. Fast, any way you look at it, with speed of reconstruction, as well as speed of collaboration with the IntelliSpace Portal option. It also offers in-room upgradability to Ingenuity Elite with IMR so its capabilities can grow as your needs grow.

Philips Ingenuity Elite offers 4 cm coverage for excellent image quality and includes the iDose4 Premium Package, our iterative reconstruction technique, as well as iPatient: an advanced platform that delivers focused innovations to facilitate patient-centered imaging, now and in the future. With a focus on clinical integration and collaboration, patient focus, and improved economic value, the scanner provides high image quality at low dose with up to 57% improvement in spatial resolution. Now you can personalize image quality based on your patients' needs at low dose. And with Ingenuity Elite with iDose4, reconstruction is achieved in 60 seconds or less.

One of the innovations of the Ingenuity family is Ingenuity Data Acquisition and Sampling (DAS), which provides high-resolution, thin reconstructions. DAS is excellent for neuro, cardiac, spine, and abdominal CTA scanning, and has a 33% improvement in z-axis spatial visualization.

**Ingenuity Elite Key Features**

- iDose4 Premium Package
- NanoPanel Elite Detector
- iPatient
- 4 cm of coverage for better patient compliance
- kV stations of 80, 100, 120, 140 kVp
- MRC Ice X-Ray Tube
- 80kW Generator
- Ingenuity DAS
- Upgradability

**Intelligent Technologies**
The Ingenuity family is built on the best in Philips class intelligent technologies for the speed, accuracy, and reliability to enhance your workflow on a daily basis.

*Dual Energy*
The Ingenuity family of scanners will allow acquisition and reconstruction of sequential dual-energy scans. The Spectral Analysis application is available with an optional IntelliSpace Portal. The Spectral Analysis application allows separation and analysis of materials such as calcium, iodine and uric acid when used with dual-energy scan data.

This Dual Energy scan acquisition may be better suited for studies that are not prone to motion between the sequential scans

*Lung Cancer Screening*
The system enables Low Dose CT Lung Cancer Screening Exam Cards that are compliant with ACR and CMS guidelines for LDCT LCS. These patient-specific low-dose CT lung cancer screening protocols leverage the advanced scanner capabilities such as iDose4, can increase early detection in high-risk patients and help prevent a substantial number of lung cancer related deaths*.

*The screening must be performed within the established inclusion criteria of programs/ protocols that have been approved and published by either a governmental body or professional medical society.
- Please refer to clinical literature, including the results of the National Lung Screening Trial (N Engl J Med 2011; 365:395-409) and subsequent literature, for further information.

*iPatient*
Philips' iPatient is an advanced platform that delivers focused innovations to facilitate patient-centered imaging, now and in the future. This powerful Windows® 7-based platform will put our customers in control of innovative solutions that drive confidence and consistency through personalized patient centric workflow, increase the ability to do complex and advance procedures with ease and efficiency. iPatient removes unnecessary complexity and allows our customers to get the job done while driving confidence and consistency 24/7, and prepares for future innovations that will help improve the care being delivered to the patient.

*ExamCards*
ExamCards are the evolution of the scanning protocol. With ExamCards, the results are planned, not the acquisition as traditionally done in CT; this reduces decision points and clicks, saves time and improves operator-to-operator consistency. ExamCards can include axials, coronals, sagittals, MPRs, MIPS, and other results, all of which will be automatically reconstructed and can be sent off to where they will be read with no additional work required by the operator.

*MRC Ice X-ray Tube*
Liquid coolant carries heat away from the MRC Ice X-ray tube, so Ingenuity Elite is ready for the most demanding scans, one right after the other. The Philips MRC Ice X-ray tube is designed to be one of the most reliable in the industry. Built for high volume and 24-hour consistency, there is no waiting for the tube to warm up before the scan and no waiting for it to cool down.

*NanoPanel Elite Detector*
The NanoPanel Elite, the second generation of tile detector technology from Philips, was engineered for low-dose, low-energy and low-noise imaging. The detector provides marked image noise improvement, direct integration technology, and linearity improvements at low energy and low current. Philips was first to bring the NanoPanel tile detector design in 2007.

*Generator*
The Ingenuity generator uses low-voltage slip ring technology to provide a constant high voltage to the CT x-ray tube assembly.
*Scan Times*
0.5, 0.75, 1, 1.5, 2 seconds for full 360° scans

**Reconstruction**
*iDose4 Premium Package*
The iDose4 Premium Package includes two leading technologies that can improve image quality – the iDose4 iterative reconstruction technique and metal artifact reduction for large orthopedic

implants (O-MAR). iDose4 is a 4th-generation advanced iterative reconstruction technique that improves image quality* through artifact prevention and increased spatial resolution at low dose. O-MAR reduces artifacts caused by large orthopedic implants. Together they produce high image quality with reduced artifacts.

With the iDose4 Premium Package, reconstruction is achieved in seconds rather than minutes. This is due to the innovative RapidView IR reconstruction engine. Designed to support iDose4, this proprietary technology allows for this iterative reconstruction technique to be used routinely in inpatient, outpatient, and emergency-care settings. The design seamlessly integrates into your CT department, and provides you the look and feel of conventional, higher-dose images without long processing times.

*ClearRay Reconstruction*
A revolutionary solution to beam hardening and scatter artifact, modeling and simulation technology pre-computes and stores beam hardening and scatter corrections in a database that is later referenced to create a correction that is personalized to each individual patient. As a fully three-dimensional technique, contrast scale stability is preserved across different patient sizes, image uniformity is improved, and organ boundaries are better visualized.

*Evolving Reconstruction*
Provides real-time 256 x 256 matrix image reconstruction and display in step with spiral acquisition. Images can be modified for window width and level, zoom and pan prior to reconstruction. At the end of the acquisition, all images are updated with the desired viewing settings.
*Adaptive filtering*
Adaptive filters reduce pattern noise (streaks) in nonhomogenous bodies, improving overall image quality.

*HyperSight IR Reconstruction*
HyperSight IR reconstruction is the result of years of advanced research, and was designed specifically to satisfy the performance requirements and processing power needed to seamlessly integrate the iDose4 Premium Package and iPatient into your department.  HyperSight IR provides dramatic improvements in workflow by displaying images at breakthrough rates, regardless of acquisition speed or reconstruction parameter.  The majority of factory protocols with iDose4 are reconstructed in less than a minute, with reconstruction speeds up to 18 images per second with iDose4 and up to 25 image per second with standard reconstruction.

*ConeBeam Reconstruction Algorithm - COBRA*
Philips patented Cone Beam Reconstruction Algorithm (COBRA) enables true three-dimensional data acquisition and reconstruction in spiral scanning.

*Ultra High Resolution Matrix Sizes*
Exclusive to Philips, 768 × 768 and 1024 × 1024 image reconstruction matrix sizes display all of the high-resolution data acquired in applications, such as inner ear, spine and high-resolution lung imaging.  As scan resolution increases, larger reconstruction matrix sizes are required maintain the full scan resolution for the reconstructed field of view.

**Dose Management**
Philips' DoseWise philosophy is a set of principles and practices that ensures the best possible outcomes with minimal risk to patients and staff. The Ingenuity platform employs a number of features that help provide high dose efficiency.
*NEMA XR-29 Compliance*
This system complies with the NEMA XR-29-2013 Standard Attributes on CT Equipment Related to Dose Optimization and Management. The standard includes a group of CT attributes that contribute to or help perform optimization/management of doses of ionizing radiation while still

enabling the system to deliver the diagnostic image quality needed by the physician. It encompasses: DICOM Radiation Dose Structured Reporting, Dose Check Feature (Dose Notification and Dose Alerts), Automatic Exposure Control (Dose Modulation) and Reference Adult & Pediatric Protocols.

*NEMA XR-25 (DoseCheck)*
DoseCheck enables the ability to set dose thresholds and provides alerts and notifications to the scan operator when radiation dose levels will be exceeded.

There are two threshold level values: Notification Values, Alert Values

Notification values apply to a single image series, and Alert values apply to an overall exam.  Both CTDIvol and Dose Length Product (DLP) values can be set.

For Alert values that will be exceeded, the system requires the user provide name and password information before proceeding to scan.    Also, an additional indication will appear in the Dose Info Page Series when the Notification or Alert values have been exceeded during a scan.

*DICOM Structured Report for Dose (DICOM SR)*
Dose SR complies with the IEC, DICOM PS and IHE standards for dose reporting.  The report includes CTDIvol and DLP dose values.

*Dedicated Pediatric Protocols*
Developed in collaboration with top children's hospitals, age and weight-based infant and pediatric protocols enhance image quality at low dose.

*DoseRight ACS (Automatic Current Selection)*
Personalizes the dose for each patient based on the planned scan by suggesting the lowest mAs settings to maintain consistent image quality at low dose throughout the scan.

*DoseRight Angular Dose Modulation*
Automatically controls the tube current angularly, increasing the signal over areas of higher attenuation (e.g., lateral) and decreasing signal over areas of less attenuation (e.g., anteroposterior).

*DoseRight Z-DOM (Longitudinal Dose Modulation)*
Automatically controls the tube current, adjusting the signal along the length of the scan, increasing the signal over regions of higher attenuation (e.g., shoulders, pelvis), and decreasing the signal over regions of less attenuation (e.g., neck, legs).

*Dose Displays*
-         Volume Computed Tomography Dose Index (CTDIvol)
-         Dose-Length Product (DLP)
-         Dose Efficiency

**Scan and Image Acquisition**

*Scan Ruler*
Provides a visual, highly interactive view of the entire procedure that allows 1-click updates to important study events.

*Spiral Scanning*
Multiple contiguous slices acquired simultaneously with continuous table movement during scans allowing for multiple, bidirectional acquisitions

| Line # | Description | Qty |
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*Axial Scanning*
Multiple-slice scan with incremental table movement between scans.

*Ingenuity DAS*
One of the innovations of the Ingenuity family is Ingenuity Data Acquisition and Sampling (DAS), which provides high-resolution, thin reconstructions.

*Test Injection Bolus Timing*
Establishes the optimum contrast injection delay time using a test injection. A real-time graph of the enhancement in a selected region of interest is displayed. The delay time is then selected to provide optimal peak contrast enhancement and reduced contrast usage.

*Bolus Tracking*
An automated injection planning technique that permits a user to monitor actual contrast enhancement and to initiate scanning at a pre-determined enhancement level. Combine with SAS for full automation.

*Spiral Auto Start*
Spiral Auto Start allows the injector to communicate with the scanner. This allows the technologist to monitor the contrast injection and to start the scan (with a predetermined delay) while in the scan room.

*NOTE:*
- Costs to upgrade an approved injector and any cabling is the responsibility of the user.
- Compatible with following Injectors:
Medrad Envision/Stellant, Medrad Vistron, Liebel-Flarsheim, Tyco CT 9000, Medtron CT 2, Nemoto Dual Shot, Mallinckrodt OptiVantage DH, E-Z-EM Empower, Swiss Medicare, Ulrich Injectors

**Image Management, Storage, and Filming**
DICOM 3.0-compliant image format. Lossless image compression/decompression is used during image storage/retrieval to/from all local storage areas. Images can be auto-stored to selected archive media

- 500 GB Hard Disk
- Image Storage Capacity: 512 X 512 Image Matrix = 900,000 typical number of uncompressed images

*DVD-RAM Storage*
Provides a solution for data storage. DVD-RAM disks are written in a proprietary Philips format and are able to be read only on Philips EBW (v3.0.1 or higher), and CT scanner units (v2.3 or higher) with a DVD-RAM drive.

- 4.7 GB DVD-RAM
- Image Storage Capacity: 512 X 512 Image Matrix = 15,000 typical number of compressed images

*Filming*
Allows the user to set up and store filming parameters. Pre-stored protocols can be set to include auto-filming. The operator can film immediately after each image, at the end of a series, or after the end of a study, and review images before printing. The operator can also automatically film the study at three different windows and incorporate Combine Images functionality to manage large datasets. Basic monochrome and color DICOM print capability are supported.

| Line # | Description | Qty |
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*Networking*
Network connections should be located within 10 feet of the console. Supports 10/100/1000 Mbps (10/100/1000 BaseT) networks.  For optimal performance, Philips recommends a minimum 100 Mbps network (1 Gbps preferred) and for the CT network to be segmented from the rest of the hospital network.

*DICOM Connectivity*
Full implementation of the DICOM 3.0 communications protocol allows connectivity to DICOM 3.0 compliant scanners, workstations, and printers; supports IHE requirements for DICOM Connectivity.  Further details on connectivity and interoperability are provided within the DICOM C onformance statement.

**Operator Console, Patient Handling, and Setup**
Philips provides an operator work environment that is both flexible and easy to use. The operators' console includes the necessary hardware to use the scanner including host computer, cabinets, dual monitor configuration, and control box. The system provides applications that assist clinicians to improve workflow and planning as well as post processing analysis and review to help you quickly gain the desired view. All of these combine in a graphical interface that allows you to easily execute scans and analyze images.

*Manual Scan*
Places slice-by-slice scans under operator control with on-line or off-line reconstruction, background image archiving to local or remote storage devices.  At any time, the operator is able to switch from automatic to manual scan and back.

*Automatic Scan*
Enables automatic execution of pre-planned studies, with concurrent, on-line or off-line reconstruction, background image archiving to local or remote storage devices, without operator intervention

*Gantry Control Panels*
Gantry Control Panels for gantry tilt, patient couch elevation and stroke are located at the operator's console as well as on front and back and left and right sides of the gantry. Additional functions at the operator's console include emergency stop, intercom and scan enable/pause buttons.
*Gantry Aperture:*         700 mm diameter
*Gantry Tilt:*         -30° to +30°; 0.5° increments.

*Infant Calibration Phantom*
The Infant Calibration Phantom is a Philips-exclusive tool used to calibrate system parameters to optimize the system for scanning infants.

*Patient Centering on Surview*
Centering the patient properly is one of the most important factors in getting good image quality. Traditionally, patients are centered using the gantry laser lights; with this feature it is possible to improve patient centering using the lateral surview with real time feedback.

*Intercom System and Multilingual Autovoice*
The intercom system provides two-way communication between the scan room and the operator console. Additionally, a standard set of commands for patient communication before, during and after scanning is available in several pre-selected languages.  Customized messages can also be created.  Pre-selected languages available include:
-English, Hebrew, German, French, Arabic, Danish, Spanish, Russian, Swedish, Italian, Georgian, Chinese, Japanese, Turkish and Portuguese.

*Dual Surview Planning*
Provides flexibility in exam planning with both anteroposterior and lateral surviews.

*Automatic Procedure Selection*
Maps the procedure selection from the HIS-RIS with individual scan protocol(s) simplifying the scanning process. Only the most relevant scan protocol(s) for any requested procedure are shown to the user, ensuring that only the desired scanning procedures are performed. This is especially useful for infrequent users of the CT scanner.

*Table Accessories*
Prevent fatigue and discomfort and give both patients and technologists a sense of security: patient restraint kit, table extension, standard head holder, table pad, IV Pole, arm rests, cushions, and pads.

Also Includes

- *Expert Protocol Planning*
- *Preset Post-Processing*
- *DICOM Modality Worklist*
- *Prefetch Study*
- *Split Study*

**Applications**

*Organ ID*
Automatically isolates lung images for better viewing, including lung limit detection, zoom and pan setting, lung windowing, image enhancement, and image filming.

*Volume Rendering*
Provides simultaneous visualization of vasculature, soft tissue, and bone. Offers real–time, interactive control of opacity and transparency to permit viewing through and beyond surrounding structures, such as metallic stents and arterial calcifications, and virtually eliminates the need for organ segmentation prior to visualization.

*Q-CTA - Quantitative CT Measurement Tool Package*
Q-CTA is a tool kit for quantitative measurements of anatomic structures, such as vasculature pathology from 2-D, 3-D or volume-rendered images.
Also includes:

- *Surview Plan*
- *Guided Flow*

**ScanTools and ScanTools Pro**
The ScanTools package of advanced components and productivity features streamlines routine imaging studies, and comes standard with your scanner. ScanTools Pro is a supplemental set of tools standard on your scanner that enhances productivity, workflow, and diagnostic confidence. The components of ScanTools and ScanTools Pro are located throughout the quote under the appropriate headings.

**Siting information**

| Line # | Description | Qty |
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*Power Requirements*
- 200/208/240/380/400/460/415/480/500 VAC at 112.5  kVA (150 kVa preferred) and 50/60Hz
- Three-phase distribution source

*Note:  Windows is a registered trademark of Microsoft Corporation in the United States and other countries.*

**Enhanced System Warranty Coverage:**

The Philips Ingenuity CT System will get the following enhanced service coverage for a period of twelve (12) months after completion of installation or availability for patient use, whichever occurs first.
• Extended service coverage hours, Monday - Friday, 8am to 9pm

• Flexible Planned Maintenance scheduling from Monday - Friday, 7am to 12am and Saturday, 8am to 5pm

• Onsite labor response of 2 hours*

• Expedited parts delivery on same day*

* Please note that response and delivery times are dependent on local factors and conditions

**Clinical Education Program for Ingenuity Systems:**

**Essentials OffSite Education:** Philips will provide up to two (2) lead technologists, as selected by customer, with in-depth lectures covering basic clinical applications, Philips-specific imaging techniques, protocol optimization and scan parameters. A CT "system emulator" is used during the lab sessions to simulate all basic scanning operations without x-ray exposure.  Students will graduate from this class with an 80% understanding of the base system functionality. The remaining 20% is covered during the Handover OnSite experience. This twenty-eight (28) hour class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration, geography, and availability. Due to program updates, the number of class hours is subject to change without notice.  Customer will be notified of current, total class hours at the time of registration. This class is a prerequisite to your equipment handover OnSite Education, and should be attended no earlier than two weeks prior to system installation. ASRT CEU credits may be available for each participant that meets the Guidelines provided by Philips during the scheduling process. Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292078 (CT Full Travel Pkg OffSite) is purchased with all OffSite courses.

**Handover OnSite Education:** This twenty-eight (28) hour training event will fine tune and expand upon knowledge learned during the Essentials OffSite with focus on maximizing scanning techniques and protocols.  This session is to be attended by the same two (2) technologists from Essentials OffSite, and up to two (2) more of your dedicated CT Technologists, preferably from night or weekend shifts if necessary. ASRT CEU credits may be available for each participant that meets Philips Guidelines. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

| Line # | Description | Qty |
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**Follow-Up On-Site Education:** Clinical Education Specialists will provide twenty-eight (28) hours of follow-up CT On-Site Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases.

**Follow-Up OnSite Education:** Clinical Education Specialists will provide twenty-four (24) hours of follow-up CT OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Guidelines for more information, which will be provided to you during the scheduling process. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately).

Ref# 618619620621-20110921

**2**               **Bariatric Table**           **1**

The Bariatric Patient Support is designed to meet the CT imaging needs of the growing bariatric population. Allowing for patient loads of up to 295kg (650 lbs.), the Bariatric Patient Support provides CT imaging access to a larger patient population than current offerings.

Table Specifications:

*Longitudinal motion:*
Scannable range:
          1750mm (iCT, Brilliance CT 16-slice, Brilliance CT Big Bore)
          1860mm (Ingenuity Family)
Acquisition Speed:   0.5 to 185 mm/sec (iCT, Ingenuity Elite, Ingenuity Core, Ingenuity Core128)
          0.5 to 100 mm/sec (Brilliance CT 16 - slice, Brilliance CT Big Bore)
Load/Unload Speed:  0.5 to 185 mm/sec (iCT, Ingenuity Elite, Ingenuity Core, Ingenuity Core 128)
Position accuracy:    ±0.25 mm
*Vertical motion:*
Range:          578 to 1028 mm; 1.0 mm inc. (Brilliance CT 16-slice)
          579 to 1022 mm; 1.0 mm inc (Ingenuity Core, Ingenuity Core 128, Ingenuity Elite)
          579 to 1012 mm: 1.0mm increment (Brilliance CT Big Bore)
          645 to 1065mm; 1.0 mm inc. (iCT)
T*able load capacity:* 295 kg (650 lbs)
*Floating tabletop:*    Carbon-fiber table top with foot pedal and handrail control for easy positioning and quick release.

The Bariatric Patient Support includes the Radiology Flat Top Kit. This kit, comprised of a wide accessory flat top, wide mattress pad and extra long patient restraint straps, provides additional comfort and security for patients. A quality assurance phantom holder fitted for the flat top is also included. Note: This flat top is not qualified for oncology radiation therapy usage and cannot be used to support the iCT calibration phantom.

**3**               **Operator's Manual - English**        **1**

**4**               **Keyboard Language - English**       **1**

**5**               **Operator's Chair**            **1**

One (1) standard height operator's chair.

| 6 | **Computer Table** | 1 |
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Computer Table, for the Brilliance Console or the Extended Brilliance Workspace, provides a large enough working space (120cm) to accommodate dual monitors and other peripheral devices.

| 7 | **IMR Option - Ingenuity** | 1 |
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IMR sets a new direction in CT image quality with virtually noise*-free images and industry-leading low-contrast resolution.  Long associated with MR, this improvement in low-contrast resolution is a breakthrough made possible through Philips' first iterative reconstruction technique built on a knowledge-based model. Enabled by next-generation HyperSight IMR hardware and reconstruction algorithm innovation, its reconstruction speed allows IMR to be used in even the most time demanding applications, such as trauma.

Key Benefits:
- Industry-leading low-contrast resolution (2 mm @ 0.3% @ 10.4 mGy)
- Significantly lower dose while simultaneously improving image quality*
- Significantly improved image quality (noise / low-contrast detectability / spatial resolution)
- Fast reconstruction speed, with majority of reference protocols reconstructed under 3 minutes.
- Integrated design with minimal siting impact

IMR may be used for patients of all ages for a wide range of routine body & neuro clinical applications — such as CTA, trauma, thoracic, abdominal, pelvic, spinal, orthopedic, extremity, neuro and neck scans.

Note: For gated acquisitions (ECG- and Pulmonary-gated), IMR Platinum must be purchased. Alternatively, iDose4 may be used for these acquisitions.

Prerequisites:
-        iPatient, and
-        iDose4 Premium Package.

* In clinical practice, the use of IMR may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

| 8 | **CT Interventional - Ceiling** | 1 |
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The CT Interventional – Ceiling includes both CT Fluoroscopy and Continuous CT (CCT) applications utilizing a ceiling-mounted monitor.

Philips' CT Fluoroscopy application provides real-time guidance for interventional procedures (up to 8fps). The user can view one fused image while time and dose displays keep the interventional radiologist aware of exposure levels throughout the procedure. In addition to the real-time mode, Continuous CT (CCT) biopsy mode enables the clinician to perform gantry room scans using a foot pedal and includes a remote monitor for viewing.  Each exposure is a 240° axial centered beneath the patient to shield the clinician's hands from direct X-ray exposure.  Exposures are single and series (continuous) selectable via foot switch.

View four, two or one image(s) per exposure

Time to first image is <1.5 seconds from exposure start

This option also includes the Philips interventional couch control which improves operational efficiency during CT-guided interventional procedures through table side control of longitudinal movements for patient positioning.

*Prerequisite: For installed base upgrades, Dell T7400 or newer host PC with DVI-based video connector.*

**9**                             **Coronal Head Holder**           **1**

Coronal head holder with tab design quickly attaches to the end of the tabletop. Positions patient in a submento-vertex position, allowing more direct coronals for clearer diagnosis. Contributes to decreased anatomical distortion through reduced gantry angulation and reduces patient motion.

**10**                        **Load and Unload Foot Pedals**      **1**

Load and Unload foot pedals allow the operator to move the patient couch to the load or unload position using a foot pedal thus improving patient handling efficiency by the freeing the operator's hands to prepare, restrain, or release the patient.

*Prerequisite: Rear Gantry Panel for Field Upgrades*

**11**                        **Head-Arm Rest Pad**          **1**

The Head & Arms Rest is a patient positioning pad that provides patient support during examinations when the patient's arms are raised above his/her head. The pad provides an ergonomic rest for the patient's head and arms and straps to secure the patient. The pad is intended to be used outside of the scan length and should not be scanned.

**12**                        **30 Min Console UPS**         **1**

Uninterruptible Power Supply (UPS) provides up to 30 minutes of battery backup for computer/reconstruction system.

**13**                        **Ceiling Mounting Kit**         **1**

The ceiling mounting kit is an installation kit to support interventional CT ceiling options. This item may be delivered with the interventional option or before the interventional option.

**14**                        **Teal 100kVA Isotran Plus**      **1**

Teal 100 kVA isolation voltage adapting transformer:
Input voltage:       200/208/240/380/400/416/480/500, 3-phase, delta plus protective earth. 50/60 Hz
Output voltage:   480 VAC (277 VAC wye).
Includes:           Programmable input circuit breaker.
Includes:           TVSS (Transient Voltage Surge Suppression), load side filtration for noise attenuation and remote control contactor.
Weight:            598 lbs. (271 kg)
Dimensions:     27.8" (70.7 cm) wide, 20.5" (52.1 cm) deep, 44.0" (111.8 cm) high.

**15**                        **IMR Education Entitlement**      **1**

iMR Upgrade Education:

Initial Handover Training:

Philips Clinical Education Specialist will provide twenty-four (24) hours of CT IMR and/or Advanced CT OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please

read Training Guidelines for more information, which will be provided to you during the scheduling process.   Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Follow Up OnSite Training:

Clinical Education Specialist will provide twenty-four (24) hours of additional training on IMR and/or Advanced CT OnSite  for up to four (4) students, as selected by customer, including technologists from night/weekend shifts if necessary.  CEUs are not available in all cases. Please read Training Guidelines for more information, which will be provided to you during the scheduling process.   Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately).  Ref #296030296032-20131213

**16**                  **Trade in Allowance**              **1**

Customer represents and warrants that (i) Customer has, and shall have when title passes, good and marketable title to the equipment being traded in and (ii) has the authority to effect such trade in.

Product:          GE MEDICAL SYSTEMS GE MEDICAL SYSTEMS CT
Serial Number:   1147312
Manufacturer:    GE MEDICAL SYSTEMS CAPITAL

Trade-In authorization number:         42774

De-install Date:                      Not later than 180 days after receipt of Order

Customer will be trading-in equipment that is described on the attached System Disclosure Form (the "Trade-In"), which Trade-In the parties agree (i) will be removed on the De-install Date and (ii) is currently in the condition as represented on the System Disclosure Form.  In addition, the parties agree as follows:

1.  Customer represents and warrants that Customer has good and marketable title to the Trade-In as of the date of this Quotation and will have good and marketable title when Philips removes the Trade-In from Customer's site (the "Removal Date");

2.  Title to the Trade-In shall pass from Customer to Philips on the Removal Date, unless otherwise agreed by Philips and the Customer;

3.  Notwithstanding anything to the contrary in any Business Associate Addendum, Customer represents and warrants that as of the Removal Date all Protected Health Information will have been de-identified or removed from the Trade-In;

4.  Philips may test and inspect the Trade-In prior to de-installation.  If the condition of the Trade-In is not substantially the same on the Removal Date (ordinary wear and tear excepted) as it is identified on the System Disclosure Form, then Philips may reduce the price quoted for the Trade-In;

5.  If the removal date is delayed until after the De-Install Date, unless Philips causes the delay, then Philips may reduce the price quoted for the Trade-In by six percent (6%) per month.

6.  Philips is responsible for normal de-installation costs of the Trade-In.

7.  The trade-in value will not include costs associated for any facility modifications and/or rigging required for de-installation and must be accounted for separately.

8.  Customer is responsible for all plumbing necessary to properly drain coolant from chiller system and cap the lines.

9.  Prior to the Removal Date, Customer shall remove from the room all equipment that is not being de-installed.

# OPTIONS

| Line # | Description | Qty |
|---|---|---|
| 1 | **CT Additional Training 28 Hours OnSite** | 1 |

Clinical Education Specialist will provide twenty-eight (28) hours of tailored CT OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Guidelines for more information, which will be provided to you during the scheduling process. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately).

| | | |
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| 2 | **CT3004 CT Ingenuity v4 Software with IMR** | 1 |

Course Number:  CT3004

Course Title:  CT v4 Software with IMR

Course Length:  3 days

Delivery Method(s):  Virtual Classroom/Simulators

Modality:  CT

Location:  CTC/Best/SLC Virtual Training classrooms using Adobe Connect

Target Audience:  Service Engineers/BioMeds

DESCRIPTION:

# OPTIONS

| Line # | Description | Qty |
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This course provides the engineer with the comprehensive knowledge and skills required to use the v4.x software to operate and calibrate the CT system. This course is a blended learning course, using virtual machine simulators and Virtual Classroom instruction.

PREREQUISITES:

• Ingenuity CT v3.5 CT3001 or iCT CT8011/CT3022

COURSE OBJECTIVES:

Upon successful completion of the course the learner will be able to:

• Discuss the software installation process

• Demonstrate ability to plan and perform basic scans including Surview, axial and helical studies

• Demonstrate image manipulation

• Demonstrate window adjust and center values to obtain desired image

• Demonstrate their ability to perform a functional scan

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• Use the Image Directory menus

• Demonstrate image archiving and restore

• Identify selectable options in the Preferences button on the scan directory

• Perform software-only calibrations on the scanner

• Execute system performance validation tests

• Use of the Philips Support Connect (PSC) tools to troubleshoot and diagnose system problems

Describe Iterative Model-based Reconstruction (IMR) and its hardware requirements

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2. Course expires one (1) year from equipment installation date (or purchase date if sold separately)
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| Line # | Description | Qty |
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| **3** | **CT3021 Brilliance Air Family** | **1** |

Brilliance Air Family

Course Number: CT3021

System Codes:

Course Title: Brilliance Air Family

Course Length: 10 days

Delivery Method(s): Lab-based training

Modality: CT

Location: CTC, PHC, SLC

Target Audience:  Service Engineers, (BioMeds in NA only)

DESCRIPTION:
The customer service engineer who completes this course will be able to troubleshoot, repair and maintain any of the seven systems in the Brilliance Air Family:

Brilliance Air 6/10/16
Brilliance Air 16Power
Brilliance Big Bore
Brilliance Air 40-slice
Brilliance Air 64-slice (U or TDMS configurations)

PREREQUISITES:

CT3020 – Brilliance/Ingenuity/iCT Gateway
Following are required if not completed as a pre-req for a previouse course:

FC9002  Safety
FC9003  Imaging Systems Safety
FC9004  Regulatory

 E-Learning Located AT:
https://www.theonlinelearningcenter.com/default.aspx?ReturnUrl=%2fMain.aspx

COURSE OBJECTIVES:

At the end of this course, the student will be able to:

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| Line # | Description | Qty |
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System Overview
follow the procedures in the Installation Manual to install the Brilliance system
demonstrate safe practices when working with, in or around a Brilliance scanner
physically identify system covers and follow the procedures to remove, replace and align them
Operator Interface
Identify a Gantry Controls-related failure to the lowest Field Replaceable Unit using a time effective method
Follow the instructions provided to calibrate or adjust the components related to the Operator Interface
Follow the instructions to perform key system operations related to the Operator Interface
Physically identify Field Replaceable Unit components of the gantry controls and follow the procedures to remove, replace and align them
Power Distribution
Identify a power distribution-related failure to the lowest Field Replaceable Unit using a time effective method
Follow Installation instructions to connect the power distribution components of the system
Follow the prescribed safety methods to avoid electrical and ESD hazards pertaining to power distribution
Physically identify Field Replaceable Unit components of the power distribution and follow the procedures to remove and replace them
Communications
Identify a communications-related failure to the lowest Field Replaceable Unit using a time effective method
Identify and use the procedures to remove, replace and align the Field Replaceable Units related to communications
Service Tools
Identify and use key service tool diagnostic to diagnose failures in the system in a time effective method.
DMS (Data Measurement System)
Identify a DMS/TDMS-related failure to the lowest Field Replaceable Unit using a time effective method
Physically identify Field Replaceable Unit components related to the Data Measurement System and follow the procedures to replace them
High Voltage
Identify a high voltage system-related failure to the lowest Field Replaceable Unit using a time effective method
Physically identify Field Replaceable Unit components related to the high voltage system and follow the procedures to remove and replace them
Rotor Motion
Physically identify Field Replaceable Unit components related to rotor motion and follow the procedures to remove, replace and align them
Identify a rotor motion-related failure to the lowest Field Replaceable Unit using a time effective method
Beam Path
Identify a collimator-related failure to the lowest Field Replaceable Unit using a time effective method
Physically identify Field Replaceable Unit components of the beam path and follow the procedures to remove, replace and align them
Perform calibrations related to the collimator to ensure accurate CT image quality
Image Quality
Perform the constancy tests
Perform acceptance testing

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**SELECTION OF ANY OPTION WILL INCREASE THE CONTRACT PRICE BY THE AMOUNT SHOWN IN THE PRICE COLUMN. OPTIONAL EQUIPMENT PRICING VALID ONLY IF PURCHASED IN CONJUNCTION WITH EQUIPMENT QUOTED.**

| Line # | Description | Qty |
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Calibrate the Brilliance Air scanner

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Revision: 20090707

| **4** | **CT3020**<br>**Brilliance/Ingenuity/iCT**<br>**Gateway** | **1** |
|---|---|---|

Brilliance/Ingenuity/iCT Gateway

Course Number: CT3020

System Codes: NA.

Course Title: Brilliance/Ingenuity/iCT Gateway

Course Length: 5 days

Delivery Method(s): Lecture/Lab

Modality: CT

Location: Training Centers

Target Audience: Philips Service Engineers, Customer Engineers

DESCRIPTION:

This course contains the material required for a FSE not trained on the Brilliance (air) CT system to prepare to attend the Brilliance Air system course or the Brilliance iCT differences course. The

# OPTIONS

course provides the engineer with the knowledge and the skills required to safely install, calibrate and repair the Couch, CIRs and Host subsystems.  In addition, the FSE learns the System operation, Software installation and Remote Services Network configuration processes.


PREREQUISITES:

CT1020 CT Basics Skills Virtual Class
FC9002  Safety
FC9003  Imaging Systems Safety
FC9004  Regulatory

E-Learning Located AT:
https://www.theonlinelearningcenter.com/default.aspx?ReturnUrl=%2fMain.aspx


COURSE OBJECTIVES:


At the end of this course, the student will be able to:

•        Operate a Brilliance System

•        Identify failures pertaining to the operator interface

•        Use Gantry State information to troubleshoot system problems

•        Troubleshoot problems related to Gantry communications

•        Follow prescribed Safety procedures

•        Use available Service Tools for troubleshooting

•        Calibrate Gantry angulation and couch

•        Perform Planned Maintenance tasks following the recommended schedule

•        Identify and perform the procedures to Remove and Replace key FRUs

•        Perform corrective maintenance for the Couch, CIRS, Host and Gantry Angulation and Communication subsystems

•        Perform documented software installation procedures

•        Enable Philips service level diagnostics with IST/ICE

| Line # | Description | Qty |
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Revision: 20090707

| 5 | **Ingenuity CT 3.x** | 1 |
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Ingenuity CT 3.x
Course Number:  CT3008
System Codes:  NA
Course Title:  Ingenuity CT 3.x
Course Length:  2 DAYS
Delivery Method(s):  Virtual Classroom
Modality:  CT
Location:  Adobe Connect
Target Audience: Service Engineers

DESCRIPTION:
• This course provides the engineer with comprehensive knowledge and skills required for troubleshooting the Ingenuity CT system. This course is a blended learning course, with prerequisites of topics in eLearning which do not require the physical presence of the learner in the Training Academy, and Virtual Classroom instruction. This course replaces CT3001, with addition of material on the Ingenuity Flex model.

PREREQUISITES:
• Brilliance Air Family course CT3819
• Infrared Data Ring Velocity Laser CT9008
• Introduction to iDose4 CT9011

COURSE OBJECTIVES:
Upon successful completion of the Ingenuity CT course the learner will be able to:
• Explain prescribed safety procedures and avoid known equipment hazards
• Describe the general theory of operation for the Ingenuity CT scanner.

| Line # | Description | Qty |
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- Describe the general theory of operation of iDose.
- Identify proper use of troubleshooting / diagnostic tools and techniques for troubleshooting iDose related problems.
- Describe the theory of operation of the Ingenuity CT Reconstruction subsystem.
- Describe the theory of operation of the Ingenuity CT Data Acquisition and Sampling (DAS) System.
- Describe the theory of operation of the Ingenuity CT High Voltage subsystem.
- Describe the theory of operation of the Ingenuity CT Extended Range Couch.
- Identify and describe proper use of troubleshooting / diagnostic tools and techniques.
- Describe the Ingenuity CT system installation process.

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2. Course expires one (1) year from equipment installation date (or purchase date if sold separately)
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Revision: 20090707

| 6 | **CT1020 BASICS VIRTUAL CLASS 4** | 1 |
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CT Basics Virtual Classroom

Course Number:       CT1020
Course Length:       4 days Virtual Classroom
Delivery Method(s):   Blended Learning – ILT-Virtual
Modality:            CT
Location:             Remote training via Adobe Connect
Target Audience:     Service Engineers, Biomedical Engineers

DESCRIPTION:
This course provides the biomedical service engineer a service-related overview of the fundamental concepts of CT systems. It prepares the engineer for advanced study in CT equipment-specific courses.
• The on-line portion of the course will be conducted in an average of 4 to 6 hours each day over

| Line # | Description | Qty |
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the course of 4 consecutive scheduled days.  To successfully complete this course, the time for completion during these 4 days must be set aside, just as if the service engineer were physically at the Academy location.
• Assessments will be given in class.
• Lessons will be delivered on-line, via webinar-style real-time sessions with all the students participating at the same time, or by podcasts with interactive discussions and question & answer sessions to follow.
• Students will be given assignments and will receive points for participation and completion.  A minimum number of points must be received in order for successful completion of the knowledge portion of the class and for participation in the skills portion.

PREREQUISITES:
The student must have a PC with internet access, Internet Explorer 8 or higher, a current and valid IST license and IST entitlements to Customer Service.
The student should have an academic or experiential background in physics or electronics prior to enrolling in this course.

COURSE OBJECTIVES:
Upon successful completion of the CT Basics course, the student will be able to:
• Given any CT System, list the major physical components of a CT System.
• Given any CT System, list the functions a CT system performs to make an image.
• Given any CT System, describe the steps an operator would take to make a typical study.
• Define terms commonly used in CT.
• Given any CT system, explain how x-ray data is collected and transferred.
• Given any CT system, explain how the data is reconstructed into image data.
• Given any CT System, explain how the data is displayed on a monitor.
• List typical image manipulations.
• Given any CT System, list the functions of the patient support.
• Given any CT system, list the factors influencing image quality and how each affects spatial and contrast resolution.
• Relate the preceding knowledge to the Philips CT Systems.

MAJOR TOPICS:
• System Overview
• Scanning a Patient
• Collecting Data
• Image Reconstruction
• Image Display
• Factors Affecting Image Quality
• Controlling the System
• Medical Imaging Overview
• Basic X-ray Fundamentals

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PURCHASE OF SUPPORT OR ASSIST AGREEMENT.) Course dates and location to be finalized by Philips. Philips shall attempt to accommodate Customer requested dates and training location. The price quoted includes course tuition. Travel and living expenses are not included, but may be purchased separately through Philips.

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