

SHIP TO: WHSE/INSIDE DELIVERY
V.A. Medical Center
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510 E. STONER AVE.
SHREVEPORT, LA 71101-4295

REQUISITION: 667-B89012

<u>QTY</u>	<u>DESCRIPTION</u>
1	CELESTEION LARGE BORE PET/CT SCANNER - ONCOLOGY
1	CONSOLE DESK 65" X 36" X 30"
2	CHAIR WITH ADJUSTABLE ARMS AND BACK
5	MEDIA,DVD-RAM DRIVE (9.4 GB)
2	NON-CORROSIVE FLOOR LEVELING EPOXY KIT
1	DICOM 3 MODALITY WORKLIST MANAGEMENT (MWM) SERVICE CLASS USER (SCU) SYSTEM
1	PET REGISTRATION
1	SYSTEM UPS 125 KVA 480 VOLT INPUT / 480 VOLT OUTPUT WITH PDU FOR AQUILION ONE, PRIME, CELESTEION & LIGHTNING
1	BATTERY CABINET FOR ANY TIC VRDU
1	REMOTE STATUS ALARM PANEL
1	START UP 125 KVA
1	TOSHIBA POWER DISTRIBUTION UNIT
1	TOSHONT PDU INRUSH CURRENT MONITOR ***NOT AVAILABLE IN CA***
1	CIVCO TABLE INSERT KIT FOR CELESTEION PET/CT
1	TABLE TOP MOUNTING BRACKET FOR CELESTEION PET/CT COUCH (BRACKET ONLY)
1	CIVCO UNIVERSAL TABLE TOP INSERT FOR HIGH CAPACITY EXTENDED COUCH
1	ARM HOLDER (BOTH SIDES)
1	HANDLE, TABLE, OVERHEAD
1	CT FIXED PRONE HEADREST
1	EXTENDED FIELD OF VIEW
1	RESPIRATORY GATING ACQUISITION PACKAGE FOR ONCOLOGY
1	PROSPECTIVE RESPIRATORY GATING SOFTWARE

<u>QTY</u>	<u>DESCRIPTION</u>
1	RETROSPECTIVE RESPIRATORY GATING SOFTWARE
1	VARIAN REAL-TIME POSITION MANAGEMENT SYSTEM (RPM) V1.7

The Celesteion PET/CT is a versatile system that combines a high performance PET system with a CT system for most Oncology needs in Radiology and Radiation Oncology Departments. It is an excellent fit as a shared services scanner improving total cost of ownership.

The Celesteion PET/CT incorporates a 90 cm CT aperture into a PET/CT solution. Celesteion will allow for the system to be utilized as a shared system for Oncology PET/CT, diagnostic 16 slice CT (scalable to 32 slices using ConXact) and CT simulation. Celesteion comes standard with Toshiba's low dose AIDR 3D reconstruction that is a fully integrated and adaptive, dose saving solution for each patient.

The system was designed for precise patient positioning and image quality necessary for PET/CT simulation, oncology treatment planning, interventional radiology procedures and bariatric patients. As health care reform puts greater emphasis on patient satisfaction, the Celesteion's patient friendly designs include:

- Industry's largest aperture of 90 cm CT and 88 cm PET offering a feeling of openness for the patient
- Fast Imaging for Time of Flight at 450 ps resolution resulting in improved lesion detectability and 0.5 sec CT rotation acquiring 32 slices (using coneXact) every rotation
- Large field-of-view of 70 cm for PET and CT with an optional 85 cm extended field-of-view
- Dose Reduction including Toshiba's AIDR 3D iterative dose reduction solution making CT imaging safer for all patients.

The Celesteion PET/CT solves one of the biggest problems faced in oncology-imaging the patient in the treatment position.

Celesteion PET/CT detector introduces true isotropic resolution to radiology and oncology alike. With 32 slice (using coneXact) technology the Celesteion PET/CT enables the user to scan in one plane and reconstruct information in another plane with the same image quality, allowing clinicians to use 3-D volumetric information when needed. Celesteion PET/CT's best-in-class, 0.5 mm ^{PURE}VISION detector achieves consistently improved image quality with low-contrast resolution of 2mm at 0.3% and high-contrast resolution of 0.31 mm.

The combination of a high-speed scanner and a powerful, high-voltage generator meets every diagnostic requirement. Solid-state, multi-row detectors and optimal reconstruction techniques ensure high-quality images. A high-performance CPU, large color monitor, hybrid keyboard and refined

Graphic User Interface (GUI) make the operating environment highly efficient.

COMPONENTS

- Large CT aperture, 90 cm, slip-ring gantry and extra-wide couch (47 cm)
- 88 cm PET aperture
- 72 kW High-frequency X-ray generator
- 7.5 MHU high-heat-capacity X-ray tube
- Ergonomic operator console
- Volumetric image processor
- High-capacity hard disk
- CD-R / DVD-RAM Drive – 9.4 GBytes (double-sided DVD RAM)
- Image data transfer link
- Patient comfort accessories
- Operator manuals and quality assurance phantoms

KEY FEATURES

Precise Patient Positioning: A gantry aperture of 90 cm (CT), 88 cm (PET) allows extraordinary patient access and positioning, improving exam positioning for diagnostic PET/CT, PET/CT simulation, Diagnostic CT, trauma and interventional procedures without compromise.

Routine Fast Scanning: CT-Using slip-ring technology, Celesteion PET/CT is able to perform 0.32-second partial scans and 0.5-second routine scans to meet the demands of dynamic and helical examinations. PET-Time of Flight detector permits PET acquisition to be performed at high speed.

High Image Quality: CT- The Celesteion PET/CT features 994 channels in 40 rows of solid-state detectors; specialized, user-selectable, image-reconstruction algorithms; and a wide selection of slice thicknesses that provides 16 slices, upgradable to 32 slices per rotation using coneXact. The system provides outstanding low-contrast resolution of 2 mm at 0.3% and high-contrast resolution of 0.35 mm. PET-By employing a Time of Flight PET detector with excellent system timing of 450 ps resolution yields high quality PET images.

High-Power Generator: Robust, high-voltage circuits generate 72 kW of power and 600 mA, providing support for the 7.5 MHU X-ray tube that makes possible helical scans up to 100 seconds and scans with metal-free scan range of up to 1,800 mm.

Multiple kV Selections: 80, 100, 120 and 135 kV.

Fast Image Reconstruction Time: Up to 22 images per second (option).

PET SYSTEM

Celesteion Time-of-Flight provides several key clinical benefits

- Superior PET Image Quality
- Ability to produce quality images on all patients of all sizes
- Count Rate Stable High Speed Detector

SURETechnology: Provides maximum productivity and best image quality at a low dose. Real-time helical display, which provides instantaneous visualization of acquired images, allows the operator to rapidly assess whether additional images are needed. **SUREStart** bolus tracking software, which is included in the standard configuration, provides the ability to monitor contrast media in real-time.

Easy Operation: Perform easy operations using the 18-inch LCD monitor, mouse and hybrid keyboard. Scan automatically by programming procedures with eXam Plan and vocal instructions through VoiceLink™.

Optimal Space Utilization: The Celesteion PET/CT has recommended minimal room size of 30.4 M² (23.5' X 14')

Calibration Sources: *Servicing of the PET/CT system requires the use of Germanium 68 sources. It is the responsibility of the purchaser to obtain the required licenses for the handling, use and transportation of these items. In locales where service personnel are prohibited from use of the materials under the purchaser's license, the purchaser agrees to have their personnel present during those periods where the material must be used in the maintenance and calibration of the device.*

DOSE-REDUCTION FEATURES

Celesteion PET/CT incorporates the latest dose-reduction technologies to reduce exposure while maintaining high image quality.

Adaptive Iterative Dose Reduction 3D (AIDR 3D)

AIDR 3D is the third generation in the evolution of Toshiba's iterative reconstruction technology. AIDR 3D is an iterative algorithm intended to reduce pixel noise from the original data, the results analyzed, and the process repeated until the target level of noise-reduction is achieved. This

iterative algorithm is superior in reducing background noise while preserving diagnostic information compared to non-iterative approaches.

AIDR 3D can be integrated into all acquisition modes for routine clinical use and is able to remove image noise resulting in dose reduction. This feature, a , is included in each Celesteion PET/CT at no additional charge.

SUREExposure3D (x, y, z automated mA modulation software)

Toshiba's SUREExposure3D software automatically adjusts the mAs based on patient anatomy to adapt to and compensate for changes in attenuation level.

NEMA XR 25, XR 26 and XR 29

Celesteion PET/CT meets the National Electrical Manufacturers Association's (NEMA) Medical Imaging & Technology Alliance (MITA) standards XR 25, XR 26 and XR 29.

- MITA XR 25 Computed Tomography Dose Check
 - Includes dose alerts and allows facilities to set dose notification values.
- MITA XR 26 Access Controls for Computed Tomography: Identification, Interlocks, and Logs
 - Provides access control ensuring only authorized operators can alter controls of the CT equipment.
- MITA XR 29 Standard Attributes on Computed Tomography (CT) Equipment Related to Dose Optimization and Management
 - Smart Dose standard bundles four important features to ensure that equipment produces high-quality diagnostic images while supporting patient safety:
 - DICOM Structured Reporting
 - CT Dose Check
 - Automatic Exposure Controls,
 - Pediatric and adult reference protocols.

EQUIPMENT DESCRIPTION

Celesteion PET/CT Gantry

The Celesteion PET/CT gantry uses a direct-drive design to provide accurate alignment between beam and detector, and to reduce rotational noise for higher-quality images.

A low-voltage slip ring assures reliable, continuous power transfer.

- Digital signal transmission facilitated by innovative optical-coupling technology moves information to the volumetric image processor
- Generator is inside the gantry to conserve space

Other features include:

- Industry's largest CT aperture: 90 cm
- Five scan fields of view: 24, 32, 40, 55 and 70 cm
- Gantry controls on both sides (right and left)
- Patient positioning lights
- Wide range of scan times provides greater flexibility for optimal image quality (0.32 partial; 0.5, 0.75, 1, 1.5, 2 and 3 seconds full)
- Slice thickness selections of 16x0.5, 16x1 and 16x2 mm with the capability of stacking images to the desired slice thickness

Console

- Consists of hybrid keyboard, mouse, monitor and Navibox
- Controls the entire system, including power
- Image display
- Scanoscope control
- Remote control of couch-top movement
- Window level and width adjustment
- Three preset windows can be stored in the eXam Plans
- Other mouse-operated, image-processing functions
- High line-rate, 18-inch LCD monitor
- Displays images in 512x512 or 1024x1024
- CT number display ranges from -1,536 to +8,191
- 32 programmable voice commands
- Dual console

X-ray Tube

The Celesteion PET/CT is equipped with the MegaCool™ X-ray tube. This compact, high-performance tube was designed specifically to minimize tube-cooling delays in heavy patient-load conditions using 0.5-second scan time.

Other features include:

- Dual focal spots
- Anode capacity of 7.5 MHU
- Dissipation rate of 1,386 kHU per minute maximum

CT Detector

The ^{PURE}ViSION₊ detector design allows Toshiba to generate a 70 cm true field-of-view – the largest in the industry – for uncompromised positioning.

Other features include:

- Solid-state detector array
- Low-contrast resolution of 2 mm at 0.3%
- 994 detector channels and 40 rows of detector elements
- 1,800 views per second to produce high-resolution images

PET Detector

- Scintillator: Lutetium Type Scintillator
- Number of detector modules: 40
- Axial field of view (Z axis): 196 mm

Computer

- Two 64-bit processors
- Capable of simultaneous scanning, reconstructing, archiving and filming without interruption – true multi-tasking system
- Ultra-fast, 217 GB hard disk
- 100,000 images on both scan and display console
- 3,600 rotations of raw data maximum
- CD-R / DVD-RAM Drive – 9.4 GBytes (double sided DVD RAM)
- DICOM CD writer (option) – Archive up to 1000 images

PATIENT AND IMAGE MANAGEMENT

Patient Demographics Management

- Enter individual patient information at the time of examination manually or imported from Modality Worklist Management query.
- On-line patient appointment file management

Image Management

Celesteion images can be stored on hard disk, magneto-optical disk or transferred via gigabit Ethernet connection using DICOM 3.0 standards.

DICOM 3.0 (Storage SCU)

- Allows the Celesteion scanner to export images to CT simulation, 3-D workstations or any other device on the network
- Consists of software only and utilizes pre-existing Ethernet ports on the Celesteion scanner to connect to a coax-Ethernet-based network running TCP-IP communication protocols
- The system can be set to automatically transfer images to the network after an exam is complete

DICOM 3.0 (Print SCU)

- Allows the Celesteion scanner to send image data that has been acquired and reconstructed to a film imager for printing via Ethernet in conformance with DICOM 3.0 standards

Image Display

- Display in multiple formats ranging from 1 to 16
- Overlay an inset scanogram for quick reference marking

- Add, subtract, rotate or filter images
- Adjust window width and level non-linearly, accommodating up to six built-in curves and six user-defined curves

IMAGE QUALITY ENHANCEMENTS

Automatic, 2-Pass, Beam-Hardening Correction (BHC): Compensates for the non-uniform, beam-hardening effect of bone for more accurate reconstruction. Reduction of streak artifacts in the posterior fossa and elimination of cupping artifact in the mid-brain.

Reconstruction Algorithms: Grouped by anatomical application, more than 50 algorithms are provided for customized image reconstruction according to the diagnostic information needed or physician preference.

HELICAL SCAN & FUNCTIONALITY

MultiView: Built into protocol for fast, multi-planar reconstruction in batch mode specifically for multislice data sets. Coronal, sagittal and axial images are created from isotropic volume data.

3-D Imaging: Provides excellent image quality with surface shaded-renderings and volume-rendered 3-D images. Provides zooming and panning over the 3-D surface and performs distance measurements. Other features include:

- 3-D surface display
- 3-D shaded volume display
- Maximum intensity projection (Max - IP)
- Minimum intensity projection (Min - IP)
- Intensity volume rendering

Quantitative Analysis

- Profile display of CT numbers along a selected line in the axial plane
- Distance measurement and display
- CT number display
- Histogram display

Annotation

- Four lines of comments and arrow display
- 36 exam information fields that can be selectively masked or shown depending on site requirements

eXam Plan Protocols

- 684 eXam Plan protocols that can be adjusted while scanning
- Four preset reconstructions
- eXam Plan sets can be stored on optical disks and copied to other Toshiba scanners

Archiving

- Can be automated with each eXam Plan
- Data can be stored on and retrieved from MOD
- Raw data and image data can be protected to prevent deletion

Filming

- Auto filming can be set as part of the eXam Plan
- Images are displayed in 512x512 or 1024x1024

CUSTOMER CARE SERVICES

InnerVision™ Plus

Remote system diagnostics are available around-the-clock to help identify problems and provide potential solutions before care is interrupted or an engineer can arrive. InnerVision Plus is included at no charge and connected while any scanner is under warranty, or any service agreement including Full Service, In-House Support, Partnership and/or VISN Master Service Agreement

Image Maker Express

Image Maker Express is an online marketing resource that helps Toshiba customers build demand for imaging service by growing their referring physician and patient relationships. Image Maker Express includes:

- Easy-to-use marketing resources and tools developed exclusively for Toshiba customers to bring together effective marketing strategies and tactics.
- A wealth of collaterals and content to create high-quality brochures, print ads and more to help market the Toshiba customer's new imaging capabilities.

Image Maker Express Materials available include:

- Product images and logos
- Clinical images and videos
- PowerPoint presentations and promotional videos
- Brochure samples

- Customizable press releases and media tips
- Marketing strategy tutorials

**Offerings may vary per product*

APPLICATION TRAINING

Each system includes a custom developed three phase education program and the industry exclusive Performance Pro approach to learning.

Performance Pro is a unique approach to education utilizing blended learning with the promise of technical proficiency and optimal productivity for both physicians and technologists. If for any reason the customer is not satisfied with any portion of the training, Toshiba will conduct that portion of the training again, at no charge.

Pre-Installation: Planning meeting at facility with Toshiba's CT Applications Manager to discuss objectives and timing of training, and to co-develop a custom program based on the facility's specific needs.

Choice of two (2) Medical Imaging Consultants self-study programs; The CT CrossTrainer and/or The CT Registry Review Program.

The CT CrossTrainer is designed to acquaint the less-experienced technologist with important CT principles, technology and clinical exams. The program consists of 6 comprehensive StudyModules that have been accredited for 17 Category A CE credits; credits are earned by passing a post test for each StudyModule.

The CT Registry Review Program is designed to help the experienced CT technologist prepare to pass the ARRT's post-primary exam in CT. The course consists of 8 comprehensive StudyModules that have been accredited for 19 Category A CE credits; credits are earned by passing a post-test for each StudyModule.

Installation: A Clinical Evaluation will be conducted by an applications specialist, prior to turnover, to ensure the system is ready for the go-live date.

Phase I: Two (2) attendance vouchers for a four (4) day technologist-focused course held at the Toshiba Institute of Advanced Imaging in Irvine, California. This course provides the fundamentals of operating Toshiba's Aquilion CT system, including a variety of CT scans performed with the latest dose reduction techniques. This course includes in-depth lectures and hands-on training. At the completion of the course, the attendee will be proficient in the following applications and operations: basic to advanced CT imaging console use, system menus, system default scan protocols,

utilization of reconstruction parameters, post-processing image data, and troubleshooting image quality. This course is all inclusive of the following: tuition, airfare (booked by Toshiba), lodging, and meals. Accredited for CE credits by the ASRT Education Foundation.

Phase II: Two consecutive, thirty-two (32) hour weeks, of initial on-site education will be provided at the customer facility following system go-live. Unique with Performance Pro, Toshiba will send two applications specialists for the first week of on-site education. One specialist will provide training for up to four (4) imaging professionals including the two (2) that attended the Phase I training, to focus on maximizing scanning techniques and protocols for PET/CT acquisition and processing. The second specialist will work with the physicians to achieve desired image quality. Training is scheduled consecutively, Monday through Friday, with Monday mornings and Friday afternoons scheduled as travel time for the applications specialist. CE credits are earned by participants that attend the Phase II training events in their entirety.

Phase III: An additional twenty-four (24) hours of on-site education will be provided for the same four (4) imaging professionals, which participated in Phase II training, approximately 6-8 weeks following installation to optimize staff proficiency and system productivity.

Note: Toshiba personnel are not responsible for scanning patients, patient safety, any actual patient contact, or operation of equipment during education sessions. Toshiba will only demonstrate proper equipment operation.

The training is offered to the Customer at no charge, providing that it is completed no later than one (1) year after the warranty start date.

Additional classroom and onsite training is available for purchase.

Applications support is available by phone on the toll-free ASSIST line, 1-800-521-1968.

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QTY DESCRIPTION

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| 1 | CELESTEION LARGE BORE PET/CT SCANNER - ONCOLOGY |
| 1 | CONSOLE DESK 65" X 36" X 30"
Measures 65" x 36" x 30" |
| 2 | CHAIR WITH ADJUSTABLE ARMS AND BACK |
| 5 | MEDIA,DVD-RAM DRIVE (9.4 GB) <ul style="list-style-type: none">• 9.4 GB• Two-sided |
| 2 | NON-CORROSIVE FLOOR LEVELING EPOXY KIT |
| 1 | DICOM 3 MODALITY WORKLIST MANAGEMENT (MWM) SERVICE CLASS USER (SCU) SYSTEM
Allows the CT system to obtain details of patients and scheduled examinations electronically from the HIS/RIS system, avoiding the potential mistakes of manual entry.

<i>Note: This option does not include a DICOM gateway for the HIS/RIS system.</i> |
| 1 | PET REGISTRATION |
| 1 | SYSTEM UPS 125 KVA 480 VOLT INPUT / 480 VOLT OUTPUT WITH PDU FOR AQUILION ONE, PRIME, CELESTEION & LIGHTNING |
| 1 | BATTERY CABINET FOR ANY TIC VRDU |
| 1 | REMOTE STATUS ALARM PANEL
Wall-mount shell with 120-VAC power supply adapter with battery back-up with internal batteries. Hard-wire with internal power supply. |
| 1 | START UP 125 KVA |
| 1 | TOSHIBA POWER DISTRIBUTION UNIT
The PDU is engineered to address common power problems found in the hospital environment and to isolate the CT system components to meet IEC 60601-1 Third Edition requirements. This is important to assure optimal reliability and performance of CT systems. Customer is responsible for complying with Toshiba's site specifications for electrical power. |

This device provides most of the electrical site preparation requirements of Toshiba CT systems. The PDU contains a low impedance isolation step-down transformer with a shielding plate between primary and secondary.

Voltage Conversion

Wiring costs are significantly reduced since the PDU accepts a single, 480V delta input, supplying 200V to the generator and the various other parts of the system.

Distribution

The PDU comes prepackaged with the distribution breakers needed for each system feed. Having all system breakers in one location also makes it easier for service personnel to remove power.

Installation

Installation is much faster, more predictable, and less expensive with a factory-assembled and tested system.

1 TOSHONT PDU INRUSH CURRENT MONITOR *NOT AVAILABLE IN CA*****

1 CIVCO TABLE INSERT KIT FOR CELESTEION PET/CT

The IPPS™ CT Couch Overlay is designed to provide rapid, accurate, and repeatable patient setup and localization. The MED-TEC indexing system provides convenient and consistent orthogonal alignment.

- Optimum patient comfort
- Treatment flexibility
- Quick set-up and ease-of-use
- Highly repeatable patient positioning

Note:

- Applies to Celesteion Extended 1800 mm couch
- Bracket included.

1 TABLE TOP MOUNTING BRACKET FOR CELESTEION PET/CT COUCH (BRACKET ONLY)

1 CIVCO UNIVERSAL TABLE TOP INSERT FOR HIGH CAPACITY EXTENDED COUCH

The Universal Couchtop™ Overlay is designed to provide rapid, accurate, and repeatable patient setup and localization. The Civco Prodigy 2 (every 7 cm) indexing system provides convenient and consistent orthogonal alignment.

- Optimum patient comfort
- Treatment flexibility
- Quick set-up and ease-of-use
- Highly repeatable patient positioning

Note:

- Applies to Aquilion ONE family, Aquilion PRIME family, and Aquilion Large Bore High Capacity 300 kg 2000 mm couches.
- When Universal Couchtop Overlay (MT-IL 6521) is sold separately a mounting Bracket (CAFT-021A/1B) may be required.

1 ARM HOLDER (BOTH SIDES)

1 HANDLE, TABLE, OVERHEAD

1 CT FIXED PRONE HEADREST

Made of Carbon FRP

1 EXTENDED FIELD OF VIEW

This software identifies the extent to which the patient body and patient immobilizing devices are visualized outside the XL scan field of view (70 cm) in Large Bore CT Scanner.

- For reconstruction, a reconstruction field with a diameter of up to 850 mm can be specified for the raw data acquired with an FOV of XL
- The anatomy of the patient that extends outside the XL FOV can be visualized

Prerequisite: Software V3.1ER000 or higher

1 RESPIRATORY GATING ACQUISITION PACKAGE FOR ONCOLOGY

1 PROSPECTIVE RESPIRATORY GATING SOFTWARE

1 RETROSPECTIVE RESPIRATORY GATING SOFTWARE

1 VARIAN REAL-TIME POSITION MANAGEMENT SYSTEM (RPM) V1.7

Varian RPM package includes:

- Varian RPM PC Workstation running the system software. The monitor displays motion data, and live video images from the tracking camera.
- Varian Reflective Marker Block which you position on the patient to track respiration motion.
- Varian Tracking Camera. The (CCD) tracking camera acquires video images of the marker block (mounted on CT couch).

- In-room viewfinder (monitor) that shows the image from the tracking camera to confirm visualization of the marker block position by the camera.

Note:

Wall Mounting of Varian Tracking Camera is available only with additional cost via Special Order Inquiry