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**BIOMED TRAINING - TUITION,  
TRAVEL AND LODGING - AQ  
ONE/PREMIUM (10 CLASS DAYS)**

AQUILION ONE VISION EDITION 640  
SERIES DYNAMIC VOLUME CT SCANNER  
WITH AIDR 3D

CT SCANNER AQUILION VISION WITH  
HIGH CAPACITY EXTENDED COUCH

ACCESSORY KIT FOR HIGH CAPACITY  
COUCH

DICOM 3 MODALITY WORKLIST  
MANAGEMENT (MWM) SERVICE CLASS  
USER (SCU) SYSTEM

DICOM 3 PERFORMED PROCEDURE STEP  
SCU

DICOM 3 QUERY/RETRIEVE SCU AQ/MP

DICOM 3 STORAGE COMMITMENT SCU  
SOFTWARE

PRESENTATION OF GROUPED  
PROCEDURES (PGP) AND EXAM HARD  
SPLIT

CT PHANTOM

CHAIR WITH ADJUSTABLE ARMS AND  
BACK (Qty 2)

MEDIA FOR DVD-RAM DRIVE (9.4 GB)  
(Qty 5)

CONSOLE DESK 65" X 36" X 30"

SERVICE MODEM CABLE (Qty 2)

FLOOR LEVELING EPOXY KIT

SYSTEM UPS 480 VOLT INPUT / 480 VOLT  
OUTPUT FOR VISION

VRDU 480 V INPUT / 480 V OUTPUT

BATTERY CABINET FOR ANY TIC VRDU

REMOTE STATUS ALARM PANEL

SURECARDIO WITH PHASEXACT FOR  
AQUILION ONE VISION

ECG GATING SCANNING SYSTEM

ECG MONITOR, R-WAVE TRIGGER WITH  
ECG RECORDER

4-D NEURO PERFUSION PACKAGE WITH  
SURESUBTRACTION FOR CONSOLE

TECH ASSIST LATERAL TABLE SLIDE FOR  
AQUILION

LATERAL COUCH MOVEMENT KIT

TOSHIBAS INJECTOR SYNCHRONIZATION  
SOFTWARE

CAN PROTOCOL

MEDRAD STELLANT® D OCS DUAL FLOW  
INJECTOR WITH INJECTOR  
SYNCHRONIZATION

ADVANCED AQUILION ONE / PREMIUM  
CARDIAC CT COURSE FOR  
TECHNOLOGISTS

ADDITIONAL AQUILION ONE  
APPLICATIONS TRAINING, IRVINE, CA

## **AQUILION ONE VISION EDITION 640 SERIES DYNAMIC VOLUME CT SCANNER WITH AIDR 3D**

Aquilion ONE ViSION Edition 640-Series is a multi-functional Dynamic Volume CT scanner with Adaptive Iterative Dose Reduction 3-D (AIDR 3D). Aquilion ONE ViSION is the first CT to image an entire organ in a single rotation and dynamically with volumetric temporal resolution, lower radiation and less contrast dose.

The Aquilion ONE ViSION CT scanner includes Aquilion's best-in-class, 100 kW generator and 0.5 mm detector elements with a 320 channel quantum detector covering up to 16 cm of anatomy every 275 msec. rotation.

The ability to acquire an entire organ in a single rotation means multiple rotations can be performed over time during a single contrast injection to obtain physiological data during organ perfusion. By simultaneously performing perfusion while conducting anatomical exams, the number of exams needed to perform whole brain, whole organ or myocardial analysis, for example, can be reduced, resulting in faster, safer and more cost-effective procedures.

The pace and volume of activity in today's Emergency Departments is constantly increasing. Where minutes and cost matter most, the Aquilion ONE ViSION can make a difference in saving lives and conserving critical healthcare resources. By combining low-dose Insta-View reconstruction and AIDR 3D dose-reduction technology, Aquilion ONE ViSION accelerates diagnosis and treatment for every patient. Aquilion ONE ViSION provides superior clinical and operational advantages over other imaging systems in high-risk, high-acuity settings.

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- eVolution 78 cm gantry opening with iStation
  - eVolution 660 lb wide couch with custom table pad and positioning accessories
  - Dual consoles with ergonomic operator controls
  - High speed reconstruction hardware up to 50 images per second
  - High-frequency 100 kW X-ray generator
  - MegaCool™ Vi X-ray tube
  - 500 micron Quantum detector and DAS
  - Operator manuals and quality assurance phantoms

### **DOSE REDUCTION FEATURES**

Aquilion ONE ViSION ensures delivery of the best possible image quality at the lowest possible dose, reinforcing Toshiba's guiding principle of ALARA for every patient. To achieve this, Aquilion ONE ViSION has an array of adaptive and integrated dose-reduction strategies that are implemented at every stage, from patient registration to image reconstruction. In addition, patient dose reduction is integrated into the console software, so it activates prior to turning on the x-ray beam.

### **Adaptive Iterative Dose Reduction 3-D**

Adaptive Iterative Dose Reduction 3-D (AIDR 3D) is the latest evolution of iterative reconstruction technology that has been fully integrated into the imaging chain to ensure automatic dose reduction for all your CT examinations. AIDR 3D works to reduce image noise while maintaining spatial resolution. In clinical settings significant dose reduction is achieved routinely as AIDR 3D is integrated into the automatic exposure control software.

Truly groundbreaking dose reduction technology must be fast enough to fit into busy workflow schedules. AIDR 3D reconstruction has therefore been systematically optimized to minimize the impact on patient throughput. As a result, advanced iterative reconstruction with AIDR 3D reconstructs up to 50 images per second, thus adding mere seconds to the total reconstruction time.

The Aquilion ONE ViSION includes AIDR 3D, a \$150,000 value, in each Aquilion ONE ViSION CT Scanner at no additional charge.

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

Toshiba's SUREExposure3D software automatically adjusts the mAs rapidly during the scan to adapt to and compensate for changes in attenuation level produced by the non-uniformity of the anatomy being imaged. Therefore, as the scan moves from the shoulders to the lung, the mAs goes down, and as the tube rotates around the patient, less mAs is used anterior-posterior than laterally. For the same image quality level, compared to non-modulated scanning, SUREExposure3D can reduce the dose to patients.

**NEMA XR-25 Dose Check**

Aquilion ONE ViSION includes the National Electrical Manufacturers Association (NEMA) XR-25 dose check software, which includes dose alert and dose notification.

**DICOM IHE SR**

Aquilion ONE ViSION also integrates with DICOM IHE SR software to allow patient-dose tracking.

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### **coneXact Image Quality Breakthrough with Double Slice Technology**

Toshiba's unique cone-beam reconstruction algorithm is designed for 16 cm coverage. This breakthrough algorithm eliminates the artifacts typical when off-the-shelf cone-beam algorithms are applied to wide-area detectors.

Toshiba's unique coneXact and VolumeXact algorithms:

- Reconstruct diagnostic images with more coverage area per rotation than any other scanner
- Adapt images between two wide volume scans.
- Overcome the inherent challenges associated with wide beam geometry by:
  - Adeptly incorporating the wide cone angle into the image reconstruction
  - Reducing geometrically-imposed data truncation.

### **Double Slice Technology:**

Using Toshiba's coneXact algorithm, the Aquilion ONE ViSION reconstructs 640 unique images per axial scan enabling volume reconstruction in double density, effectively creating 0.5 mm slices at every 0.25 mm.

The Aquilion ONE ViSION achieves this by first reconstructing data sets as a volume, and then using information from oblique, cone-angle projections to extract distinct axial slices in between detector planes without resorting to interpolation or upsampling.

### **SURETechnologies**

Improve workflow with a comprehensive toolset ensuring the fastest data to diagnosis span at the lowest possible dose with the best image quality. The following SURETechnologies are standard on the Aquilion ONE ViSION:

### **SUREExposure 3D**

Automated dose modulation tools including 3-D and ECG modulation as well as adaptive collimation for clear images at lower doses.

Real-time contrast detection for perfect vascular timing of the volumes. With <sup>SURE</sup>Start there is no need to perform a timing bolus, saving up to 30 cc's of contrast.

**<sup>SURE</sup>Connect**

Fastest data-to-diagnosis from data acquisition to review at the workstation.

**CLINICAL SERVICE LINE FEATURES**

**Bariatric**

Obesity in the U.S. has steadily increased over the past 20 years with roughly 36% of all adults and 17% of all children and adolescents aged 2-19 years currently in this category ( Source: [www.ced.gov/obesity/data/facts.html](http://www.ced.gov/obesity/data/facts.html)) Aquilion ONE ViSION meets the imaging needs of this population with a 100 kW generator, 78 cm gantry opening, enhanced 660 lb. table weight capacity and a tech assist lateral slide (optional) that eliminates manual repositioning of patients.

**Pediatric**

Aquilion ONE ViSION can scan smaller pediatric patients in a single rotation, dramatically reducing radiation exposure and minimizing the need for sedation.

For pediatric radiologists Aquilion ONE ViSION can minimize the dosage, the sedation drugs, and the trauma that a child experiences. Pediatric specific protocols include presets for <sup>SURE</sup>Exposure pediatric neck scans and dedicated pediatric <sup>SURE</sup>Cardio parameters for hearts which minimize exposure and produce excellent images for diagnosis.

**Trauma**

The pace and volume of activity in today's Emergency Departments is constantly increasing. Where minutes and cost matter most, the Aquilion ONE ViSION can make a difference in saving lives and conserving critical healthcare resources.



Combining low-dose, 0.275 second rotation, Rapid-View reconstruction and AIDR 3D dose-reduction technology, Aquilion ONE ViSION accelerates diagnosis and treatment for every patient.

### **EQUIPMENT COMPONENTS**

#### **eVolution**

The philosophy behind eVolution is to design and build medical imaging equipment with less energy and more recycled materials leading to a much more environmentally 'green' platform.

#### **eVolution Gantry**

The eVolution gantry is the world's most eco-friendly gantry design built using 30% less energy than standard, multi-slice CT's.

- Hybrid slip-ring technology conserves unused electricity
- Self-cleaning system reduces the frequency of preventive maintenance visits and associated scheduling issues
- Gantry tilt
- Large 78 cm aperture
- Five scan fields of view
- Wide range of scan times provides greater flexibility for optimal image quality
- 100 kW Generator

#### **Couch**

The eVolution couch is patient friendly for the largest or smallest of patients with easy access and comfort.

- Widest metal-free couch top
- Controls from gantry or console
- Large patient capability (660 lbs)
- 2000 mm scan range (1,500 mm for short couch version)
- Customizable additional foot pedal placement (option)

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Two powerful, ergonomic console computers: one for scanning and reconstruction, one for display and reconstruction. Both offer display, image feed, filming, and transfer of multi-planar reconstructions with the same interface used for axial images.

- Capable of true simultaneous scanning, retrieving, reconstruction, archiving and filming without interruption – genuine multi-tasking system for multi-slice and volumes
- Two powerful reconstruction towers with 4 CPUs and 25 hard drives with RAID 5 controllers
- Includes user-friendly keyboards, mouse, monitors, CPU cabinet and reconstruction enclosures

### **MegaCool™ X-ray Tube**

This compact, high-performance tube is designed to minimize tube-cooling delays with heavy patient loads at all scan times. It was built on the proven, anode-grounded, MegaCool tube technology used on every Aquilion multi-slice CT.

Other features include:

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

### **Quantum V Detector and DAS**

- Unique Toshiba ceramic, solid-state detector array and DAS
- Covers organs in 16 cm rotations, including brain or heart, in a single rotation without any table motion
- <sup>SURE</sup>Connect DAS—Ultra-fast DAS to acquire large volume data from the detector

### **IMAGE MANAGEMENT**

Aquilion ONE ViSION images can be stored on hard disk or DVD and transferred via high performance gigabit Ethernet connection using DICOM 3.0 standards.

- 
- Enter patient information at the time of exam manually or import it via a Modality Worklist Management query.
  - On-line patient appointment file management.

#### **DICOM 3.0 Performed Procedure Step SCU**

Works in tandem with Modality Worklist Management to provide exam information to an RIS that supports DICOM MPPS (SCP).

#### **DICOM 3.0 Query/Retrieve Service Class Provider (SCP)**

Allows a Storage Class User (SCU) to query the SCP device to retrieve patient, study, series and/or image information in conformance with the DICOM 3.0 standard.

#### **DICOM 3.0 (Storage SCU)**

Allows the CT scanner to export images onto a network.

- Consists of software only
- Utilizes pre-existing Ethernet ports on the CT scanner to connect to a coax-Ethernet-based network running TCP-IP communication protocols
- The protocols in the system can be set to automatically transfer images to the network after an exam is complete

#### **Enhanced DICOM**

Provides the fastest transfer of Aquilion ONE 640 Series images to the workstations and storage of 60 frames per second using the new enhanced multi-frame DICOM standard.

#### **Storage and Archiving**

- Can be automated with each eXam plan
- Raw data and image data can be protected to prevent deletion from console

#### **Filming**

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

### **CUSTOMER CARE SERVICES**

Developed with customer input, Toshiba's innovative support programs have resulted in increased customer satisfaction. These include the following:

#### **InTouch Center®**

This centralized service facility provides applications and service support for customers 24 hours a day, seven days a week.

#### **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.

#### **InTouch Agreements**

Based on customer needs, InTouch customer agreements can range from an a-la-carte approach to full-security agreements that provide complete system protection.

#### **Technical Assistance**

Customer support specialists are available 24/7 to help resolve technical issues in real time. Application support specialists are also available to assist staff with protocol and image-quality issues.

#### **Local Customer Teams**

A single call mobilizes a local team of Toshiba customer engineers. With an average of 10 years of Toshiba experience and 105 hours of specialized training, they can resolve almost any performance issue.

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The Image Maker Express is a marketing support online resource designed exclusively for Toshiba customers that helps you create outreach programs to generate awareness about your imaging services.

- Includes positioning and messaging guides to help you strategize your communications efforts and tactics
- Contains product information, ready-to-use collaterals, and ideas for creating custom materials to promote your new imaging capabilities

Image Maker Express gives you access to:

- Product images
- Clinical images
- PowerPoint presentations
- Sample brochures
- Sample press releases
- Marketing strategy tutorials
- Updates at [www.imagemaker.toshiba.com/express](http://www.imagemaker.toshiba.com/express)

\*Offerings may vary per product

### **Performance Pro**

**“Performance Pro” is a custom program created to offer a unique approach to Education and focuses specifically on achieving technical proficiency and optimal productivity. Each system includes three phases of education including three weeks of on-site training using a customized approach for dynamic volume imaging.**

**Phase I:** A one-week intensive course on the operation of the scanner

- Conducted at the Toshiba Education Center in Irvine, California
- Two attendance vouchers good for course and travel expenses provided with each system
- Intensive training for two technologists
- One technologist must attend prior to system installation
- The second voucher is valid for six months following installation
- Accredited for continuing education by the ASRT Education Foundation
- Additional vouchers available for purchase

**Phase II:** 64 hours (two weeks) of training that builds on the Phase I training

- On-site at client facility that follows a proven education guideline
- Training for up to four technologists
- Technologist who attends the Phase I course must attend Phase II

**Phase III:** 32 hours (one week) of follow-up training

- On-site at client facility
- Approximately 8-10 weeks after Phase II training
- Toshiba recommends follow-up training within 6 months of installation for maximum benefit
- A Planning meeting at your facility with Toshiba's CT Applications Manager. The objective of the meeting is to discuss the objectives and timing and explain Toshiba's custom approach. During the meeting the manager will also ensure the following takes place:
  - A Review of Toshiba's New Customer Education Guide (what to expect and how to plan and prepare).
  - Introduce the Toshiba Three Phase education program and the role of the Toshiba Education Center.
  - Co-develop a custom training program based on the facility's specific needs and ensure it is well documented for execution.
- A specially trained Apps Specialist will be assigned as owner of the education experience for the facility. They will perform the following duties:
  - Be part of the planning meetings with the project team to ensure training issues are addressed in a pro-active fashion.
  - Communicate with the facility prior to the turnover date to ensure everything is on track and all questions or concerns are addressed.
  - Ensure all materials (training manuals and learning aids) are on site at the time of the go live date.

physicists will be used to ensure all system requirements have been met and the scanner is working properly and yielding good image quality.

- A Clinical Evaluation will be conducted prior to the turnover to ensure the system is ready for go live date.
- Consistent on site service support during the turnover.
- The Toshiba Education Center will properly train and prepare the “core trainers” to perform their role with the most advanced education approach in the industry.
- The Toshiba application specialist will work with technologists to educate them on the proper operation of the equipment. In addition, the applications specialist will work with the physicians to achieve the desired image quality.
- At the start of the turnover, Toshiba will begin with a presentation for the staff and referring physicians to highlight system capabilities and generate excitement.
- Performance Pro is a blended learning approach and includes pre-requisites and additional accredited CE courses for the clinical staff.
- A special visit will be conducted by National Clinical Support Specialist 4 to 6 weeks after turnover to check protocols, dose and image quality. They will make themselves available to meet with physicians and technologists to answer all questions.

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If for any reason the customer is not satisfied with any portion of the training, Toshiba will conduct the portion of the training again at no charge to the customer.

Applications support is available by phone on the toll-free ASSIST line.

## **CT SCANNER AQUILION VISION WITH HIGH CAPACITY EXTENDED COUCH**

### **ACCESSORY KIT FOR HIGH CAPACITY COUCH**

Includes each of the following items:

- Rolled Edge Foot Extension Pad
- Wide & Medium Security Straps
- Chin and Forehead Straps
- Adult Head Rest Pads (Medium and Large)
- Tilt Wedge
- Knee Support Wedge
- Coronal Head Support
- Table Pad
- Protective Table Covers (Box of Four)
- Detachable Rail 77"

### **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.

**Note: This option does not include a DICOM gateway for the HIS/RIS system.**



In combination with COT-32D (MWM), MPPS provides notification of the start and end of the examination back to an RIS that supports DICOM MPPS (SCP). Exam record and patient information can also be sent to the RIS.

### **DICOM 3 QUERY/RETRIEVE SCU AQ/MP**

Allows a device to initiate a request for patient, study, series and/or image information from the provider device in accordance with the DICOM 3.0 standard.

### **DICOM 3 STORAGE COMMITMENT SCU SOFTWARE**

Verifies image transfer and storage.

- Allows operator to determine if data is stored correctly at the PACS server, avoiding unintentional image deletion.
- Improves efficiency of image management operations.
- Provides fail-safe method to prevent image data from being deleted unintentionally even in the event of a communication failure (during image transfer or during a storage verification response).

### **PRESENTATION OF GROUPED PROCEDURES (PGP) AND EXAM HARD SPLIT**

PGP is an Integrated Health Enterprise (IHE) standard designed specifically with multiple examination orders (Requested Procedures) that can be performed in a single CT examination.

- Provides preset and automatic transfer solutions for multiple exams from a single CT exam.
- Facilitates clinical viewing of images and reporting of individual requested procedures.
- Use with PACS systems that are IHE PGP compliant.
- Use the study split option for PACS systems that are not yet IHE PGP compliant to physically split images into multiple examinations.

Measures image quality to ensure compliance to Toshiba standards for:

- High-contrast resolution
- Low-contrast resolution
- Slice thickness
- Noise
- Contrast scale

**CHAIR WITH ADJUSTABLE ARMS AND BACK (Qty 2)**

**MEDIA FOR DVD-RAM DRIVE (9.4 GB) (Qty 5)**

9.4 GB Removable Cartridge Media for DVD-RAM Drive.

- Type 4, Double-sided
- 3x Speed

**CONSOLE DESK 65" X 36" X 30"**

Measures 65" x 36" x 30"

**SERVICE MODEM CABLE (Qty 2)**

**FLOOR LEVELING EPOXY KIT**

**BIOMED TRAINING - TUITION, TRAVEL AND LODGING - AQ  
ONE/PREMIUM (10 CLASS DAYS)**

The Bio Med training course must be completed twelve (12) months from equipment installation date (or purchase date if sold separately). If training is not completed within the applicable time period then the obligation to provide this course will expire without refund unless funds are used for additional operator training within this time frame.

## **SYSTEM UPS 480 VOLT INPUT / 480 VOLT OUTPUT FOR VISION**

### **VRDU 480 V Input / 480 V Output with UPS functionality -includes Battery Cabinet and Remote Alarm Status Panel**

The VRDU is engineered to address the vast majority of common power problems found in the hospital environment, thus providing clean power and good grounding for optimal reliability and performance of CT systems.

Toshiba's UPS Functionality provides true on-line dual-conversion systems, providing the highest quality conditioned and uninterrupted power to critical loads and to any equipment sensitive to variations in the utility power supply. Provides 16 minutes of battery backup at full load.

The Remote Status Alarm Panel (RSAP) is used to monitor the alarm condition and state of any UPS remotely. The RSAP is wall-mounted and can be located up to 1,000 feet from the UPS. The panel shows the current input status, the output that is being used and UPS faults conditions. The RSAP also has an audible alarm to warn of UPS fault conditions.

**NOTE: Frontline service must make arrangements 14 days prior to installation for TIC on-site startup.**

### **VRDU 480 V INPUT / 480 V OUTPUT**

### **BATTERY CABINET FOR ANY TIC VRDU**

### **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.

Provides a comprehensive package of hardware and software for advanced cardiac imaging, including phaseXact and prospective/retrospective ECG gating for ultra-low-dose coronary imaging.

#### **SURECardio Prospective**

SURECardio Prospective™ is a unique application that dramatically lowers patient dose during coronary CTA exams. This advanced software provides enhanced workflow with automatic pitch selection and exposure window setting based on patient's heart rate and employs the use of the helical acquisition and an x-ray on/off modulation technique.

#### **SURECardio with phaseXact**

Eliminates the need for unnecessary multiple reconstructions by automatically selecting the cardiac phase with the least motion. With the 275 msec rotation time, SURECardio with phaseXact allows single a heartbeat CTA at higher heart rates and a low dose.

In addition:

- The reconstructed images for specific (cardiac) phases are generated (by raw data processing) from the Aquilion ViSION scan data and acquired simultaneously by the ECG-gated scan system.
- Real-time beat control monitors R-R interval to assure diagnostic cardiac images even with challenging patients.

#### **SURECardio's Automated Feature Set**

Simplifies cardiac protocol setup and improves workflow.

### **ECG GATING SCANNING SYSTEM**

- Compact ECG monitor with fast gated trigger output for R-wave synchronization applications
- 6.5" Color LCD Display (TFT Active Matrix)
- Integrated ECG Simulator and ECG Recorder
- Polarity lock

#### **4-D NEURO PERFUSION PACKAGE WITH SURESUBTRACTION FOR CONSOLE**

##### **Aquilion ViSION 4-D Neuroperfusion package includes:**

- 4-D Brain Perfusion with 16 cm coverage per rotation
- SURESubtraction automatic bone removal
- SUREPerfusion automated perfusion maps
- 4-D DSA whole brain temporally uniform Digital Subtraction Angiography

#### **Dynamic 4-D Brain Perfusion**

CT perfusion is a fast brain imaging modality for use in the management of patients with various neurological disorders, ranging from acute stroke to subarachnoid hemorrhage. It provides excellent image quality with surface shaded-renderings and volume-rendered 4-D images. In addition, it provides zooming and panning over the 4-D surface and performs distance measurements.

Aquilion ONE Neuro includes SUREPerfusion and SURESubtraction. Now acquire, reconstruct, and review whole brain volumes including the arteriogram, venogram, and whole brain perfusion using this totally flexible, comprehensive toolkit.

objects from the image resulting in superb images, including even vessels adjacent to or surrounded by bone. <sup>SURE</sup>Perfusion adds the unique benefit of whole brain perfusion imaging, something no conventional multi-slice CT offers.

All these examinations can be obtained with a single dynamic acquisition and a single injection of contrast material making Aquilion ONE fast, accurate, and simple to use. Beyond the enhanced clinical diagnosis that can be realized by a perfectly timed arteriogram and venogram, the data can also be displayed for the first time as a whole brain CT digital subtraction angiography data set and a temporally uniform whole-brain perfusion study.

<sup>SURE</sup>Subtraction - neurovascular CT digital subtraction angiography (CT DSA) software enhances diagnostic accuracy through greater image clarity and improves workflow. The software automates digital subtraction of the intra- and extra-cranial vessels from bone, providing superior clinical images in a fraction of the time of manual subtraction.

#### **Enhanced Diagnostics**

- Subtraction volume is completely free of bone, providing unsurpassed subtraction CTA studies of the brain
- Automatic detection of superior sagittal sinus
- More easily achieves arterial and venous segmentation
- In just seconds, creates 3DVR and MIP images with 360° left-to-right and head-over-heels tumble views

#### **Enhanced Workflow**

- Less than 5 minutes to load, process and display images
- Automated on-console imaging of cerebral blood flow, cerebral blood volume, and time-to-peak or mean transit time.
- Subtracted dataset is still in DICOM format
- Maximize productivity with programmable features
- Streamline patient throughput with a simple 3-step process

## **TECH ASSIST LATERAL TABLE SLIDE FOR AQUILION**

Toshiba's exclusive Tech Assist Lateral Table Slide, improves technologist safety by automating the adjustment of patients on the table. In addition, it improves access for interventional procedures and accommodates precise off-center imaging. It provides the ability to move the table an infinitely variable 8.4 cm from side to side. This exclusive lateral movement of 8.4 mm improves image quality, minimizes patient dose and provides better access for interventions and emergency patients.

With the Aquilion CT Systems, ergonomics and patient access have evolved to an unprecedented degree with the eVolution couch and gantry. Offering greater comfort and convenience, they increase operator efficiency for faster throughput while improving patient compliance to ensure higher quality exams.

Note: Available only on High-Capacity Couch for Aquilion ONE, Aquilion ONE ViSION Edition, Premium, PRIME 80 and PRIME 160.

## **LATERAL COUCH MOVEMENT KIT**

Exclusive lateral couch movement option. Lateral movement of 8.4 cm minimizes patient dose and provides better access for interventions.

## **TOSHIBAS INJECTOR SYNCHRONIZATION SOFTWARE**

Provides synchronization of the Aquilion CT with a contrast injector that supports CAN Protocol Level 1. This enables the CT scan to be started remotely using the injector during contrast-enhanced CT exams.

### **Key Features**

- Improves contrast timing and optimizes workflow
- Synchronized start improves control of contrast enhancement
- Simplified operation enables single operator workflow

### **Enhance Safety**

- One-button on either the scanner or injector starts and stops the sync protocol (provides stop message at console when stopped at injector)
- Technologist can remain at the patient's side

Prerequisite: Acist or MEDRAD Injector with Injector Synchronization. For injectors with other options, such as MEDRAD's Certegra platform, additional DICOM options, such as Performed Procedure Step, will be required as well.

### **CAN PROTOCOL**

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Prerequisite: Acist or MEDRAD Injector with Injector Synchronization. For injectors with other options, such as MEDRAD's Certegra platform, additional DICOM options, such as Performed Procedure Step, will be required as well.



## **INJECTOR SYNCHRONIZATION**

Ceiling mounted Stellant D CT injector with Injector Synchronization is a full-featured, dual syringe injection system that enables clinicians to perform the most critical contrast enhanced CT exams.

### **Stellant D CT injector**

Key features:

- Dual-syringe design for the most complicated protocols such as CTA and cardiac CT
- Effective contrast utilization
- Saline test injection for more precise control of contrast delivery
- Saline flush, following the injection, chases contrast from peripheral veins directly into the heart

### **Dual Flow Injection**

Key features:

- Designed with CTA exams and Cardiac CT
- Effective contrast utilization
- Inject contrast and saline at a measured ratio through simultaneous plunger motion.
- This means a more uniform enhancement of both the right and left sides of the heart with reduced artifacts.

### **Injector Synchronization**

The MEDRAD I-Flow Injector Synchronization, ISI -800 Interface kit, enables communication with the Aquilion CT by using CAN Protocol level 1.

Key features:

- Improve contrast timing and optimize workflow
- Synchronized start improves control of contrast enhancement
- Simplified operation enables single operator workflow

- One-button on either the scanner or injector starts and stops the sync protocol (provides stop message at console when stopped at injector)
- Technologist can remain at the patient's side

**Note: Injector comes with the I-Flow Injector Synchronization interface for the injector only.**

**Injector synchronization feature can only be activated with installation of optionally purchased #AQ-SYNC/INJECT for the Aquilion CT**

**Prerequisite: V3 software with SYNC Inject software (#AQ-SYNC/INJECT)**

### **ADVANCED AQUILION ONE / PREMIUM CARDIAC CT COURSE FOR TECHNOLOGISTS**

A three-day intensive course providing the foundation of cardiac anatomy and physiology, as well as <sup>SURE</sup>Cardio with PhaseXact scanning and reconstruction on Aquilion ONE/Premium. Practical cardiac scanning, case processing and image quality assessment are included in a hands-on customer-focused environment.

- Conducted at Toshiba's Institute of Advanced Imaging in Irvine, California
- Accredited for continuing education by the ASRT Education Foundation
- Tuition cost includes airfare, lodging and meals for one student

## CA

Toshiba America Medical Systems offers additional Aquilion ONE clinical applications training held at our Education Center in Irvine, California. The Education Center's full complement of classrooms and labs are equipped with advanced products.

The cost for additional training is            per student. This includes airfare, lodging, meal coupons and transportation to and from the hotel and education center. This five-day intensive course is held Monday – Friday 8:00 am – 5:00 pm.

P.O.# 583-B30038

**VAMC Indianapolis**  
**COST RECAPITULATION**

Div.	1	General Requirements
Div.	2	Selective Demolition
Div.	3	Concrete
Div.	4	Masonry
Div.	5	Metals
Div.	6	Wood and Plastics
Div.	7	Thermal and Moisture Protection
Div.	8	Doors, Windows, and Glass
Div.	9	Finishes
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EGC is pleased to provide you with a price to complete the renovations for the new Toshiba Aquilion One, CT Rooms C-2049 and C-2051.

In accordance with the terms and conditions set forth in our (EGC's) standard "Design/Build" contract, the work which we will produce consists of the design, construction, materials, equipment and related services set forth in the following documents:

- Toshiba preliminary site drawings titled 'VA Indianapolis, Richard L. Roudebush Med Center, CT Scan Room — Aquilion One 640 Series', Project #130013507CTP, sheets C1, GNI, GN2, A 1 and A2, dated March 15, 2013.
- EGC Construction Drawings titled 'TAMS Aquilion One, 640 CT, Room #C-2051, Richard L Roudebush VAMC' sheet A 1 e.1, dated April 18, 2013, Project No. 99903-02.2981.

Items not specifically set forth in this Scope of Work are not included in the work, or our responsibility. Any other, miscellaneous items noted on the design drawing(s) are not part of this scope of work, or our responsibility unless specifically set forth as included in portions of this scope of work.

The site where the work is located: Richard L. Roudebush VA Medical Center, 1481 West 10<sup>th</sup> Street, Indianapolis, IN 46202, Rooms C-2049 and C-2051.

Work Description: Swap out existing room for the new Toshiba equipment.

EGC will provide the following items of work, unless stated otherwise.

1.0 Division No. 1 - General Conditions. Provide for:

- Any/all architectural, structural, mechanical and/or electrical design or working drawings related to the construction work have been excluded.
- Liability Insurance & terms and conditions as stated in our standard Design/Build Contract. Builders risk insurance is by the Owner.
- Provide a full time supervisor on site during the construction process.
- Provide for the daily removal and clean up of all construction related rubbish only during the construction process. Construction debris to be disposed in an Owner-supplied container.
- The owner needs to pay the monthly costs, if any, for the following temporary services during construction: temporary toilet, water and electric power.
- Sales taxes have been included.

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- EGC will provide one final clean-up of the construction area prior to Toshiba occupancy, which will include the following items: mop or vacuum all new floors, wipe down surfaces, clean and disinfect new plastic laminate items. No waxing of floors has been included.
- Building permits, zoning permits and any costs associated with the review process are excluded.
- EGC reserves the right to modify the design drawings to meet existing conditions not realized during the precontract stage. These modifications will be made to minimize any added cost to the owner or EGC.
- Bearing conditions are unknown at this time. EGC has not included any structural modifications.
- The Owner is to provide a complete set of existing drawings of the facility/construction area, and the surrounding areas that are affected by the construction. These drawings shall include all architectural, mechanical, and electrical information as to the existing conditions of the area. If these drawings are not available and EGC is required to perform a site survey of the construction area to determine the existing mechanical, electrical and architectural conditions of the area, our price and the time to complete the work will change as per the contract documents. EGC has not included engineering or the verifying of code requirements.

**2.0 Division No. 2 - Demolition/Site Work**

- Provide sealing of appropriate supply and return air diffusers to minimize dust contamination of ductwork and surrounding areas.
- The installation of plywood and plastic shrouds and temporary partitions to secure areas, control dust, protect adjacent areas and equipment as required is included.
- Provide temporary foot mats at work area entrances and exits.
- Remove all electrical and mechanical items related to the existing room to allow for the new equipment.
- Remove existing walls as per plan.
- Remove existing ceiling deemed necessary for the installation of new equipment.
- Remove existing flooring and prep floor for new installation.
- Remove existing entrance doors as per plan.
- Remove all drywall and prepare for new lead installation.
- Remove existing plumbing fixtures in current bathroom and save for reuse.
- Remove 4 LF of sink casework.
- Bearing conditions are unknown at this time. EGC has assumed the new Toshiba equipment will be placed in the same location as the existing equipment and that the existing floor support is sufficient.

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- The Owner is responsible for paying any additional cost associated with moving unforeseen obstacles (i.e. electric, plumbing or mechanical).
- 3.0 Division No. 3 - Concrete
- Core concrete floor as needed for new equipment.
  - Repair concrete as needed where adjustments are necessary for new equipment.
- 4.0 Division No. 4 - Masonry
- We have excluded any/all work for this division.
- 5.0 Division No. 5 - Metals
- Provide new uni-strut overhead support for injector.
- 6.0 Division No. 6 — Carpentry
- Provide plastic laminate base and wall casework. This includes solid surface counter top with back splash and integrated sink bowl as per plan.
  - Provide solid surface counter top in Control Room as per plan.
- 7.0 Division No. 7 - Thermal and Moisture Control
- Patch and repair roofing disturbed by our construction.
- 8.0 Division No. 8 - Doors, Glass, Glazing, and Windows
- Provide (2) solid core, wood veneer door with after set frame and hardware to match.
  - Refer to Division 13 for new lead lined door.
- 9.0 Division No. 9 — Finishes
- New drywall walls will be constructed of standard metal studs with 5/8" drywall as per plan. These walls shall typically extend 6" above the ceiling line and be braced to the deck above as required. Walls that have a fire or smoke rating shall extend to the structure above based on code requirements.
  - Existing walls damaged during construction will be patched to match the adjacent areas.
  - Provide (1) coat of primer and (2) coats of latex on new interior G.W.B. walls.
  - Provide (2) coats of latex on all other walls within the construction area.
  - Provide (2) coated Alkyd paint on new and existing door and window frames within the construction area.
  - Provide stain and finish coat on new doors. Door finish to match hospital standard finish as close as possible. Poly coat existing doors within the construction area.

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- Provide new welded seam sheet vinyl flooring with 4" vinyl cove base in the Scan Room and Control Room. New vinyl flooring includes up to (2) standard colors.
- Provide new 12" x 12" vinyl composition tile with 4" vinyl cove base in the Equipment Room.
- Provide new 2' x 2' Armstrong white acoustical, fissured style ceiling in the new construction area.

10.0 Division No. 10 - Specialties

- We have excluded any/all work for this division.

11.0 Division No. 11 - Equipment

- Any/all miscellaneous equipment (i.e. microwaves, ice machines, refrigerators, etc.) has been excluded.
- All existing equipment is to be removed by the Owner prior to our starting work.
- Any equipment furnished by the Owner is assumed to be installed by the Owner.

12.0 Division No. 12 - Furnishings

- Provide (1) 6' x 8' luminous rectilinear 'SkyCeiling' ceiling mural. Mural includes, 2' x 2' acrylic luminous 'skytiles', elevators, light box with LED lighting.

13.0 Division No. 13 - Special Construction

- Provide and install 1/16" lead from floor to 7' high in entire Scan Room space. Should a physicist report require a thicker lead, a Change Order will be required.
- Provide (1) 4' x 3'-6" lead glass window.
- Provide (1) 5070 set of double leaf lead lined doors, with one leaf size of 4' and the other of 1'. Doors will be solid core to match adjacent doors as close as possible. If a 45-minute fire rated door is required by applicable state, county and municipal codes or regulations, a hollow metal, painted, lead lined door will be utilized.
- Provide (1) 3070 lead lined door from Control Room to Scan Room.
- The physicist's report or testing is to be provided by others. EGC assumes no responsibility regarding equipment performance. EGC has not included vibration testing or any physicist reports to determine the proper thickness of lead required.

14.0 Division No. 14 - Conveyor System

- We have excluded any/all work for this division.

21.0 Division No. 21 — Fire Suppression

- We have excluded any/all work for this division.



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22.0 Division No. 22 — Plumbing

- Provide (1) goose neck faucet with wrist blade handles.
- Provide oxygen, air and vacuum medical gas outlets in the Scan Room.

23M Division No. 23 — HVAC

- We have assumed that the existing facility HVAC system, for the construction area, includes all required filtration systems, humidification and fresh air requirements as per the State health and building code requirements.
- Provide the following:
  - Rework existing HVAC
  - Relocate existing thermostats.
  - (1) Liebert split system with reheat and humidification for the Equipment Room.
  - Refrigeration piping
  - Ducting, grills, registers and diffusers
  - Controls and control wiring
  - Condensate drain piping
  - External duct wrap

26.0 Division No. 26 - Electrical

- Service
  - o General note on power quality issues for medical modalities: The Owner is responsible for providing the necessary engineering and an output source of the correct voltage, proper ampacity, and stable operating characteristics. In all cases, our base design assumes one, and only one, feeder to the space to pick up imaging equipment and all associated loads, for the given space. Some vendors request, imply, or demand more than one source, from separately derived systems for items that are "associated with" medical imaging equipment. This is an option; we suggest careful review with the vendor to make sure that the facility's electrical supply can comply with the vendor requirements, without modification. Our estimate is based on a single source feed, without power conditioning of any sort (unless specifically requested and separately priced).
  - o Electric power (supply/source) is to be identified (electric service panel located and power quality/adequate supply verified), by the Owner within 150 LF of the construction space.
- Power Wiring
- Change out breaker in panel C2HEI.
- Provide new 125 amp shunt-trip breaker enclosure.

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- Extend feed to new equipment.
- Complete medical wire way, wall duct and junction boxes per vendor's specifications.
- All electrical power work is to be in conduit.
- Change existing lighting within the construction space to LED Lighting.
- Provide (1) camera located in the new Scan Room and (1) monitor located (100Ln.Ft) away in remote Control Room.

27.0 Division No. 27 — Communications

- We have excluded any/all work for this division.

28.0 Division No. 28 — Electronic Safety & Security

- We have excluded any/all work for this division.

31.0 Division No. 31 — Earthwork

- We have excluded any/all work for this division.

32.0 Division No. 32 — Exterior Improvements

- We have excluded any/all work for this division.

33.0 Division No. 33 — Utilities

- We have excluded any/all work for this division.

34.0 Division No. 34 — Transportation

- We have excluded any/all work for this division.

Qualifications

- Structural and/or facility modifications necessary for reinforcement of the existing facility structural system are excluded.
- Upgrading the existing building power panels, electrical service and/or grounding is excluded.
- Power conditioners, UPS systems and surge suppressers are excluded.
- Work with telephone, independent alarm systems, intercom, cameras, code blue, nurse call, security and sound systems and networking and/or other communication type systems are excluded.
- Relocation of existing utility or facility service mains (i.e. electric, natural gas, sewer, water, sprinkler, medical gases or communication services) is excluded.
- Fire alarm system additions and/or modifications are excluded.
- Asbestos and/or hazardous material abatement and removal work is excluded.
- Modifications or additions to utility and other facility services are excluded.

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- Energy and building management systems, components or connections are excluded.
- Work in bio-hazardous, radioactive, toxic, asbestos and other high-risk environments is excluded.
- EGC shall have unlimited access to the work area.
- Tie-ins to Owner's utilities shall be coordinated with Owner's personal. EGC will provide a 1 week notice for proposed tie-ins and potential service shut downs, which Owner shall coordinate.
- Noise restrictions at the job site are as follows: Periodic work that creates loud noise shall be done on a scheduled basis to avoid disruption to owners operations. Work outside standard work hours shall not exceed 5% of work hours without additional fees charged to the Owner.
- The storage, staging and delivery of materials to the job site shall be located within 50 LF of the work area and on the same floor.
- Parking for construction workers is restricted to the adjacent parking area. Periodic parking will be allowed at the most accessible point in the facility for loading and unloading.
- Contractor assumes no liability regarding operation of the proposed system. The Buyer is specifying the product and process.
- Due to the nature of the existing conditions, and lack of documentation, no confirmation is being offered that the proposed scope of work will provide all necessary requirements for the vendor's equipment, including, but not limited to, structure, shielding requirements, or magnetic exclusion.
- Buyer releases Contractor from any and all liability with regard to use of the drawings that Buyer provided Contractor. Buyer stipulates by acceptance of this offer that it has full rights and privileges to use the drawings for the purpose of having an identical unit built by another firm, such as Contractor.
- This quotation is subject to change or withdrawal without notice, and subject to acceptance within 30 days by the Buyer. If accepted by the Buyer, this proposal shall become a binding contract, only when approved and signed by an authorized officer of Contractor at its offices, and may then be modified by written agreement only. No statements or understanding relating to the subject matter, other than those set forth herein or in Addenda signed by both parties, shall be binding on Contractor.
- Withdrawal. All orders, contracts, quotations, and delivery schedules are submitted contingent upon the non-occurrence of strikes, accidents, fire, riots, war, and Acts of God, and any other causes beyond the either party's reasonable control. In the event of strikes in their plants or in the plants of their suppliers, Contractor or The Buyer may suspend performance required by this proposal for the period of such event if, in their opinion, such strikes may result in the following:
  - o Unreasonable delay in the delivery of materials and supplies
  - o Cancellation by suppliers of materials and supplies, until an alternate supply of materials and supplies can be obtained
  - o Unforeseen extraordinary increased prices (greater than 10% increase over term of contract) by suppliers for materials, supplies, and labor

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- If such event shall continue for more than 30 days, the Buyer and Contractor may terminate this contract upon written notice to the other party. In the event of termination, Contractor and the Buyer shall account between themselves for costs (including labor, materials, and overhead) and profit to Contractor under the contract on a proportionate basis through the date of termination.
- All work is based on prevailing wage rates.
- Quoted price is valid for 30 days from date of this Scope of Work, noted above.
- Any items of work, not specifically set forth in this document, are excluded from the work, or our responsibility. Items requested by the Owner, encountered by EGC during the performance of the Work, that are found to be latent or unforeseen conditions, the related costs and fees will result in an additional charge (i.e. a Change Order) that the Owner must hereby agree to, in writing, in order for EGC to commence with the change.
- Delivery of the final operational system is based upon receipt of approved contract, payments as proposed, approved shop drawings, adequate support of The Buyer's personnel, governmental approvals as necessary and agreeable weather and "existing" conditions. No firm commitment to achieve a date for an operational system can be determined nor is being offered through this proposal until the conditions for the contract are met.
- The quoted price is based on current market prices and availability of materials, EGC has the right to an equitable adjustment to the price or schedule, in the event of a change in the market conditions which is beyond the control of EGC. In this event the Owner will be notified and provided with supporting documentation within 30 days from the date an adjustment is requested.
- Schedule: The construction schedule is as follows: After receipt of an approved Purchase Order or contract and a final signed design scheme, we will order materials. Note: Mechanical orders may have long lead times. Once all materials are in our possession, allow 1 week for project mobilization with 3 week for construction to be complete to allow equipment to be set by equipment vendor. Note: These times do not include vendor's installation time.

Thank you for the opportunity to submit this Scope of Work for your consideration. Please feel free to contact Chris Steinberg or David Stricker with questions you may have. We look forward to the opportunity to work with you on this project.