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### **AQUILION ONE 320 SERIES DYNAMIC VOLUME CT SCANNER WITH AIDR 3D**

The Aquilion™ ONE 320 Series multi-detector CT is a multi-functional CT scanner with Adaptive Iterative Dose Reduction 3D (AIDR 3D). The system's advanced imaging capabilities allow you to perform a wider range of procedures with greater comfort, convenience and safety while increasing efficiency and productivity every step of the way.

This 320 slice CT scanner includes Aquilion's best-in-class, 0.5 mm Quantum detector and 78 cm bore. It acquires 8 cm volumes of the anatomy, such as the pancreas and temporal bones, in a single rotation without table movement. In addition, the Aquilion ONE 320 Series is the most flexible scanner offering true 160 slice conventional helical and step-and-shoot modes.

Aquilion ONE 320 Series is capable of reconstructing 320 unique slices with every rotation of the gantry. This is accomplished by integrating Toshiba's proprietary coneXact algorithms. Aquilion ONE 320 Series also achieves consistently superior image quality with industry-leading, low-contrast resolution of 2 mm at 0.3% and high-contrast resolution of 0.35 mm.

The speed and clinical accuracy of this technology offers significant benefits to patients – especially trauma, pediatric and critically ill patients. This technology enables physicians to more clearly visualize internal injuries and disease in less time.

The Aquilion ONE 320 Series comes with a selection of standard features that make examinations faster, safer and more clinically relevant than ever. Furthermore, Aquilion's proven platform is easily upgradeable to the ONE 640 Series Dynamic Volume CT when your facility is ready without purchasing a new system or making additional, extensive renovations.

Single-Energy Metal Artifact Reduction (SEMAR) utilizes a sophisticated reconstruction algorithm to reduce artifacts caused by metal while improving visualization of the implant, supporting bone and adjacent soft tissues\* for an accurate diagnosis. SEMAR can be applied to a routine low-dose scan, combined with AIDR 3D to achieve the best possible image quality without the need for additional exposure dose or a dedicated scan procedure.

*\* Bone structures near the metal-tissue interface may become distorted. Metal artifacts may not be completely removed in areas near the metal material. Comparison with the original images is suggested when performing diagnosis using SEMAR images.*

#### COMPONENTS

- eVolution 78 cm gantry bore with iStation
- eVolution 660 lb couch with custom table pad and positioning accessories
- Dual consoles with ergonomic operator controls
- High speed reconstruction hardware
- MegaCool™ V X-ray tube
- Quantum V detectors and DAS
- Microsoft Windows 7 operating system
- Operator manuals and quality assurance phantoms

## **DOSE REDUCTION FEATURES**

Aquilion ONE 320 Series ensures delivery of the best possible image quality without using additional dose, reinforcing Toshiba's guiding principle of ALARA for every patient. To achieve this, the Aquilion ONE 320 Series has an array of adaptive and integrated dose-reduction strategies that are implemented at every stage, from patient registration to image reconstruction. In addition, each dose reduction strategy is integrated into the console software, so it activates prior to turning on the x-ray beam.

### **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 repeats 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 reduce pixel noise magnitude in a way that may result in dose reduction.

The Aquilion ONE 320 Series includes AIDR 3D, a \$150,000 value, in each Aquilion ONE 320 Series CT Scanner at no additional charge.

### **<sup>SURE</sup>Exposure3D (x, y, z automated mA modulation software)**

Toshiba's <sup>SURE</sup>Exposure3D 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, <sup>SURE</sup>Exposure3D can reduce the dose to patients.

### **Auto Couch Height Positioning Compensation**

<sup>SURE</sup>Exposure will compensate for incorrect patient positioning to ensure accurate body size calculation and exposure dose. This avoids incorrect positioning errors in patient size calculation.

### **NEMA XR 25, XR 26 and XR 29**

Aquilion One 320 Series 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.

### **DICOM IHE SR**

Aquilion ONE 320 Series also integrates with DICOM IHE SR software to allow patient-dose tracking.

## **KEY FEATURES**

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

Toshiba's unique cone-beam reconstruction algorithm designed for 8 cm coverage. This breakthrough algorithm eliminates the artifacts typical when off-the-shelf cone-beam algorithms are applied to wide-area detectors.

New coneXact and VolumeXact algorithms:

- Reconstruct diagnostic images with 8 cm coverage per rotation
- 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**

With the new coneXact™ algorithm the Aquilion ONE 320 Series is able to generate 320 unique slices per rotation with high-quality image reconstruction. No additional exposure is necessary as this advanced technology is entirely reconstruction based.

### **ConeXact Reconstruction**

Developed for Aquilion ONE dynamic volume CT, new proprietary algorithms using the coneXact, minimize partial volume effects leading to detailed images while maintaining superior low contrast detectability. Taking full advantage of the coneXact technology, the acquired data can be doubled during reconstruction process, resulting in accurate reconstruction that improves image quality in MPR and 3D volume rendered images.

### **High Fidelity**

Double-slice reconstruction technology provides images with fidelity in details and superior resolution. Details of the most intricate structures are sharply depicted in any imaging plane.

**Dynamic Volume Imaging on Console:** Provides excellent image quality with surface shaded-renderings and volume-rendered 4-D images. Provides zooming and panning over the 4-D surface and performs distance measurements

**SURETechnologies**

Improve workflow with a comprehensive toolset ensuring high quality images with a fast data to diagnosis time. The following SURETechnologies are standard on the Aquilion ONE 320 Series:

**SUREExposure 3D**

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

**Auto Couch Height Positioning Compensation**

SUREExposure will compensate for incorrect patient positioning to ensure accurate body size calculation and exposure dose. This avoids incorrect positioning errors in patient size calculation.

**SUREStart**

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

**SUREConnect**

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

## **EQUIPMENT COMPONENTS**

### **eVolution Gantry with iStation**

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

#### **iStation**

The iStation is a 12-inch LCD screen that uses video and voice prompts to ensure patient compliance during scanning. This is especially useful during pediatric scanning as the iStation displays a video of a small child that tells the patient when to raise their arms, when to hold their breath, and so on. These child-friendly instructions, coming from a child figure helps assure compliance.

#### **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
- 78 cm aperture
- Large aperture
- Five scan fields of view
- Wide range of scan times provides greater flexibility for optimal image quality

#### **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 (660lbs)
- 2000 mm scan range (1,500 mm for short couch version)
- Customizable additional foot pedal placement (option)

### **Console – Scan and Display**

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™ V 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.

### **Quantum V Detectors and DAS**

- Unique Toshiba ceramic, solid-state detector array and DAS
- Covers 8 cm per rotation without any table motion
- <sup>SURE</sup>Connect DAS—Ultra-fast DAS to acquire large volume data of detector

### **IMAGE MANAGEMENT**

Aquilion ONE 320 Series images can be stored on hard disk or DVD and transferred via high performance gigabit Ethernet connection using DICOM 3.0 standards.

### **DICOM 3.0 Modality Worklist Management**

- Enter patient information at the time of exam manually or import it via a Modality Worklist Management query.
- On-line patient appointment files 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 320 Series images to the workstations and storage 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. InnerVision Plus is included at no charge and connected while any CT is under warranty, or any service agreement including Full Service, In-House Support, Partnership and/or VISN Master Service Agreement

#### **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.

#### **Parts Support**

A complete inventory of product parts is ready for shipment when and where they are needed, any time of day or night.

### **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 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 \$4,000

**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

**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. The program includes the following:

- 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.
- A Quality Installation Checklist developed by TAMS service and 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.

**Performance Pro Guarantee:**

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.

## **SYSTEM AND TABLE CONFIGURATION**

### **CT SCANNER AQUILION ONE 320 SERIES 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.*

### **DICOM 3 QUERY/RETRIEVE SCP**

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

### **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.



## **CT PHANTOM**

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)**

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

Measures 65" x 36" x 30"

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

- 9.4 GB
- Two-sided

## **SERVICE MODEM CABLE (Qty 2)**

## **FLOOR LEVELING EPOXY KIT**

## **SURECARDIO WITH PHASEXACT FOR AQUILION ONE VISION**

<sup>SURE</sup>Cardio for Aquilion ONE provides the basic foundation package of hardware and software for advanced cardiac imaging. It includes a compact ECG monitor with a color screen for easy set up and monitoring.

Aquilion ONE <sup>SURE</sup>Cardio volumetric CT with arrhythmia detection provides real time beat monitoring and the ability to acquire volumetric cardiac CTA within one heartbeat. No table movement is required. If an arrhythmia or abnormal heartbeat is detected Aquilion ONE can automatically adjust the scan and acquire the next normal heartbeat.

The axial gated acquisition provides low dose to the patient for evaluation of calcified plaque. The system acquires data utilizing an ECG gated software that provides a fast gated output for R-wave synchronization

SURECardio phaseXact eliminates the need for unnecessary multiple reconstructions by automatically selecting and reconstructing the cardiac phase with the least motion.

**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.**

This unique application allows for rapid data collection during every heartbeat, producing short scan times with a dramatic reduction of x-ray exposure and contrast dose to the patient.

## **ECG GATING SCANNING SYSTEM**

### **ROLLSTAND FOR MODEL-7800**

### **ECG MONITOR, R WAVE CARDIAC TRIGGER 3304-07-15**

Cardiac ECG Trigger Monitor Model 7800 for use with CT hardware and software to measure skin impedance to help ensure reliable scanning.

- Compact ECG monitor with fast gated trigger output for R-wave synchronization applications
- High & Low Heart Rate Limits
- 6.5" Color LCD Display (TFT Active Matrix)
- Integrated ECG simulator to test the integrity of the patient cables, lead wires, and electronic circuitry.

## **SYSTEM UPS 125 KVA 480 VOLT INPUT / 480 VOLT OUTPUT**

### **G8000 125 kVA UPS with 480 V Input / 480 V–includes Battery Cabinet and Remote Alarm Status Panel**

The G8000 125 kVA UPS 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 must make arrangements 14 days prior to installation for TIC on-site startup.***

### **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.

### **START UP 125 KVA**

## **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.

## **VARIABLE HELICAL PITCH FOR AQUILION ONE, PREMIUM, 32 AND 64 (REQUIRES SURECARDIO ECG GATING)**

vHP improves your workflow with its advanced CT scanning mode, enabling a change of pitch during the acquisition with two different scan parameters, while completing the scan in one single examination.

Ideal for cardio vascular applications by combining CTA (ECG gated using a cardiac CTA pitch) and a CTA of the aorta (non gated use of a standard CTA pitch) scan into one single scan.

Perfect for trauma applications by combining a brain scan (Detailed pitch) and body scan (Standard Pitch) in one continuous scan.

**Key features:**

- Enhances automated workflow
- Excellent management of contrast media
- Dramatically reducing x-ray dose
- Provides seamless reconstruction of the images
- Reproducible results every time

**Package includes:**

- vHP Software disk
- ROM's for gantry/couch control
- Manuals

***Prerequisites:***

Version V3.3 software and <sup>SURE</sup>Cardio ECG gating

**COLON VIEW ON-CONSOLE FOR AQUILION**

Colon View is a comprehensive tool for examining the colon using CT images. This software has the following functions:

- Centerline setting
- Viewing colon images
- Comparison mode
- Virtual endoscopic "FlyThrough"
- Fillet view
- Probing and labeling tools for lesions
- Point of Interest (POI) setting
- Report function

## **DUAL ENERGY APPLICATION FOR AQUILION ONE AND ONE VISION - REQUIRES V6.0**

Dual Energy Package available on Aquilion ONE ViSION, ONE 640 and ONE 320 includes the following:

### **Dual Energy System**

- The tube voltage can be rapidly switched during scanning, and images acquired at different tube voltages can be obtained.
- Segmentation can be performed for the region to be analyzed.
- The CT value ratios of the region to be analyzed can be measured, providing information that is useful for identifying the materials.
- Blending images that are close to the images acquired with the specified kV value can be generated by blending images acquired with a high kV value and images acquired with a low kV value.
- Iodine map images, that indicate whether or not the contrast-enhanced regions are present, can be generated.

### **Dual Energy Raw Data Analysis**

- Dual Energy Volume scanning can generate analysis volume data (basis material images) that can be used only in the Dual Energy Raw Data Analysis.
- Two volume data sets acquired with different tube voltages and basis material images are loaded and the analysis results are displayed.
- Monochromatic images can be virtually generated based on the loaded images.
- Images with the best contrast-to-noise ratio (referred to as "Best CNR images") can be generated from the obtained monochromatic images.
- Map images indicating whether or not the contrast enhanced regions are present (referred to as "iodine map images") can be generated.

### **Dual Energy Composition Analysis**

- Two volume datasets acquired by performing scanning with different tube voltages are loaded and displayed.
- The two loaded volume datasets are analyzed to extract and display suspected uric acids.

*Requires Version 6.0 software or later*

### **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 (4.2 cm on each side). This exclusive lateral movement of 8.4 cm 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 (4.2 cm on each side) minimizes patient dose and provides better access for interventions.

### **REAR FOOTSWITCHES (HIGH CAPACITY COUCH)**

### **ARM HOLDER (ONE SIDE)**

CT Armrest – One Side  
Arm support for IV injection  
For tabletop width of 47 cm

### **PATIENT OBSERVATION SYSTEM WITH COLOR CAMERA AND LCD MONITOR**

This device allows a technologist to easily monitor the patient while inside the CT scanner. The technologist is able to view and correct patient movement, assuring patient compliance. This efficiency cuts down on scan time and reduces repeat scans. Our patient monitoring video camera system utilizes an HD camera for video patient monitoring, which can be mounted on any wall in the CT room.

Includes:

- Wall-mounted TV camera
- Color 15 in. LCD monitor
- Cabling

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

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

- 4-D Brain Perfusion
- 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 <sup>SURE</sup>Perfusion and <sup>SURE</sup>Subtraction. Now acquire, reconstruct, and review whole brain volumes including the arteriogram, venogram, and whole brain perfusion using this totally flexible, comprehensive toolkit.

<sup>SURE</sup>Subtraction automatically removes bone and other highly attenuating 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

### **ADDITIONAL ON-SITE APPLICATIONS TRAINING - 24 HOURS**

- Three (3) consecutive days (24 hours) additional on-site applications support for all modalities.
- \$5,500 (trainer's expenses included)
- Training is held Monday through Friday only, with Monday mornings and Friday afternoons scheduled as travel time for trainers

### **ADDITIONAL ON-SITE APPLICATIONS TRAINING - 32 HOURS (Qty 2)**

- Four (4) consecutive days (32 hours) additional on-site applications support for all modalities.
- \$7,000 (trainer's expenses included)
- Training is held Monday through Friday only, with Monday mornings and Friday afternoons scheduled as travel time for trainers

### **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.

### **CT OPTIONS**

#### **TOSHIBAS INJECTOR SYNCHRONIZATION SOFTWARE FOR RXL, PRIME & ONE-VISION**

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**

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.*

## **MEDRAD STELLANT D OCS DUAL FLOW INJECTOR WITH ISI 800 INTERFACE/SYNC KIT**

### **MEDRAD STELLANT OCS DUAL FLOW INJECTOR**

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.

### **MEDRAD I-FLOW**

Improve Timing and Optimize Workflow

- Synchronized start improves bolus timing of the protocol and enables better control of contrast enhancement
- Simplified operation makes workflow more efficient

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

Prepare for Future Advances:

Injection information sharing between injector and scanner as technology matures