



DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF HEALTH SERVICE REGULATION

ROY COOPER
GOVERNOR

MANDY COHEN, MD, MPH
SECRETARY

MARK PAYNE
DIRECTOR

April 12, 2017

Lynn DeJaco
P.O. Box 3000
Pinehurst, NC 28374

Exempt from Review – Replacement Equipment

Record #: 2221
Facility Name: FirstHealth Moore Regional Hospital
FID #: 943358
Business Name: FirstHealth of the Carolinas, Inc.
Business #: 737
Project Description: Replace existing cardiac catheterization equipment
County: Moore

Dear Ms. DeJaco:

The Healthcare Planning and Certificate of Need Section, Division of Health Service Regulation (Agency), determined that based on your letter of March 8, 2017, the above referenced proposal is exempt from certificate of need review in accordance with N.C. Gen. Stat. §131E-184(a)(7). Therefore, you may proceed to acquire without a certificate of need the Toshiba Infinix-I cardiac catheterization equipment to replace the Toshiba Infinix DPI cardiac catheterization equipment. This determination is based on your representations that the existing unit will be disposed of and will not be used again in the State without first obtaining a certificate of need if one is required.

Moreover, you need to contact the Agency's Construction and Acute and Home Care Licensure and Certification Sections to determine if they have any requirements for development of the proposed project.

It should be noted that the Agency's position is based solely on the facts represented by you and

HEALTHCARE PLANNING AND CERTIFICATE OF NEED SECTION

WWW.NCDHHS.GOV

TELEPHONE 919-855-3873

LOCATION: EDGERTON BUILDING • 809 RUGGLES DRIVE • RALEIGH, NC 27603

MAILING ADDRESS: 2704 MAIL SERVICE CENTER • RALEIGH, NC 27699-2704

AN EQUAL OPPORTUNITY/ AFFIRMATIVE ACTION EMPLOYER

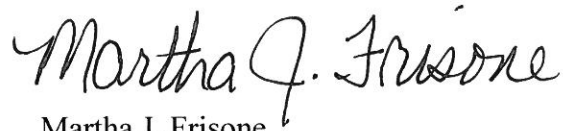


that any change in facts as represented would require further consideration by this office and a separate determination. If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,



Tanya S. Rupp
Project Analyst



Martha J. Frisone
Assistant Chief, Certificate of Need

cc: Paige Bennett, Assistant Chief, Healthcare Planning, DHSR
Acute and Home Care Licensure and Certification Section, DHSR
Construction Section, DHSR



March 8, 2017

Ms. Martha Frisone
Assistant Chief, Healthcare Planning and Certificate of Need Section
Department of Health Service Regulation
809 Ruggles Drive
Raleigh, NC 27603

RE: Request for No Review Determination for Replacement of Cardiac Catheterization Equipment
Located at FirstHealth Moore Regional Hospital / Moore County

FID 943358
NR 2221

Dear Ms. Frisone:

Pursuant to 10A NCAC 14C.0202, FirstHealth of the Carolinas, Inc. d/b/a FirstHealth Moore Regional Hospital (FHMR) intends to replace an existing cardiac catheterization and requests a determination that such replacement is exempt from review because it falls within the definition of NCGS § 131E-184 (a)(7) and the regulations set out in 10A NCAC 14C.0303.

Statement of Facts

FHMR owns and operates five cardiac catheterization systems. These systems currently operate five days per week and perform several hundred procedures per week. It is FHMR's intent to replace an existing Toshiba Infinix DPI cardiac catheterization system with a Toshiba American Medical System Infinix-I cardiac catheterization system.

Exemption from Review

Pursuant to NCGS § 131E-184(a): "The department shall exempt from certificate of need review a new institutional health service if it receives prior written notice from the entity proposing the new institutional health service, when notice includes an explanation of why the new institutional health service is required, for any of the following: ... (7) To provide replacement equipment."

NCGS § 131E-176(22a) defines "replacement equipment" as equipment that costs less than \$2,000,000 and is purchased for the sole purpose of replacing comparable medical equipment currently in use which will be sold or otherwise disposed of when replaced.

Ms. Martha Frisone
March 8, 2017
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Applicable Regulations

10A NCAC 14C.0303 defines "comparable medical equipment" as equipment that "is functionally similar and which is used for the same diagnostic or treatment purposes." Replacement equipment is comparable if:

- (1) it has the same technology as the equipment currently in use, although it may possess expanded capabilities due to technological improvements; and
- (2) it is functionally similar and is used for the same diagnostic or treatment purposes as the equipment currently in use and is not used to provide a new health service; and
- (3) the acquisition of the equipment does not result in more than a 10% increase in patient charges or per procedure operating expenses within the first twelve months after the replacement equipment is acquired.

Replacement equipment is not comparable to the equipment being replaced if the replacement equipment is capable of performing procedures that could result in the provision of a new health service or type of procedure that has not been provided with the existing equipment.

Compliance

FHMR hereby certifies that:

1. The total estimated project cost for the replacement of the existing cardiac catheterization system is \$1,069,585. This assumes purchase of a system per the attached quotation (Exhibit A). Toshiba American Medical System Infinix-I.
2. The replacement equipment will be purchased for the sole purpose of replacing comparable equipment currently in use, which will be traded in for disposal and removed from North Carolina. A comparison of the existing and replacement equipment is provided in Exhibit C.
3. The replacement equipment is functionally similar to existing equipment and will be used for the same diagnostic and/or treatment procedures as the equipment currently in use.
4. No increase in charges will occur within the first twelve months after the replacement equipment is acquired.
5. The average cost per cardiac catheterization procedure increases by \$33.96 (< 1.0%) as a result of the replacement. This assumes 5 years depreciation on equipment and 6,000 procedures per year on the cardiac catheterization systems. Savings on equipment maintenance, labor, and supplies may, in fact, offset this increase.

Ms. Martha Frisone
March 8, 2017
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Determination Requested

FHMR requests that the Division of Health Service Regulation make a determination that the replacement of cardiac catheterization equipment, as proposed herein does not constitute a new institutional health service and is thus exempt from certificate of need review.

If you require additional information concerning this request, please contact me at 910-715-1000.

Sincerely,



Lynn DeJaco
Senior Vice President and CFO

Attachments: Exhibit A - Vendor Quote
 Exhibit B - Proposed Total Capital Cost of Project
 Exhibit C - Existing/Replacement Equipment Comparison

TOSHIBA AMERICA MEDICAL SYSTEMS, INC.

QUOTATION/ORDER SUMMARY

DATE: 3/2/2017
SID #: 30044166
QUOTE #: 103798-2

PRESENTED TO:

DELIVER TO:

FIRSTHEALTH MOORE REGIONAL HOSPITAL
35 MEMORIAL DR
PINEHURST, NC. 28374

FIRSTHEALTH MOORE REGIONAL HOSPITAL
35 MEMORIAL DR
PINEHURST, NC. 28374

VL/CARD/2.000

INFINIX-I FOR INTERVENTIONAL CARDIOVASCULAR

This quotation shall remain valid until March 31, 2017.

All prices are F.O.B. destination.

Payment terms are: Cash - 0% down payment, 80% upon shipment, 20% net 45 days upon completion of installation and/or availability for first use, whichever is earlier.

This quotation/order will be subjected to the Agreement for Vascular equipment products between Premier Purchasing Partners, L.P. and Toshiba America Medical Systems, Inc., effective October 1, 2015. Reference contract no. PP-IM-288

Please return signed quotation to Toshiba America Medical Systems by email OrderAdmin@tams.com or fax 714-441-9320.

ACCEPTED AGREED AND ORDERED:

PURCHASER'S SIGNATURE/TITLE

DATE

TOSHIBA REP / CONTACT

DATE

All information contained in this quotation is confidential and may not be disclosed to any third party without Toshiba's prior written consent.

EQUIPMENT SUMMARY:

VL/CARD/2.000

INFINIX-I FOR INTERVENTIONAL CARDIOVASCULAR

PART NUMBER

QTY DESCRIPTION

	1	SYSTEM KIT: INFINIX-I CORE+ (FLOOR MOUNT) 8"X8" FPD SYSTEM WITH CAT-850B TABLE
	1	MAIN UNIT: INFINIX-I CORE+ (FLOOR MOUNT) 8"X8" FPD SYSTEM WITH CAT-850B TABLE
	1	MUSHROOM HANDLE
	1	2" TABLE PAD FOR CAT-850/CAT-860B/CAT-870
	1	TABLE LONGITUDINAL SENSOR KIT
	1	SUPPORT ARM LOCK KIT
	1	CABINET SIDE COVER
	1	CABINET CORNER COVER
	1	21" COLOR MONITOR KIT
	1	LCD FLAT-PANEL COLOR MONITOR 21
	1	SUPINE POSITION SCOOP ARM SUPPORT
	1	ANTI-FATIGUE FLOOR MAT
	1	MAVIG TABLE MOUNTED RADIATION SHIELD
	1	COPPER PHANTOM FOR WAKE UP PROGRAM
	1	WAKEUP CHECK PROCEDURE BOOKLET
	1	MEDLANTIS GROUP LICENSE PROMOTION
MONITOR/STAND-19-KIT.100	2	MONITOR KIT: 19" COLOR MONITOR WITH BASE PLATE - CONTROL OR EXAM ROOM
	2	19" COLOR MONITOR
	2	BASE PLATE FOR 19" LCD DESKTOP MONITOR
LARGE LCD/B2.100	1	LARGE 58" LCD MONITOR - MEDICAL GRADE
	2	MONITOR MOUNT BRACKET ASSEMBLY
	1	INSTALLATION CABLES FOR LARGE LCD MONITOR
	1	CABINET FOR LARGE LCD COLOR DISPLAY MONITOR

<u>PART NUMBER</u>	<u>QTY</u>	<u>DESCRIPTION</u>
	1	TRIPP LITE WALL MOUNT CABINET
	1	PROTECTOR FOR LARGE LCD MONITOR
	1	UNIVERSAL CONNECTION MODULE FOR LARGE LCD MONITOR
	1	DVI EXTENDER AND RECEIVER CABLE
	5	IMAGE CONNECTION MODULE FOR LARGE LCD MONITORS
A240-1094R2	1	LARGE LCD MONITOR SUSPENSION FOR IDI RAILS FOR FLOOR SYSTEMS
XBAR-001A	1	SINGLE ARM BOARD
XBER-001A	1	TABLE SIDE CONTROL EXTENSION RAIL SET (PAIR)
XBET-001A	1	FOOT-END TABLE EXTENSION (REQUIRES XBER-001A)
4.0M-CEILING-TRACK4.0.100	1	MAVIG 4.0 M CEILING TRACK FOR RADIATION SHIELDS, LIGHTS AND MONITORS
OT90001-US	1	MAVIG PORTEGRA2 (95/90 CM) EXTENSION SPRING ARM WITH CENTER MOUNTED CONTOUR CUT-OUT SHIELD (61X76 CM)
XIDF-ROT801	1	2D ROTATIONAL SPIN ANGIOGRAPHY
XIDF-QCA850.100	1	BASIC KIT FOR CLINICAL ANALYSIS APPLICATION
	1	BASIC KIT FOR CLINICAL ANALYSIS APPLICATION
XIDF-QCA851	1	QUANTITATIVE CORONARY VESSEL ANALYSIS - 9MM OR LESS
XIDF-QCA852	1	QUANTITATIVE VESSEL ANALYSIS - 9MM OR ABOVE
XIDF-QCA853	1	LEFT VENTRICULAR ANALYSIS (SINGLE PLANE)
3D-ANGIO-SW-KIT/2.100	1	BASE 3D ACQUISITION SOFTWARE (ALSO REQUIRES VITREA VL 3D PACKAGE)
APPS-ONSITE-32	1	ADDITIONAL ON-SITE APPLICATIONS TRAINING - 32 HOURS
XIDF-3DP802/A1	1	3D ROADMAP WITH NEEDLE GUIDANCE ON AWS
LE90072	1	MAVIG PORTEGRA2 (90/95 CM) EXTENSION SPRING ARM WITH M3 SC LED LAMP - SINGLE COLOR - EXTENDED ARM

<u>PART NUMBER</u>	<u>QTY</u>	<u>DESCRIPTION</u>
VLO-TUSBASIC/LU-S.100	1	VITREAEXTEND BASIC PACKAGE WITH APPLICATIONS, HARDWARE, INSTALLATION & TRAINING
	1	VITREA STANDARD WORKSTATION MONITOR
VLO-XA3D/LU	1	VITREA XA 3D ANGIOGRAPHY OPTION FOR US

TOTAL QUOTE PRICE
Applicable Sales Tax Additional

\$824,465.00

PURCHASABLE OPTIONS:

Please initial next to the option item you would like to purchase. Selected purchasable options will increase the total quote price by the noted "ADD" dollar amount listed on the item line:

<u>PART NUMBER</u>	<u>QTY</u>	<u>DESCRIPTION</u>	<u>ADD</u>	<u>INITIALS</u>
MARK7-TABLE	1	MEDRAD / BAYER MARK 7 ARTERION INJECTOR (TABLE MOUNT)	\$32,760.00	_____
RAYSAFE-I2.100	1	RAYSAFE I2 PERSONNEL DOSIMETRY	\$23,500.00	_____

VL/CARD/2.000

INFINIX-I FOR INTERVENTIONAL CARDIOVASCULAR

INFINIX-I FOR INTERVENTIONAL CARDIOLOGY

Optimized for Interventional Cardiologists, Infinix-i has the tools, the technology and the system to help clinicians reduce risk and save time in a complex and demanding clinical environment. Combining industry-leading image quality and dose management capabilities with exclusive ergonomic features and an array of advanced imaging applications, Infinix-i can enhance performance for every patient and every procedure.

Designed in collaboration with cardiologists, Infinix-i improves the way we work without changing the way we work. With exclusive technology like WorkRite, it allows the performance of lengthy procedures more comfortably and effectively.

The Infinix-i is strategically designed to help you grow with your practice. Image the most complex coronary or peripheral artery diseases while enabling structural heart interventions. The unique mechanical design is perfectly suited to enable flexible position for faster, safer exams while creating an integrated cath lab environment.

WorkRite Technology:

The unique flexibility and design of the C-arm, combined with low-profile FPD housing, offers better ergonomic orientation enabling "line of sight" over the system and patient to view the display monitors. The Infinix-i product line has an extensive lateral C-arm movement, at the head end of the table, affords an exceptional advantage when accessing the upper extremities, such as in a radial or brachial procedure. The flexible mechanical design provides extensive longitudinal travel to allow full body coverage from the patients head to the toes without panning the table.

Customizable features and award-winning training help you to accelerate and increase utilization of Infinix-i system innovations to enhance efficiency and help you improve patient care.

COMPONENT SUMMARY:

<u>PART NUMBER</u>	<u>QTY</u>	<u>DESCRIPTION</u>
1		SYSTEM KIT: INFINIX-I CORE+ (FLOOR MOUNT) 8"X8" FPD SYSTEM WITH CAT-850B TABLE
1		MAIN UNIT: INFINIX-I CORE+ (FLOOR MOUNT) 8"X8" FPD SYSTEM WITH CAT-850B TABLE
		<u>STANDARD SYSTEM COMPONENTS</u>
		<ul style="list-style-type: none"> • CAS-880A/A1 Multi-Axis C-arm, Floor mounted • BLA-900C Multi-filter Collimator • XTP-8100XG High-Frequency X-Ray Generator 100 kW • DSRX-T7444GDS Liquid Metal Bearing X-Ray Tube • TFP-800A/A1 8" x 8" Flat Panel Detector • XGCP-880BA Tableside Control HyperHandle • CAT-850B Standard Catheterization Table • XBFS-880S Multi-Function Footswitch • DFP-8000B/B2 Multitasking Digital Fluoroscopy Processor • XIDF-MIC802 Intercom Kit • XIDF-MCC80S Main Console • XIDF-FS801S Control Room Footswitch • XJDK-001A/V5 Dose Meter Controller • XJDC-009A Dose Chamber

C-ARM, FLOOR-MOUNTED - CAS-880A/A1

The floor-mounted C-arm performs fluoroscopy, radiography and digital fluorography. This flexible design allows superb access to the patient and enables the steep angulation required for complex cardiac catheterization procedures.

Specifications:

- Variable rotation speeds up to 50 degrees per second for fast C-arm angulation
- Stroke of flat panel detector movement (SID): 350 mm, motor-driven
- Isocenter height: 111 cm (43.7")

Positioning Features to Enhance Workflow

The floor-mounted C-arm is designed to enhance workflow. Features include:

C-Arm Movement

- Flexible positioner that, combined with low-profile housing of the X-ray tube and FPD, optimizes imaging angles.

- Enables variable-speed axial rotations and isocentric fluoroscopy and fluorography with rotations RAO 120 degrees to LAO 120 degrees
- Sliding angle - CRAN 50 degrees to CAU 90 degrees

Auto-Positioning/Auto-Set Functions

- Specify auto-positioning settings sequentially for each study protocol.
- Quickly initiate C-arm positioning and system settings for the desired imaging requirements.
- Record and reproduce over 64 programs of:
 - Angulations and SID
 - Initial Field of View (FOV)
 - Table heights
 - Compensation-filter positions

Auto-Angle

For acquired images, auto-angle stores the following for one-touch recall (can be customized to site):

- C-arm angle
- SID
- Compensation filter position
- Table height
- Magnification size
- compensation-filter positions

Control Switch Assembly - HyperHandle

All system movements are operated from the control switch assembly, mounted at the side of the catheterization table. This enables quick positioning with high accuracy.

Specifications:

- Variable rotation speeds up to 30 degrees per second for fast C-arm angulation
- Stroke of flat panel detector movement (SID): 350mm, motor-driven
- Isocenter height: 105 (41.3")

C-Arm Movement

- Flexible positioner that, combined with low-profile housing of the X-ray tube and FPD, optimizes imaging angles.
- Enables variable-speed axial rotations and isocentric fluoroscopy and fluorography with rotations from:
 - Arm rotation (with C-arm set to patient head end)
 - RAO 180 degrees to LAO 120 degrees
 - Arm sliding (when C-arm is set to the left side of the patient)
 - RAO 90 degrees to LAO 50 degrees

Auto-Positioning/Auto-Set Functions

- Specify auto-positioning settings sequentially for each study protocol.
- Quickly initiate C-arm positioning and system settings for the desired imaging requirements.
- Record and reproduce over 64 programs of:
 - Angulations and SID
 - Initial Field of View (FOV)
 - Table heights
 - Compensation-filter positions

Auto-Angle

For acquired images, auto-angle stores the following for one-touch recall (can be customized to site):

- C-arm angle
- SID
- Compensation filter position
- Table height
- Magnification size

Control Switch Assembly - HyperHandle

All system movements are operated from the control switch assembly, mounted at the side of the catheterization table. This enables quick positioning with high accuracy.

MULTI-FILTER COLLIMATOR - BLA-900C

- Five-filter collimator using industry-standard filtration materials
 - Copper 0.2 mm
 - Copper 0.3 mm
 - Copper 0.5 mm
 - Copper 0.9 mm
 - Aluminum 2.0 mm
- Compensation filters: Fe 1.2 mm
- Remote and manual controls

HIGH-FREQUENCY X-RAY GENERATOR 100 kW - XTP-8100XG

Uses dual-inverter method for increased reliability with redundant inverter. Operates in normal/standard mode, low-dose mode and high-dose mode fluoroscopy.

Includes:

- Control console
- Control cabinet
- Power cabinet with high-speed starter
- Fluoroscopy control cabinet
- System power source cabinet

Fluorographic Ratings

- 125 kV, 800 mA (0.1 s)
- 100 kV, 1000 mA (0.1 s)
- 80 kV, 1250 mA (0.1 s)

Pulsed Fluoroscopy Function

- Fluoroscopic tube voltage range: 50 kV to 120 kV
- Fluoroscopic tube current range: 200 mA peak
- Pulse width: 1.0 ms to 13 ms
- Repetition pulse rate: 30, 20, 15, 10, 7.5, 5, 3, 2, 1 exp/s (can be selected at the time of installation)
- ABC (auto brightness control) function: provides the automatic adjustment of the tube voltage or the tube voltage and tube current to maintain uniform monitor brightness

Digital Subtraction Angiography (DSA) Functions

- Tube voltage range: 50 kV to 125 kV
- Tube current range: maximum 1000 mA (may be restricted depending on the rating of the X-ray tube assembly)
- Pulse width: 1.0 ms to 100 ms

Digital Angiography (DA) Functions

- Tube voltage range: 50 kV to 125 kV
- Tube current range: maximum 1000 mA (may be restricted depending on the rating of the X-ray tube assembly)
- Pulse width: 1.0 ms to 25 ms

Parametric Imaging (PI) Functions*

- Displays an entire image sequence as a single composite DSA image that is color coded in order to characterize the contrast media dynamics and to allow easier visual evaluation
- Color Coded Circulation (CCC) can create movies by shifting color scale gradually so that it is easy to understand vessel flow

**Parametric Imaging Software is not intended for stand-alone use or diagnosis*

Acquisition Modes (Single)**DA Acquisitions:**

- 30, 15, 10, 7.5, 5, 3, 2, 1 FPS at 1024x1024 x 8, 10 or 12-bits
- 60 FPS at 512x512 x 8, 10 or 12-bits

DSA Acquisitions:

- 30, 15, 10, 6, 3, 2, 1, 0.5, 0.3 DSA at 1024x1024 x 12-bits

Acquisition Modes (Biplane)DA Acquisitions:

- 15, 10, 7.5, 5, 3, 2, 1 FPS at 1024x1024 x 8, 10 or 12-bits

DSA Acquisitions:

- 15, 10, 6, 3, 2, 1, 0.5, 0.3 DSA at 1024x1024 x 12-bits

HIGH-CAPACITY X-RAY TUBE WITH LIQUID METAL BEARING - DSRX-T7444GDS

- Includes a standard 36 month non-prorated tube warranty for all new systems
- Quiet, long-lasting and efficient, this tube ensures high throughput and fail-safe imaging
- Triple-focus design provides small-focal-spot redundancy for uninterrupted procedure in the event of fluoro filament failure
- Highly efficient, pulsed fluoroscopy with built-in, beam-hardening filters reduces dose
- Continuous, high-speed (9000 rpm) anode rotation provides immediate display of fluoroscopic and fluorographic images

Other features include:

- Grid switched
- Maximum kV: 125 kV
- Focal spot: 0.5/0.5/0.8 mm
- Maximum ratings: 50/100 kW
- Target angle: 8 degrees
- Maximum anode heat storage: 3000 kHU
- Maximum cooling rate anode: 7799 HU/s

8" x 8" FLAT PANEL DETECTOR - TFP-800A/A1

State of the art flat panel detector technology enhances low dose imaging, offers exceptional image quality, and features Digital Subtracted Angiography (DSA) standard with superior contrast and dynamic resolution. Designed for cardiovascular imaging, the FPD has a unique 8"x8" (20 cm x 20 cm) design that enhances clinical display of fine detail during diagnostic and complex interventional procedures.

Specifications:

- Multiple Fields of View
 - 8"x8"
 - 7" x 7"
 - 6" x 6"
 - 5" x 5"
- 1024x1024 detector matrix
- Frame rates up to 30 FPS

- 194 micron pixel size
- DQE of 77±5 %
- 16-bit pixel depth for extended dynamic range

TABLESIDE CONTROL HYPERHANDLE - XGCP-880BA

Adjustable, rail-mounted, tableside control provides functional control of component movement and interface with digital console. Control features a slim profile and ergonomic design with tactile control buttons, enhancing the user experience.

CATHETERIZATION TABLE - CAT-850B

Facilitates catheterization of cardiac, cerebral, abdominal and peripheral areas.

- 8-way panning table enables table to be used for numerous radiographic techniques, movements tracked via coordinate display.
- Ample longitudinal movement provides coverage for lower extremity procedures.
- Flat surface eases movement of patient on and off the table.

Specifications

- Sliding movements (manual):
 - Longitudinal stroke: 1350 mm (53.1")
 - Lateral stroke: ±200 mm (±7.9")
- Vertical movement (motor-driven):
 - 775 mm to 1150 mm (30.5" to 45.3") (from floor level)
- Tabletop rotation range (manual pivot):
 - 90 to -180 degrees
- Maximum patient weight:
 - 485 lbs. (220 kg IEC) at maximum table extension
 - Can support additional loading of up to 220 lbs. (100 kg) for cardiopulmonary resuscitation (CPR)
- Tabletop rotation range (manual pivot):
 - -180 to 0 degrees
- Accessories:
 - Tabletop mat (standard)
 - Arm Cover (option)
 - Arm support, acrylic (option)
 - Armrest, CFRP (option)

MULTI-FUNCTION FOOTSWITCH - XBFS-880S

Provides various image acquisition and other programmable functions via foot pedals and buttons, freeing the clinician's hands and allowing more focus on the patient and image display.

MULTITASKING DIGITAL FLUOROSCOPY PROCESSOR - DFP-8000B/B2

Toshiba's digital processor provides a variety of features to enhance workflow and image processing.

Common Graphic User Interface

The new digital platform comes with a graphic user interface that is common across modalities on all Toshiba devices for more intuitive operation of all systems.

Advanced Image Processor (AIP)

Toshiba's exclusive imaging technology - AIP (advanced image processing) - is a combination of software, filters and proprietary hardware. AIP enables enhanced visualization of small devices and structures while providing real-time response to optimize the collection of critical imaging information during the most demanding procedures.

Advantages Over Conventional Imaging

- Virtually instant-on fluoroscopy: to help capture critical information at fluoro initiation.
- Noise and anti-blooming suppression technology: to provide a more uniform, high-resolution presentation of the image during fluoroscopy.
- Virtually zero lag during fluoroscopic imaging: to further enhance visualization during movement and while manipulating wires.

Proprietary Technology

AIP proprietary computing technology brings a new dimension to the overall performance of the system, adding specific functions for either targeted or general anatomical imaging to advance treatment planning or intervention. This includes:

- **Dynamic Pattern Recognition Filter (DPRF):** enhances visibility with digital recognition of devices to differentiate devices from anatomy.
- **Dynamic Digital Compensation Filter (DDCF):** improves exam efficiency and decreases dose by reducing the need for acrylic filters.
- **Super Noise Reduction Filters (SNRF):** allows for better visualization of anatomy and device by reducing noise, even with acute angulations. These enhancements reduce the amount of noise and lag in digital imaging for both digital angiography (DA) and fluoroscopy.

Dynamic Trace

- Use in a panning mode while imaging the lower extremities, and for Bolus Chase examinations, for a more uniform image display and

background compression. This provides greater vessel detail even when vessels overlap bone.

Guideview Subtracted 2-D Roadmap Fluoro

Toshiba's proprietary Guideview technology is particularly useful during roadmap imaging and can reduce the amount of contrast injections and dose. Guideview provides the ability to:

- Fade background vs. vessel
- Reverse blacks and whites
- The combination of these two features provides the ability to better distinguish and visualize guide wires within the vessel
- Landmark image
- Adjust brightness and contrast real-time
- Create using LIH or acquired image

Features include:

- Peak Pixel Roadmap – provides the optimal, live, peak, fluoroscopic-subtracted roadmap image.
- Add Subtracted Fluoroscopy – provides a completely subtracted display to better visualize live contrast injections or embolic materials.
- CO₂ DSA – provides the optimal, live, CO₂ (low-density pixel), fluoroscopic subtracted roadmap image without the use of iodinated contrast media.

Fluoro Record and Fluoro Store

Enables the easy use of fluoro store and playback to further study regions of interest, potentially reducing overall radiation dose. Ideal for pediatric imaging.

- Tableside, one button control
- 90 seconds or 1020 frames of prospective recording
- 60 seconds or 900 frames of retrospective recording

Digital Live Zoom

Live zoom digitally enlarges images in real time during both fluoroscopy and digital acquisition (DA) and offers the capability to provide a dose savings alternative compared to traditional field of view (FOV) magnifications.

Virtual Collimation using Last Image Hold

Provides an electronic outline to position the collimator and acrylic filter without fluoroscopy, further reducing dose.

DA and DSA

The user-friendly, icon-driven platform provides intuitive, rapid, tableside control over image processing and data management.

Radiographic “One Shot” Mode

Allows the capture of a single image at radiographic technique level. Image can be used as a mask for functions such as “Guideview” subtracted roadmap fluoro.

Simultaneity

True multi-tasking including:

- Image retrieval
- Image acquisition
- Post processing
- Archiving
- Printing

Prevision

Enables retrieval and display of previously acquired Infinix-i series images as reference during follow-up procedures.

Post-Processing Software

- Auto-window
- Roam and zoom
- Distance measurement and stenosis ratio measurement
- Spatial filtering (edge enhancement)
- Brightness/contrast control
- Landmarking percent
- Peak trace
- CO2 trace
- Shutter control
- Annotation
- Image rotation
- Pixel shift
- Panaramic view (available with S-DSA)

Image Recording Unit

High-capacity, high-speed disk (RAID Level 3):

- Maximum recording number:
 - 1024x1024 8/10/12-bits: 118,800/95,000/79,200 loss-less compression
- Online recording
- DVD-R and CD-R Recording
- DICOM 3.0, 512x512 or 1024x1024 8/10/12-bits, JPEG loss-less compression
- Up to 4,800 frames at 512x512 x 8 bits

DICOM Conformance and Dose Reporting

- DICOM Store/Store Commitment, Query/Retrieve
- DICOM MWM and MPPS

- DICOM Structured Dose Reporting provides a comprehensive data set of procedural dose information that is available for output to further analyze and track dose information.

INTERCOM KIT - XIDF-MIC802

- Noise-reduction transformer
- Remote operator activates microphone/speaker with footswitch
- In-room microphone/speaker mounts on monitor support

MAIN CONSOLE - XIDF-MCC80S

Control room console with similar functions as exam room console, which enhances workflow due to a more intuitive use of the system. From inside the control room a user can:

- Operate the ring menu
- Use pre-programmed functions
- Control collimator and filters
- Review and manipulate images

FOOTSWITCH FOR CONTROL ROOM - XIDE-FS801S

Footswitch that enables fluoroscopy to be initiated from inside the control room.

DOSE METER CONTROLLER FOR DUAL PLANE - XJDK-001A/V5

Manages dose when combined with a dose chamber (part XJDC-009A) on the front of the beam-limiting device.

Sends the following data to the digital fluoroscopy processor:

- Exposure time
- Dose area product (DAP) in μGycm^2
- Dose area product rate (DAP) in $\mu\text{Gycm}^2/\text{s}$
- Calculated surface dose in mGy
- Calculated surface dose in mGy/s

DOSE CHAMBER - XJDC-009A

For cardiovascular tube. Mounted on top of the collimator to enables dose data for real-time display.

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 three phase education program and the industry exclusive Performance Pro guarantee.

Performance Pro is a unique approach to education utilizing blended learning with the promise of technical proficiency and optimal productivity. 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.

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 Infinix-i VL system, including a variety of VL exams 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 VL imaging console operation, system menus, system default protocols, post-processing image data, and basic troubleshooting. 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: An initial thirty-two (32) hours, of on-site education will be provided at the customer facility during system go-live. This training is provided for up to four (4) imaging professionals including the two (2) that attended Phase I training, to focus on maximizing imaging techniques, protocols and system operation. 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 event in its entirety.

Phase III: An additional sixteen (16) 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 imaging 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.

CUSTOMER CARE SERVICES

Developed with customer input, Toshiba's innovative support programs have resulted in increased customer satisfaction. The following support programs are available to customers covered under warranty:

InTouch Center®

This centralized service facility provides applications and service support 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.

Technical Assistance

Customer support specialists are available 24/7 to help resolve technical issues in real time.

Local Customer Teams

A single call mobilizes a local team of Toshiba customer engineers. With an average of over 10 years of Toshiba experience and more than 100 hours of specialized training, they can resolve any performance issue.

Parts Support

A complete inventory of product parts maintained in 34 parts depot locations throughout the country for shipment when and where they are needed, any time of day or night.

INTOUCH SERVICE MAINTENANCE AGREEMENTS

Toshiba offers a variety of customizable service plans ranging from shared risk to full security maintenance agreements that provide complete system coverage.

**The Infinix-i Core + is the INFX-8000V (SP)*

1 MUSHROOM HANDLE

Table mounted for convenient, quick positioning of floating tabletop with magnetic brake release.

1 2" TABLE PAD FOR CAT-850/CAT-860B/CAT-870

Two-inch thick Infinix table pad made with a combination of dense foam and memory foam for patient comfort in longer procedures, black stretch vinyl cover.

1 TABLE LONGITUDINAL SENSOR KIT**1 SUPPORT ARM LOCK KIT****1 CABINET SIDE COVER**

This side cabinet cover is required in select installations due to site limitations in the Equipment Room, such as a floor-to-ceiling support beam causing separation of cabinets. This part provides for both left and right side cover needs.

Note: Only for DFP-8000B and later versions.

1 CABINET CORNER COVER

This part is required for installations in which the electronics cabling for Infinix-i must be routed to floor-level cable race rather than the usual ceiling-level cable race. This part provides for both left and right end covers, whichever is needed per cable routing at individual site installation.

Note: Only for DFP-8000B and later versions.

1 21" COLOR MONITOR KIT**1 LCD FLAT-PANEL COLOR MONITOR 21**

- 21.3" LCD monitor
- 1600x1200 display matrix
- 420 cd/m² luminance (typical)

1 SUPINE POSITION SCOOP ARM SUPPORT

- Patient weighted arm boards hold weight of patient's arm alongside the torso at the Infinix table edge
- Set of two

1 ANTI-FATIGUE FLOOR MAT**1 MAVIG TABLE MOUNTED RADIATION SHIELD**

Provides additional radiation protection from direct and scatter X-ray exposure.

- Mounts on Toshiba Infinix-i tableside rails, reversible for right or left side mounting
- Three-piece radiation shield assembly:
 - Main shield: 181 mm x 645 mm
 - Angled side shield: 700 mm x 645 mm
 - Tabletop scatter shield: 700 mm x 700 mm (removes to facilitate patient loading)
- Wall storage holders:
 - Upper shield: 600 mm
 - Lower shield: 460 mm
- Includes mini-rail for mounting table-function controls, if desired.

1 COPPER PHANTOM FOR WAKE UP PROGRAM

Wake Up Check test phantom for daily QA.

Includes 2mm copper and instructions to be used for the Wakeup Check protocol, which checks the imaging conditions for DA, DSA and One Shot acquisition.

1 WAKEUP CHECK PROCEDURE BOOKLET**1 MEDLANTIS GROUP LICENSE PROMOTION**

Medlantis provides hundreds of hours of CME and CE accredited online medical education materials. Video lectures by leading radiology professionals are accompanied by more than 43,000 pages of relevant content from Thieme's radiology e-books and over 2,000 associated case studies from Thieme's RadCase series. This Medlantis Group License allows the Group's staff physicians, technologists and sonographers easy and unlimited access to all of these education materials. Certified course bundles of video lectures provide AMA PRA Category 1 Credits and these course bundles are also CE accredited according to ARRT guidelines. A one year subscription is

complimentary with the purchase of the Toshiba system referenced in this quote. The subscription begins with the commencement of warranty.

Promotion expires March 31, 2017.

MONITOR/STAND -19-KIT.100	2	MONITOR KIT: 19" COLOR MONITOR WITH BASE PLATE - CONTROL OR EXAM ROOM
	2	19" COLOR MONITOR
	2	BASE PLATE FOR 19" LCD DESKTOP MONITOR
LARGELCD/B2.100	1	LARGE 58" LCD MONITOR - MEDICAL GRADE The 58" monitor displays critical patient information on one display and allows easy image display size, content or pattern changes with the joystick function on the Infinix tableside control.

The 58" monitor display system:

- Combined with Infinix-i imaging capabilities and the monitor suspension system, enhances the clinical environment and provides more critical patient information in one display.
- Improves the working space by reducing the profile of the monitor assembly and connection cabling.
- Provides and displays both patient information and anatomical images in a variety of sizes and patterns.
- Can quickly change from one enlarged image to six different displays, or choose from a multitude of display combinations.
- LMM Box is an ancillary component of the Eizo Video Integration Solution that enables video connectivity of multiple devices for display on the 58" monitor.
- Package includes a video scaler to accommodate automatic recognition of variable video resolution formats includes VGA, DVI, BNC and S-Video connectors for external Video input of mobile devices (i.e. Ultrasound) used during the case.

Components

- High-resolution 58" monitor display
- Monitor guard
- Digital processor with up to 27 inputs to manage image display sizes and patterns
- Programmable touch panel to change and arrange image sizes and display patterns based on clinical preferences

- Video scaler and DVI extender for connection of mobile devices at tableside.

Monitor suspension sold separately

2 MONITOR MOUNT BRACKET ASSEMBLY

Mounts one smaller monitor, typically 19", on the rear of a large LCD monitor suspension unit.

- Bracket holds one smaller monitor (typically non-fluoro) with a 100 VESA mount
- Mounts to rear on either side of the large LCD suspension assembly to provide additional location for alternate monitor (maximum of two monitors, one for each side)

Note: Total weight of each monitor must not exceed 20 lbs each. Maximum weight of combined optional items may not exceed 155 lbs. Consult with your Toshiba representative to determine total weight payload.

Alternate monitor sold separately.

1 INSTALLATION CABLES FOR LARGE LCD MONITOR

1 CABINET FOR LARGE LCD COLOR DISPLAY MONITOR

Wall or floor mounted storage unit to house large LCD monitor electronic components.

1 TRIPP LITE WALL MOUNT CABINET

1 PROTECTOR FOR LARGE LCD MONITOR

Provides protection for the large LCD monitor glass. This commercially available device is easy to install and remove at a moment's notice, allowing greater flexibility for the medical staff to have individual preference when deciding when to use or not use the large LCD monitor protection device.

1 UNIVERSAL CONNECTION MODULE FOR LARGE LCD MONITOR

The UCM enables connection of a variety of mobile medical devices for video input on the large LCD monitor. This unique design is capable of accepting and converting video signal from; DVI, VGA, BNC, and S-Video. Only one video signal can provide input at a time.

1 DVI EXTENDER AND RECEIVER CABLE

5 IMAGE CONNECTION MODULE FOR LARGE LCD MONITORS

The ICM enables extension of a single DVI video output, maximum resolution 1920x1200@60Hz, providing the ability to interface ancillary medical devices for display on the large monitor. The ICM typically resides in the control room, where one ICM is needed for each video output intended to be displayed on the large LCD monitor.

A240-1094R2

1 LARGE LCD MONITOR SUSPENSION FOR IDI RAILS FOR FLOOR SYSTEMS

Optimizes monitor positioning around the patient table with an articulating arm for vertical height adjustments and a column that allows virtually 360 degree rotation. The transverse provides ample side-to-side positioning with a 60-inch movement range.

- Holds one large LCD monitor with a VESA 400 mount
- Total weight payload: 155 lbs (70.45 kg)
- Complete assembly included:
 - Bridge
 - Interface
 - IDI rails: 17' 8"
 - Rail assembly: 17' 8"
- Accommodates up to two monitor mount bracket assemblies or mounting brackets for monochrome monitors to rear-mount smaller monitors (typically 19")
- Includes attachments and grounding hardware including a 100-foot AC power cable

Other optional devices will add payload weight. Please consult with a Toshiba representative regarding adding items to this assembly.

XBAR-001A

1 SINGLE ARM BOARD

Carbon fiber arm rest for the right or left side. One is included standard with CAT-850B table.

XBER-001A

1 TABLE SIDE CONTROL EXTENSION RAIL SET (PAIR)

- Designed for application with the CAT-850B, CAT-860B or CAT-880B tables only
- Tableside rail set (2), one for each side
- Designed to accommodate Infinix table controls and common accessories (e.g., I.V. pole)

XBET-001A

1 FOOT-END TABLE EXTENSION (REQUIRES XBER-001A)

Auxiliary table extension installed at the foot end of the table. Easily folds over on to the foot end of the table when not in use.

**4.0M-CEILING-
TRACK4.0.100**

- 1 MAVIG 4.0 M CEILING TRACK FOR RADIATION SHIELDS, LIGHTS AND MONITORS**
The Mavig 4.0 M Ceiling Track enables up to two devices (maximum of one light) to be mounted on a single trolley. The 360 column with trolley has one electrified pin with 330 degrees of rotation capability and a lower pin with 360 degrees of rotation. Each pin has a load capacity of 18 kgs. Each trolley comes standard with a Brake Handle Strap which makes the system more user friendly.

OT90001-US

- 1 MAVIG PORTEGRA2 (95/90 CM) EXTENSION SPRING ARM WITH CENTER MOUNTED CONTOUR CUT-OUT SHIELD (61X76 CM)**
The MAVIG Center Mounted Contour Cut-Out Shield measures 76 cm by 61 cm and includes a Portegra2 Extension Spring Arm with two arms measuring 95 cm and 90 cm. The transparent acrylic shield contains 0.50 mm Pb and is easily manipulated into position by use of a height adjustable handle.

XIDF-ROT801

- 1 2D ROTATIONAL SPIN ANGIOGRAPHY**
The system has integrated multiple forms of rotation technology to include high-speed C-arm rotation for 3-D acquisition and 2-D rotational capabilities. High-speed rotation provides acquisition frame rates ideal for high-resolution 3-D reconstructions.

Specifications

- Image size: 1024x1024; 12-bit
- Image rate (FPS): Up to 25 FPS at 1024x1024 matrix
- Acquires images throughout and up to a 200-degree C-arm arc
- X-ray exposure timing: angle trigger method
- Provides 3-D color image display for enhanced diagnosis, treatment planning and interventional procedures.

Rotational DSA

- Programmable single-axis rotation (manual or auto) to optimize display area

XIDF-QCA850.100

- 1 BASIC KIT FOR CLINICAL ANALYSIS APPLICATION**

- 1 BASIC KIT FOR CLINICAL ANALYSIS APPLICATION**

Application

This is platform software for running the clinical analysis applications such as QCA, QVA, LVA, LVA-BP, RVA, QCA3D, and Stent Enhancer.

Features

Table side operation is available.

- XIDF-QCA851** **1** **QUANTITATIVE CORONARY VESSEL ANALYSIS - 9MM OR LESS**
Application
XIDF-QCA850 is required. XIDF-QCA851 is a QCA (quantitative coronary analysis) software package for use in clinical practice and research. This software features automatic contour detection of the coronary artery of interest and analysis of its dimensions.
- Features**
- Automatic contour detection is supported for QCA.
 - Various calibration methods such as catheter calibration, sphere calibration, and distance calibration are available.
 - Report files of QCA can be transferred to the PACS server and can be referred to in the examination room and control room.
- XIDF-QCA852** **1** **QUANTITATIVE VESSEL ANALYSIS - 9MM OR ABOVE**
Application
XIDF-QCA850 is required. XIDF-QCA852 is a QVA (quantitative vessel analysis) software package for use in clinical practice and research. The QVA software is used for quantitative analysis of blood vessels such as the aorta, iliac arteries, renal arteries, etc. QVA supports automatic contour detection for vessels up to 50 mm in diameter.
- Features**
- Automatic contour detection is supported for QVA.
 - Various calibration methods such as catheter calibration, sphere calibration, and distance calibration are available.
 - Report files of QVA can be transferred to the PACS server and can be referred to in the examination room and control room.
 - Table side operation is available.
- XIDF-QCA853** **1** **LEFT VENTRICULAR ANALYSIS (SINGLE PLANE)**
Application
XIDF-QCA850 is required. XIDF-QCA853 is an LVA (left ventricular analysis) software package for use in clinical practice and research. This software supports automatic contour detection of the left ventricle, volume calculation, and wall motion analysis. LVA can be applied to images acquired during left ventricular diagnosis.
- Features**
- Automatic contour detection is supported for LVA.
 - Various calibration methods such as catheter calibration, sphere calibration, and distance calibration are available.

- Report files of LVA can be transferred to the PACS server and can be referred to in the examination room and control room.
- Table side operation is available.

3D-ANGIO-SW-KIT/2.100

1 BASE 3D ACQUISITION SOFTWARE (ALSO REQUIRES VITREA VL 3D PACKAGE)

This option for Infinix systems provides the necessary software for acquisition, reconstruction and display of 3-Dimensional Angiographic image data. From the head-end approach to the patient table, the c-arm can be programmed to acquire a serial acquisition over a 200-degree arc around the target area. A special high-speed reconstruction workstation provides fast transfer and display of the 3-D images on the Vitrea VL 3-D software.

This option is integral and a prerequisite for the optional Low Contrast Imaging (CT-like data) and Roadmapping options.

APPS-ONSITE-32

1 ADDITIONAL ON-SITE APPLICATIONS TRAINING - 32 HOURS

Four (4) days, thirty-two (32) hours, of additional onsite applications support. Training is scheduled consecutively, Monday through Friday, with Monday mornings and Friday afternoons scheduled as travel time for the applications specialist.

\$7,000, inclusive of application specialist's expenses.

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.

Education expires two (2) years from the later of purchase date or warranty start date.

XIDF-3DP802/A1

1 3D ROADMAP WITH NEEDLE GUIDANCE ON AWS

Infinix-i software option to provide 3-D Angio image super-imposed over live fluoroscopy

- Superimposed 3-D image is linked to all system mechanical movements to maintain accurate alignment of 3-D image with fluoroscopy projection as c-arm or table position changes
- Device enhance processing improves visualization of fine metallic interventional devices
- Simple, convenient user interface for manual adjustment, if desired
- Multiple display modes, solid or hollow vessel with transparency adjustment
- Needle Guidance

- Included as standard with Toshiba's Volume Navigation 3-D Roadmap is a Needle Guidance application, which provides pathway planning and real-time guidance for percutaneous interventions

Prerequisite:

- 3-D Angio, including XIDF-3DI801 and XIDF-AWS801 software and hardware.
- Modality image which the Needle Guidance application can fuse:
 - 3D-Angio (3D-DA, 3D-DSA) included as standard
 - LCI (Low Contrast Imaging, Requires option XIDF-LCI801)
 - CT/MR fusion with fluoro requires option XIDF-3DP804
 - CAT-870B table is not qualified for 3-D Roadmap.

LE90072

1 MAVIG PORTEGRA2 (90/95 CM) EXTENSION SPRING ARM WITH M3 SC LED LAMP - SINGLE COLOR - EXTENDED ARM

The MAVIG M3 SC LED Lamp provides 130,000 LUX of focusable light ranging from 17 to 28 cm field size. A single color temperature of 4,500 Kelvin is provided.

Includes a 95/91 cm suspension arm.

VLO-
TUSBASIC/LU-
S.100

1 VITREAEXTEND BASIC PACKAGE WITH APPLICATIONS, HARDWARE, INSTALLATION & TRAINING

VitreaExtend Basic package provides advanced visualization tools within the hospital network for one diagnostic professional to view and evaluate anatomy and pathology at 5 access points. Vitrea® is a multi-modality advanced visualization system providing a comprehensive suite of clinical applications.

Offering outstanding image quality and clinical flexibility, the VitreaExtend Basic package includes the following:

- One year software maintenance and warranty upon delivery
- One concurrent VitreaExtend Basic user license
- Five Access points
- VitalU Education Units
- Customer must sign Vital Images software license agreement

Rights to professional services offered with the software license will expire 6 months from the delivery date of the software to the customer or, if purchased separately, 6 months from receipt of PO. Rights to education offered with the software license will expire 12 months from the delivery date of the software to the customer.

Dedicated applications and workflows help facilitate increased diagnostic confidence. Advanced imaging tools and automated measurements, provide physicians with patient information anywhere, anytime. Radiologists can share images and collaborate in real-time with other physicians to help facilitate better patient outcomes. This VitreaExtend Basic Package comes with the following workflows:

- CT Abdominal Analysis
- CT Vascular Aorta
- CT Circle of Willis Analysis
- CT General Carotid Analysis
- CT Larynx Airway Analysis
- CT Musculoskeletal Analysis
- CT Renal Analysis
- CT Runoff Analysis
- CT Urogram
- MR Abdominal Analysis
- MR Brain Tumor Analysis
- MR Musculoskeletal Analysis
- MR Vascular Analysis
- MR Stitching
- VesselProbe

VitalU Education

VitalU education units are included with each VitreaExtend. VitalU education units included with VitreaExtend packages can be applied in any combination toward the cost of courses offered.

1 VITREA STANDARD WORKSTATION MONITOR

VLO-XA3D/LU

1 VITREA XA 3D ANGIOGRAPHY OPTION FOR US

OPTIONS**MARK7-TABLE****MEDRAD / BAYER MARK 7 ARTERION INJECTOR (TABLE MOUNT)**

The Mark 7 Arterion Table Mount injector takes advantage of latest technologies, making it light, maneuverable and easy to use.

Includes:

- Table rail mount
- Ergonomic injector head handle for easier maneuverability
- Unique front-load syringe
- Desk type display control unit
- Imaging system interface
- Injector installation by Medrad included

RAYSAFE-I2.100**RAYSAFE I2 PERSONNEL DOSIMETRY**

Real-time Staff Radiation Dose Monitoring for Fluoroscopy/Catheterization Procedures.

PRODUCT WARRANTY AND SERVICE COVERAGE

SYSTEM WARRANTY TERMS

Toshiba warrants that the Equipment will be free from defects in material and workmanship, for the duration and subject to the terms and conditions stated below. Any part furnished to Customer during the warranty period (stated in the table below) to correct a warranty failure will be warranted to the extent of the unexpired term of the warranty applicable to the Equipment.

The warranty period will commence on the date the installation of the product is complete. Notwithstanding the foregoing, in the event that the installation of the product is delayed for a total of thirty (30) days or more from the date of delivery for any reason or reasons for which Toshiba is not responsible, the warranty period for such product may, at Toshiba' option, commence on the thirtieth (30th) day from the date such product is delivered to Customer.

WARRANTY EXCLUSIONS

Warranty coverage does not include any defect which results, in whole or in part, from (1) negligent storage or handling of the product by Customer, its employees, agents, or contractors, (2) failure of Customer to prepare the site or provide power requirements or operating environmental conditions in compliance with any applicable instructions or recommendations of Toshiba, (3) absence of any product, component, or accessory recommended by Toshiba but omitted at Customer's direction, (4) any design, specification or instruction furnished by Customer, its employees, agents, or contractors, (5) any alteration of the product by persons other than Toshiba, (6) combining Toshiba's product with any product furnished by others that is not approved by Toshiba, (7) combining incompatible products of Toshiba, without Toshiba's prior approval, (8) improper use of the product, improper maintenance of the product by a party other than Toshiba, or failure to comply with any applicable instructions or recommendations of Toshiba, or (9) acts of God, fires, floods, strikes or other labor disturbances, or other causes beyond the reasonable control of Toshiba.

Toshiba does not warrant any products not manufactured by Toshiba such as, without limitation, monitors, cameras, computer equipment, injectors, and lasers. Such items will be furnished subject only to the manufacturer's warranty, if any, and without any warranty whatsoever by Toshiba.

Warranty coverage also excludes consumables, including but not limited batteries, storage media, positioning pads, table pads, cassettes, magazines, printer consumables, and power units.

GLASSWARE WARRANTY

X-ray Vascular tubes are covered under a separate warranty. X-ray Vascular tubes included with the purchase of a new system is governed by the glassware warranty, described below, not the system warranty.

Tube Type	Time-Based Warranty
Liquid Bearing Tubes (DSRX-TXXXX)	12 months, non-prorated

Tubes with Non-Prorated, Time-Based Warranty:

Tubes with a non-prorated warranty will be replaced during the initial warranty period at no charge to the customer. The replacement tube carries the remainder of the original warranty on the system. For example, a tube with a 12-month non-prorated warranty fails at month eleven (11), the tube is replaced at no charge and carries a one (1) month of warranty.

REMEDIES

If Toshiba determines that any product fails to meet the above-mentioned warranty during the applicable warranty period, Toshiba will correct any such failure by either, at its option, repairing, adjusting, or replacing without charge to Customer any defective or nonconforming parts of the product. Toshiba will have the option to furnish either new or remanufactured replacement parts or assemblies. However, remanufactured parts will meet the manufacturer's specifications for new components as of the date of completion of installation. All defective parts replaced by Toshiba will become the property of Toshiba.

SOFTWARE UPDATES

Toshiba will furnish to Customer, free of charge for the life of the Equipment, all Toshiba software or hardware upgrades to the Equipment purchased by Customer, which are intended to correct a safety risk. Software updates offering enhancements to previously purchased software features will be provided during the term of the warranty, if they do not require hardware modifications or additions. Software upgrades providing new features or capabilities not originally purchased, will be made available for purchase by Customer upon request when compatible with the originally purchased hardware. Toshiba retains the sole right to determine whether a software release is considered an update or an upgrade for which Customer will be charged. The above items will be performed only during the Covered Hours stated in the warranty. Service required outside these hours will be billed at Toshiba's differential rates in effect at the time such items are provided to Customer.

WARRANTY SERVICE

Warranty service during the applicable warranty period will be performed without charge to Customer during Toshiba' normal business hours, Monday through Friday, excluding Toshiba holidays. Subject to the availability of personnel, after-hours service is available upon request at an additional charge.

Customer must promptly notify Toshiba within the applicable warranty period of any defect that is covered by the warranty, and make the Equipment promptly available for repair and maintenance.

DISCLAIMERS AND LIMITATIONS ON LIABILITY

Toshiba' obligations stated above will be Customer's sole and exclusive remedy for a breach of the warranty set forth above. SUCH WARRANTY WILL BE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Toshiba does not warrant that the operation of the Equipment will be uninterrupted.

WARRANTIES BY PRODUCT LINE

ITEM TYPE	X-RAY VASCULAR
EQUIPMENT	12 Months
ACCESSORY OPTIONS	6 Months
REPLACEMENT & OPTIONAL PARTS*	90 Days
UPGRADE COMPONENTS	6 Months

* The above 90-day period applies only to parts that are not furnished pursuant to a warranty repair for the Equipment. Any part furnished to Customer during the warranty period to correct a warranty failure will be warranted to the extent of the unexpired term of the warranty applicable to the System.

TERMS AND CONDITIONS OF SALE

- 1. TITLE AND RISK OF LOSS.** Title and risk of loss to the Equipment purchased under this Agreement will pass to Customer: (a) if Toshiba is to provide installation, upon Toshiba's completion of installation, or (b) if Toshiba will not provide installation, upon delivery by Toshiba to a common carrier at Toshiba's facility from which the Equipment is shipped.
- 2. TERMS OF PAYMENT.** Prices stated are F.O.B. Customer's facility. All taxes which are payable by Toshiba in connection with the sale, use, or possession of the Equipment (excluding income taxes), will be paid by Customer in addition to the quoted price. Terms of payment will be as stated in the first page of this Quotation. All invoices paid after due date will be assessed a late payment charge of the lesser of 1 1/2% per month or the maximum rate permitted by law.
- 3. DELAYS.** If Customer changes the scheduled delivery date specified on the first page of this Quotation/Order ("Scheduled Delivery Date") during the period of 120 days preceding such date, Customer will nevertheless pay the installment of the purchase price which would have been payable upon delivery, on the Scheduled Delivery Date as if delivery had been made on such date. In addition, Customer will pay all extra costs incurred by Toshiba as a result of such delay, including, without limitation, storage and transportation. Storage fees will be charged at commercially comparable rates for storage on Toshiba's site. If delivery is delayed by 12 months or more from the Scheduled Delivery Date, except through the fault of Toshiba, the price set forth in this Agreement may be increased by Toshiba to a level equal to the prevailing price in effect at the time of the revised delivery date.
- 4. EQUIPMENT INSTALLATION.** Toshiba will install all Equipment purchased under this Agreement and connect them to existing power and/or plumbing lines at no additional charge to Customer. Customer will be responsible for electrical wiring, plumbing, carpentry, plastering, painting, or all other site preparation required prior to installation and connection of the Equipment by Toshiba. Customer will provide space at the installation site for the safe storage of Toshiba's tools, test equipment and other materials used for installation at no charge to Toshiba. Customer shall, at its cost, obtain all permits and licenses required by governmental authorities in connection with the installation and operation of the Equipment. Customer acknowledges that the System and Software are designed to operate within certain power, temperature, airborne contamination, and humidity ranges. Customer will be responsible for, without limitation: (i) preparing and maintaining the Customer facility in conformance with the Site Preparation Guide; (ii) maintaining its network infrastructure; (iii) providing Toshiba, access to a network connection in or near the area of the System being serviced by the equipment service staff; and (iv) supplying computer grade AC power. The Equipment relies upon a stable grounded connection to the main power grid in order to function effectively. Customer acknowledges that AC power supply quality may be a problem in old facilities or in those facilities receiving poor quality utility service and that power conditioning may be necessary in such cases.
- 5. EQUIPMENT OPERATION.** Customer agrees that all Equipment purchased under this Agreement will be operated exclusively by duly qualified technicians and/or medical doctors in a safe and reasonable manner in accordance with Toshiba's written instructions, applicable laws and regulations, and for the purposes for which such Equipment was intended.
- 6. LIMITED WARRANTY AND REMEDY.** A. For the warranty period described below by product, Toshiba, as its only obligation, will replace or repair, without charge to Customer during Toshiba's normal working hours (if Customer requests warranty service outside such hours, Customer will pay overtime premium for labor), any component of the Equipment that is defective in materials or workmanship, provided such defect is reported to Toshiba within the warranty period. Toshiba's warranty period is as follows: (a) Systems and Major Components - one year from date of completion of installation; (b) Accessories/Options (except glassware) - six months from date of completion of installation. Components not manufactured by Toshiba will be furnished subject only to the manufacturer's warranty, if any, and without any warranty whatsoever by Toshiba. During the warranty period, Toshiba will furnish free of charge any parts, including software required to correct any defect in the Equipment or as required under applicable laws.
- B. Toshiba does not warrant that the operation of the Equipment of the System will be uninterrupted. All defective parts replaced by Toshiba will become the property of Toshiba. Replacement parts may be re-manufactured. However, such parts will meet the manufacturer's specifications for new components as of the date of completion of installation. TOSHIBA'S OBLIGATION TO REPAIR OR REPLACE DEFECTIVE PARTS OR SOFTWARE WILL BE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR A BREACH OF THE WARRANTY SET FORTH IN THIS AGREEMENT. SUCH WARRANTY WILL BE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. The warranty set forth in this Agreement will not apply to, and Toshiba will not be liable for any defects resulting from misuse, repairs performed by unauthorized third parties, accidents, acts of God, or neglect of anyone other than Toshiba.

7. **LATEST HARDWARE AND SOFTWARE AT TIME OF DELIVERY.** Toshiba agrees that the Equipment ordered by Customer will, at the time of delivery to Customer, contain, at no additional charge to Customer, the latest hardware and software manufactured by Toshiba for such Equipment that are commercially available in the United States and which are provided as part of Toshiba's standard configuration for such Equipment at the time of delivery. This commitment applies only to components and not an upgrade to the entire system. Furthermore, it is limited to hardware and software that (a) have been ordered by Customer, and not any optional or other items that were not ordered by Customer, and (b) are cleared by the FDA as of the date of delivery of the Equipment.

8. **LIMITATION OF LIABILITY.** A. NEITHER TOSHIBA NOR CUSTOMER WILL UNDER ANY CIRCUMSTANCES BE LIABLE FOR CONSEQUENTIAL, SPECIAL, INCIDENTAL, OR EXEMPLARY DAMAGES OR ECONOMIC LOSS ARISING OUT OF OR RELATED TO THE TRANSACTIONS CONTEMPLATED IN THIS AGREEMENT, EVEN IF EITHER PARTY IS APPRISED OF THE LIKELIHOOD OF SUCH DAMAGES OCCURRING.

B. IN NO EVENT WILL TOSHIBA'S LIABILITY TO THE CUSTOMER (WHETHER BASED ON AN ACTION OR CLAIM IN CONTRACT, TORT, INCLUDING NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE) ARISING OUT OF OR RELATING TO THE TRANSACTIONS CONTEMPLATED IN THIS AGREEMENT EXCEED THE AGGREGATE AMOUNT ACTUALLY PAID BY CUSTOMER TO TOSHIBA UNDER THIS AGREEMENT. THE LIMITATION OF LIABILITY SET FORTH ABOVE WILL NOT APPLY TO CLAIMS FOR PERSONAL INJURY OR PROPERTY DAMAGE CAUSED BY EQUIPMENT DEFECTS.

9. **SECURITY INTEREST.** Toshiba hereby reserves and Customer grants to Toshiba a security interest pursuant to the Uniform Commercial Code, in and to the Equipment (and all products and proceeds of it) until full payment of the purchase price is received. In the event that Customer finances its acquisition of the Equipment through a lease, conditional sale contract, secured loan agreement or other financing agreement (collectively, "Lease") with Toshiba, then the security interest in the Equipment (and all products and proceeds thereof) shall secure all obligations of Customer due and to become due under the Lease.

10. **REMOVAL OF EQUIPMENT.** Until Toshiba has received full payment of the purchase price, Customer will not remove all or any part of the Equipment from Customer's premises, nor will Customer sell, lease, transfer or otherwise part with the possession of, or permit any lien or encumbrance to be placed on all or any part of the Equipment.

2. **REMEDIES OF TOSHIBA.** If Customer fails to make any payment when due under this Agreement, or becomes insolvent or makes an assignment for the benefit of creditors, or if a petition in Bankruptcy is filed by or against Customer, or if the financial responsibility of Customer becomes impaired, or if Customer otherwise breaches any of the terms and conditions of this Agreement, then Toshiba may, without prior notice or demand, defer shipments, cancel the balance of the order, suspend performance of any obligation (including without limitation, all obligations set forth under Limited Warranty And Remedy above), and/or take immediate possession of the Equipment delivered, until the full purchase price of the Equipment is paid by Customer or, at Toshiba's discretion, until security satisfactory to Toshiba is given by Customer. Any costs incurred by Toshiba as a result of suspending performance or repossession or collection will be payable by Customer. Toshiba may sell repossessed Equipment with proceeds to be applied to unpaid balance and expenses incurred in sale, repossession and collection. Customer will pay any remaining deficiency. Toshiba may exercise any other rights available to it by law.

12. **EXCUSED PERFORMANCES.** Except for Customer's payment obligations hereunder, neither party will be liable to the other for non-performance or delay in performance resulting directly or indirectly from any occurrences beyond such party's control, including without limitation, strikes or other labor troubles, acts of God, war, accidents, fires, floods, other catastrophes, inclement weather, transportation, delays caused by suppliers, or laws, regulations, or acts of any governmental agency.

13. **SOFTWARE.** All rights and interest in any software that may be furnished under this Agreement, and any updates and enhancements to it, will remain the property of Toshiba. Such software is being furnished to Customer under a non-exclusive license. Customer will not, or allow others to decompile, modify, copy, reproduce, or transcribe the software nor allow third parties to use the same without Toshiba's prior written consent. In the event a third party's software is furnished to Customer, Customer may be required to execute a software license agreement as requested by such third party as a condition to delivery and/or purchase of the third party's product. Toshiba will furnish Customer with a copy of such license agreement for its review and execution. In the event Customer sells the Equipment to a third party, the purchaser thereof will have the same rights and obligations with respect to any Toshiba software as Customer. Customer will need to make its own determination whether it needs to obtain any consent from a third party for non-Toshiba software.

14. **CANCELLATION.** Customer may not cancel the order subject to this Agreement except with Toshiba's prior written consent. In the event of cancellation without Toshiba's written consent, Toshiba will be entitled to recover liquidated damages in an amount equal to twenty percent (20%) of the purchase price of the Equipment

15. **ASSIGNMENT.** Neither party may assign any of its obligations under this Agreement without the prior written consent of the other party. However, some of the obligations stated in this Agreement, such as the ones relating to installation of items not manufactured by Toshiba and the warranty thereof may be performed by Toshiba's contractors or suppliers.

16. **EXPORT REGULATIONS.** This Agreement involves products, and/or technical data that may be controlled under the U.S. Export Administration Regulations and may be subject to the approval of the U.S. Department of Commerce prior to export. Any export or re-export by Customer, directly or indirectly, in contravention of such Regulations is prohibited.

17. **ATTORNEY'S FEES AND COSTS.** In the event of any legal proceeding involving any party to this Agreement against the other relating to the subject matter of this Agreement, the prevailing party in such proceeding will be entitled to recover reasonable attorney's fees, expert fees, and court costs against the non-prevailing party.

18. **ENTIRE AGREEMENT.** This quotation contains the entire agreement between the parties and supersedes all prior and contemporaneous agreements between the parties, whether oral or written, relating to its subject matter, including, without limitation, all different or additional terms and conditions which may be contained in Customer's bid documents, purchase order or any other documents furnished by Customer. The provisions of this Agreement may not be modified unless in writing and executed by both parties.

Vendors & Budget Buckets **Cost**

A&E	
MEAA	\$32,500.00
Total	\$32,500.00

Construction	
Budget Estimate	\$165,000.00
	\$0.00
Total	\$165,000.00

Permits & Testing	
DHSR	\$2,000.00
T&B	\$2,000.00
Total	\$4,000.00

FF&E - IS	
Total	\$0.00

FF&E - Security	
Total	\$0.00

FF&E Materials Mgmt	
Total	\$0.00

FF&E Equipment	
Total	\$0.00

Land	
Total	\$0.00

Legal	
Total	\$0.00

Other	
Total	\$0.00

Contingency	
10%	\$20,120.00
Total	\$20,120.00

Site Development	
Total	\$0.00

Vendors Total	\$221,620.00
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EXHIBIT B

PROPOSED CAPITAL COSTS

Project name: Cardiac Catheterization System Replacement

Proponent: FirstHealth Moore Regional Hospital

Construction Contract	
(8) Cost of materials/labor	\$0
(9) Other (Specify)	NA
(10) Sub-Total Construction Contract	\$0
Miscellaneous Project Costs	
(11) Building purchase	N/A
(12) Fixed equipment purchase/lease	\$847,965
(13) Fixed equipment purchase/lease Total Options	\$221,620
(14) Furniture	N/A
(15) Landscaping	N/A
(16) Consultant fees	N/A
(17) Financing costs (e.g. bond, loan, etc.)	N/A
(18) Other (Specify)	N/A
(19) Other (Specify)	N/A
(20) Sub-Total Miscellaneous	\$1,069,585
(21) TOTAL CAPITAL COST OF PROJECT	\$1,069,585

To the best of my knowledge, the above capital costs for the proposed project are complete and correct, and it is the intent of FirstHealth of the Carolinas, Inc. d/b/a FirstHealth Moore Regional Hospital to carry out the proposed project as described.



Lynn DeJaco, Senior Vice-President and CFO

3-10-17

Date

EXHIBIT C

EQUIPMENT COMPARISON

	EXISTING EQUIPMENT	REPLACEMENT EQUIPMENT
Type of Equipment (List Each Component)	Cardiac Catheterization	Cardiac Catheterization
Manufacturer of Equipment	Toshiba	Toshiba
Tesla Rating for MRIs	N/A	N/A
Model Number	Infinix DPI	InfinixI
Serial Number	99A0582400	TBD at purchase
Provider's Method of Identifying Equipment	Research, Quality, and Price	Research, Quality, and Price
Specify if Mobile or Fixed	Fixed	Fixed
Mobile Trailer Serial Number/VIN#	N/A	N/A
Mobile Tractor Serial Number/VIN#	N/A	N/A
Date of Acquisition of Each Component	02/2004	TBD
Does Provider Hold Title to Equipment or Have a Capital Lease?	Title	Title
Specify if Equipment Was/Is New or Used When Acquired	New	New
Total Capital Cost of Project (Including Construction, etc.)	N/A	\$1,069,585
Total Cost of Equipment	N/A	\$847,965
Fair Market Value of Equipment	\$0	\$847,955
Net Purchase Price of Equipment	N/A	\$847,965
Locations Where Operated	FMRH	FMRH
Number Days in Use/To be Used in N.C. Per Year	365	365
Percent of Change in Patient Charges (by Procedure)	N/A	0.0%
Percent of Change in Per Procedure Operating Expenses (by Procedure)	N/A	< 1.0%
Type of Procedures Currently Performed on Existing Equipment	Cardiac Catheterization	N/A
Type of Procedures New Equipment is Capable of Performing	N/A	Cardiac Catheterization