DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF HEALTH SERVICE REGULATION

ROY COOPER
GOVERNOR

MANDY COHEN, MD, MPH
SECRETARY

MARK PAYNE
DIRECTOR

March 30, 2017

Dee Jay Zerman
211 Friday Center Drive
Suite G015
Chapel Hill, NC 27517

Exempt from Review – Replacement Equipment

Record #:	**2216**
Facility Name:	University of North Carolina Hospitals
FID #:	923517
Business Name:	UNC Hospitals
Business #:	1900
Project Description:	Replace existing pediatric cardiac catheterization laboratory
County:	Orange

Dear Ms. Zerman:

The Healthcare Planning and Certificate of Need Section, Division of Health Service Regulation (Agency), determined that based on your letter of March 13, 2017, the above referenced proposal is exempt from certificate of need review in accordance with N.C. Gen. Stat. §131E-184(f). Therefore, you may proceed to acquire without a certificate of need the Philips DS Advance Xper FD 10/10 to replace the Toshiba Infinix CBI.000VL Dual Plane Cardiovascular System. This determination is based on your representations that the existing unit will be removed from North Carolina and will not be used again in the State without first obtaining a certificate of need.

Moreover, you need to contact the Agency's Construction and Acute and Home Care Licensure and Certification Sections, DHSR 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 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,

Bernetta Thorne-Williams
Project Analyst

Martha J. Frisone
Assistant Chief, Certificate of Need

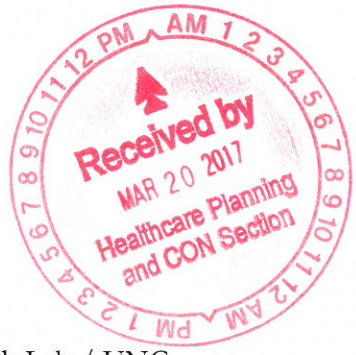
cc: Construction Section, DHSR
Paige Bennett, Assistant Chief, Healthcare Planning, DHSR
Acute and Home Care Licensure and Certification Section, DHSR

Record #~~2215~~ 2216
FID# 923517

UNC HOSPITALS

James T. Hedrick Building
211 Friday Center Drive,
Ste G015
Chapel Hill, NC 27517

March 13, 2017



Ms. Bernetta Thorne-Williams
Healthcare Planning and Certificate of Need Section
Division of Health Service Regulation, DHHS
2704 Mail Services Center
Raleigh, NC 27699-2704

RE: Request for Exemption / Replacement of Pediatric Cardiac Cath Lab / UNC Hospitals / Orange County

Dear Ms. Thorne-Williams:

UNC Hospitals is planning to replace its Pediatric Cardiac Cath labs and is requesting confirmation that the replacement of this equipment is exempt from review pursuant to §NCGS 131E-184(f). The cardiac cath lab to be replaced is located in UNC Hospitals at 101 Manning Drive in Chapel Hill, NC. The cardiac cath lab will be replaced for $2,103,621 and will be replaced with equipment comparable to the existing equipment. The existing lab was placed in service in 2005, and is used on a daily basis. The existing equipment requires replacement due to its age and declining image quality. This type of situation leads to added costs, operational delays, and patient, staff and physician dissatisfaction.

§NCGS 131E-184(f) Exemptions from Review provides that *"The Department shall exempt from certificate of need review the purchase of any replacement equipment that exceeds the two million dollar ($2,000,000) threshold set forth in G.S. 131E-176(22)* [sic should be (22a)] *if all of the following conditions are met:*

(1) The equipment to be replaced is located on the main campus.
(2) The Department has previously issued a certificate of need for the equipment being replaced. This subdivision does not apply if a certificate of need was not required at the time the equipment being replaced was initially purchased by the licensed health service facility.
(3) The licensed health service facility proposing to purchase the replacement equipment shall provide prior written notice to the Department, along with supporting documentation to demonstrate that it meets the exemption criteria of this subsection."

(1) Equipment to be replaced is located on the main campus: The purpose of this project is to replace the existing pediatric cardiac catheterization lab that is currently located within UNC Hospitals. The replacement equipment will be installed in the same space as the existing pediatric catheterization lab. See Exhibit 1 for floor plans of the existing pediatric cath lab and the proposed replacement, and Exhibit 2 for location of the space within the campus.

(1) Main Campus. NCGS §131E-176(14n) defines "Main Campus" as *the site of the main building from which a licensed health service facility provides clinical patient services and exercises financial and administrative control over the entire facility, including the building and grounds adjacent to the main building."*

The existing pediatric cath lab equipment is located on the first floor of UNC Hospitals on the main campus of University of North Carolina Hospitals at Chapel Hill. Exhibit 2 contains a map of the UNC Hospitals main campus and the buildings. UNC Hospitals is a licensed health service facility (DHSR Acute Care License No. H0157).

The building from which UNC Hospitals provides clinical patient services and exercises financial and administrative control over the entire facility is co-located on the UNC Hospitals main campus along with the UNC Hospitals. These offices are physically located on the 3nd floor of the Med Wing E, connected to the original main hospital building. The locations of the financial officer and administrative officer are also indicated the map in Exhibit 2.

(2) The Department has previously issued a certificate of need for the equipment being replaced: See Exhibit 3 for a copy of the original certificate of need issued for the pediatric cardiac catheterization lab.

(3) Prior Written Notice: This request shall serve of prior written notice of this activity.

(3) Supporting documentation to demonstrate that it meets the exemption criteria: We are supplying the following information that the CON Section has requested in the past as a part of its general information request for an equipment replacement.

1. A comparison of the existing and replacement equipment, using the format in the following table:

Equipment Comparisons

	Existing Equipment	*Replacement Equipment*
Type of Equipment (List each component)	Toshiba Infinix CBI.000VL Dual Plane Cardiovascular System	Philips DS Advance Xper FD 10/10
Manufacturer of Equipment	Toshiba America Medical Systems	Philips Medical Systems
Tesla Rating for MRIs	N/A	N/A
Model Number	Infinix CB.000VL	NNAM099 DS Advance Xper FD 10/10
Serial number	B4622151 digital processor; C4622298 generator; B4622047 lateral arm **see clarifying note below*	To be determined
Provider's Method of Identifying Equipment	By model & serial #s	By model & serial #s
Specify if Mobile or Fixed	Fixed	Fixed
Mobile Trailer Serial Number/ VIN #	Not applicable	Not applicable
Mobile Tractor Serial Number/ VIN #	Not applicable	Not applicable

Date of Acquisition of Each Component	5/2005	To be 2017
Does Provider Hold Title to Equipment or Have a Capital Lease?	Hospital owns	Hospital will own
Specify if Equipment Was/Is New or Used When Acquired	New	New
Total Capital Cost of Project (Including Construction, etc.) <See attached certified capital cost in Exhibit 4>	$555,883 (Construction) $2,012,883 total	$2,103,621 including construction and equipment
Total Cost of Equipment	$1,457,000	$1,142,094.28 cath lab & $61,526.48 Xper flex cardio
Fair Market Value of Equipment	$0	$1,142,094.28 cath lab & $61,526.48 Xper flex cardio
Net Purchase Price of Equipment	$1,457,000	$1,142,094.28 cath lab & $61,526.48 Xper flex cardio
Locations Where Operated	Cardiac Cath Lab	Cardiac Cath Lab
Number of Days In Use/To be Used in N.C. Per Year	365 days	365 days
Percent of Change in Patient Charges (by Procedure)	N/A	No change
Percent of Change in Per Procedure Operating Expenses (by Procedure)	N/A	No change
Type of Procedures Currently performed on Existing Equipment	Pediatric Diagnostic, Interventional and Structural Heart Cases	
Type of Procedures New Equipment is Capable of Performing		Pediatric Diagnostic, Interventional and Structural Heart Cases

*Clarifying Note: During the preparations of this request, we discovered that different s/n have been provided for this particular cath lab. To avoid further confusion, above we identified the three s/n's found in prior correspondence, and identified the particular part of the cath lab to which each of the three s/n's refers. All three are part of the same cardiac catheterization lab.

2. A description of the basic technology and functions of the existing and replacement equipment, including the diagnostic and treatment purposes for which the equipment is used or capable of being used.

Response: The existing Toshiba Infinix CBI.000VL Dual Plane Cardiovascular System will be replaced with a Philips DS Advance Xper FD 10/10 Cardiovascular System. Both systems are used to perform diagnostic and interventional heart procedures, otherwise known as cardiac catheterization, cardiac angioplasty, and coronary stent implantation. The current system allows for the provision of diagnostic and interventional procedures. The replacement lab will provide state-of-the-art imaging for diagnostic and interventional procedures. The DS Advance Xper FD 10/10 has a floor mounted G-arm stand, a ceiling-mounted lateral ARC,

and a digital imaging x-ray system for cardiovascular diagnostic and interventional procedures. This Xper FD 10/10 system is an integrated single-host concept.

3. Brochures or letters from the vendors describing the capabilities of the existing equipment and the replacement equipment.

Response: We were not able to obtain a product brief for the existing Toshiba Infinix CBI.000VL Dual Plane Cardiovascular System. The specifications of the proposed replacement Philips DS Advance Xper FD 10/10 cardiovascular system are included in the quote attached as Exhibit 5. The project also includes a moveable piece of medical equipment called an Xper flex cardio unit, and which cost is also included in the certified cost estimate in Exhibit 4 and a quote is also contained in Exhibit 5. The replacement Xper flex cardio unit is the cardio physio monitoring system for the replacement cath lab.

4. A copy of the purchase order for the existing equipment, including all components and original purchase price.

Response: A copy of the original purchase order and quote is not available. The original costs are included in the Equipment Comparison table above.

5. A copy of the title, if any, for the existing equipment or the capital lease for the existing equipment.

Response: Not applicable. The equipment does not have a title and will not be leased.

6. If the replacement equipment is to be leased, a copy of the proposed lease that transfers substantially all the benefits and risks inherent in the ownership of the equipment to the lessee of the equipment, in accordance with criteria in Generally Accepted Accounting Principles (GAAP).

Response: Not applicable. The replacement equipment will not be leased.

7. If the replacement equipment is to be purchased, a copy of the proposed purchase order or quotation, including the amount of the purchase price before discounts and trade-in allowance.

Response: Copies of the quotes received from Philips for the replacement cardiac cath lab and for the physio monitoring equipment are contained in Exhibit 5.

8. A letter from the person taking possession of the existing equipment that acknowledges the existing equipment will be permanently removed from North Carolina, will no longer be exempt from requirements of the North Carolina Certificate of Need law, and will not be used in North Carolina without first obtaining a new certificate of need.

Response: Phillips' vendor, IMEXSAL, will deinstall and take possession of the unit and remove it from the site as Philips installs the replacement unit. The unit will be taken out of state by Philips and will not be used in NC without obtaining certificate of need approval. See Exhibit 6 for a confirmation letter from Philips' vendor, IMEXSAL.

9. Documentation that the existing equipment is currently in use and has not been taken out of service.

Response: UNCH's existing operational Cardiac Cath labs are clearly identified on the most Licensure Renewal Application form on file with DFS. A copy of the 2017 LRA can be provided upon request.

Also attached as Exhibit 4, is a completed 'Proposed Total Capital Cost of Project' form which projects the total capital cost of this replacement project to be $2,103,621 for the lab replacement, including removal of the existing equipment and the installation of the replacement unit. The total capital cost includes all costs required to make the lab and physio monitoring equipment operational. Also included in Exhibit 1 are copies of the line drawings for the project. Since the room already exists, minor equipment and furniture will be reused. Beyond the items included in this estimate, no additional renovations, equipment or furniture will be required for this project.

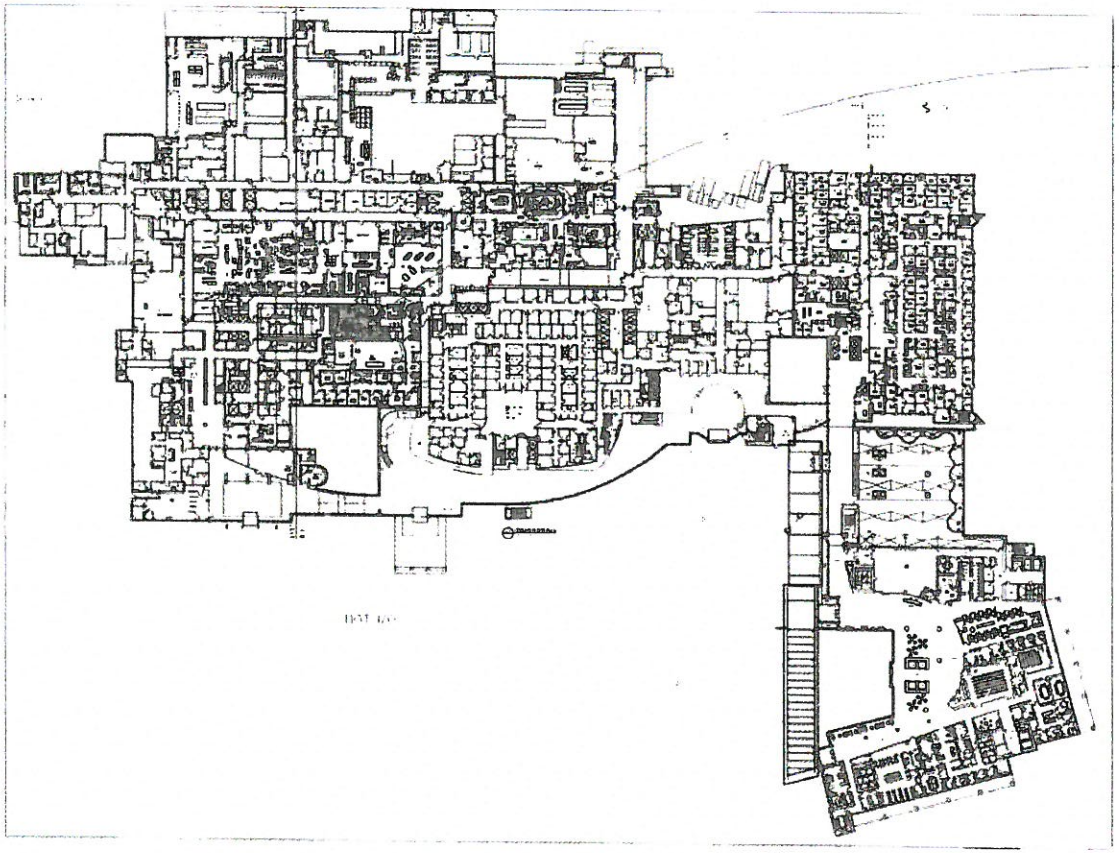
Please do not hesitate to contact me at 984-974-1243 should you require any additional information regarding the replacement of this equipment.

Sincerely,

Dee Jay Zerman

Dee Jay Zerman, System Director
Regulatory Planning
UNC HCS

Project Location



1 CON Ground Floor Locator Plan
1" = 160'-0"

Isley Hawkins
Architecture
112 South Duke St. #5
Durham, NC 27701
Tel: (919) 489-7417
Fax: (919) 419-0970
www.isleyhawkins.com

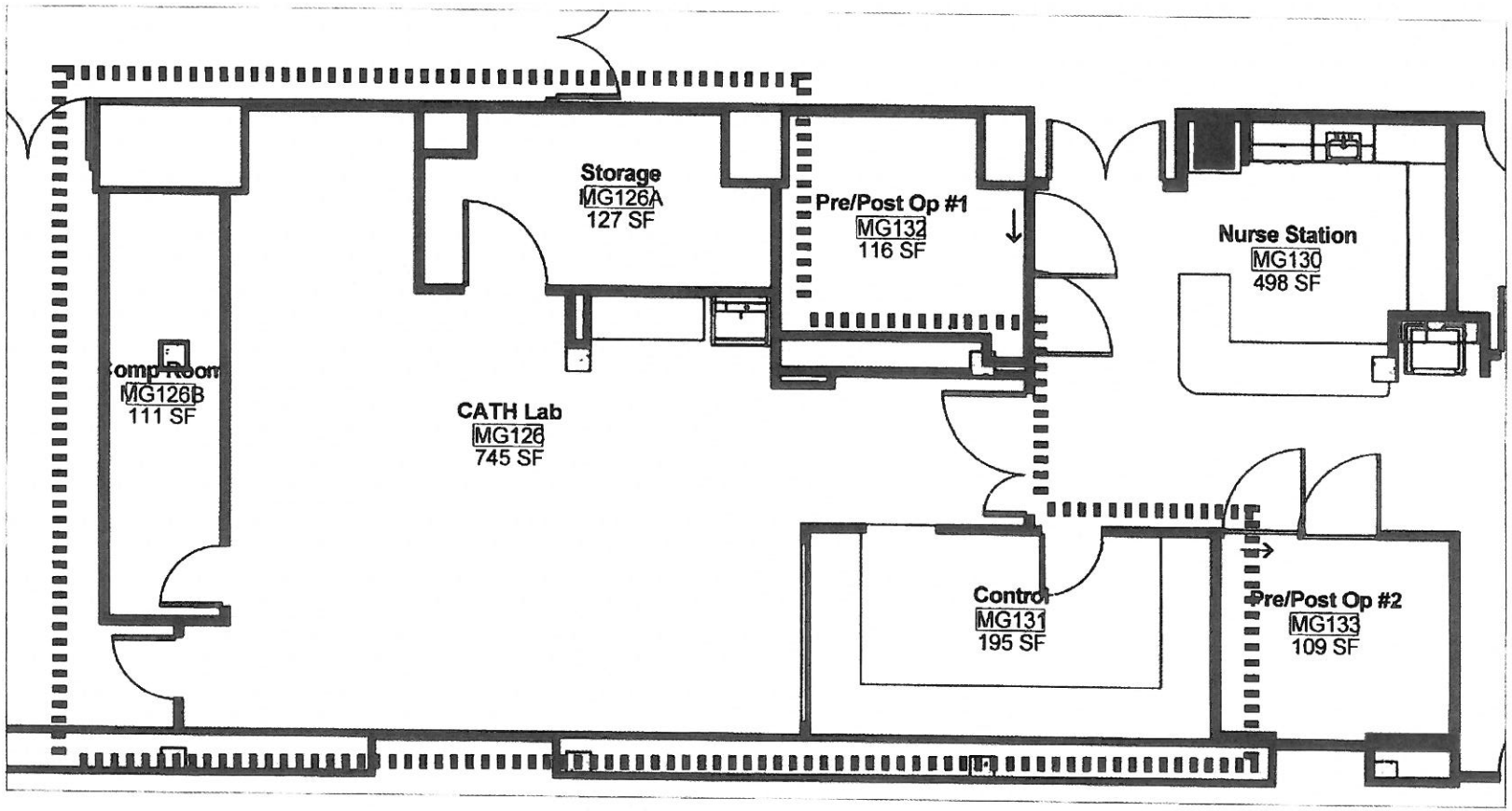
SCO ID #?

UNC Hospital Pediatric CATH Renovation

101 Manning Dr.
Chapel Hill, NC 27514

Date:	Drafted: JAR
	Designed: JAR
Scale:	1" = 160'-0"
Reference Sheet:	CON-3

Exhibit 1



1 CON Existing Plan
1/8" = 1'-0"

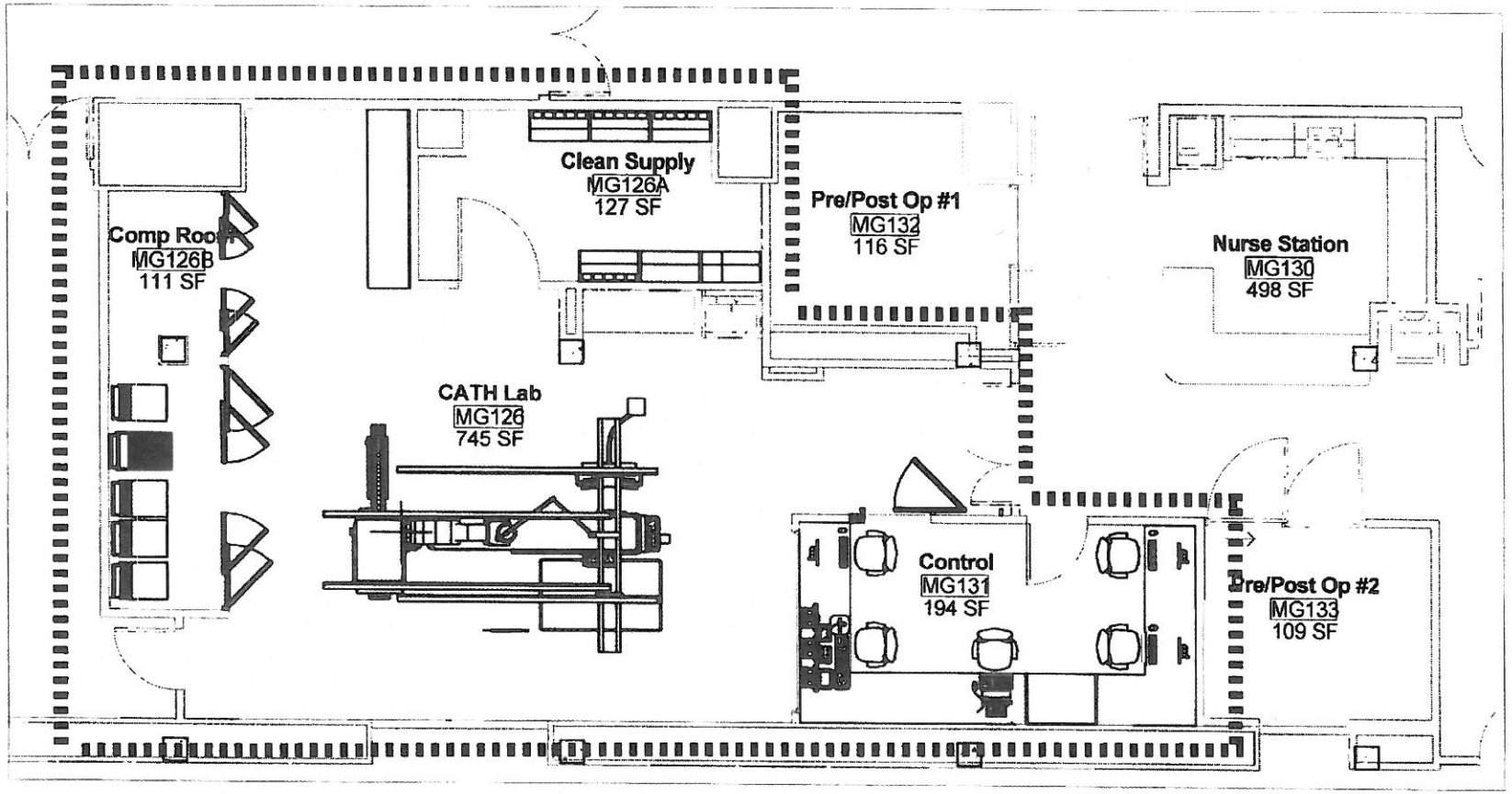
Isley Hawkins
Architecture
112 South Duke St. #5
Durham, NC 27701
Tel: (919) 489-7417
Fax: (919) 419-0970
www.isleyhawkins.com

SCO ID #?

UNC Hospital Pediatric CATH Renovation

101 Manning Dr.
Chapel Hill, NC 27514

Date:	Drafted: JAR
	Designed: JAR
Scale: 1/8" = 1'-0"	
Reference Sheet: CON-1	



1 CON Renovation Plan
1/8" = 1'-0"

Isley Hawkins
Architecture
112 South Duke St. #5
Durham, NC 27701
Tel: (919) 489-7417
Fax: (919) 419-0970
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SCO ID #?

UNC Hospital Pediatric CATH Renovation

101 Manning Dr.
Chapel Hill, NC 27514

Date:	Drafted: JAR
	Designed: JAR
Scale: 1/8" = 1'-0"	
Reference Sheet: CON-2	

Exhibit 2

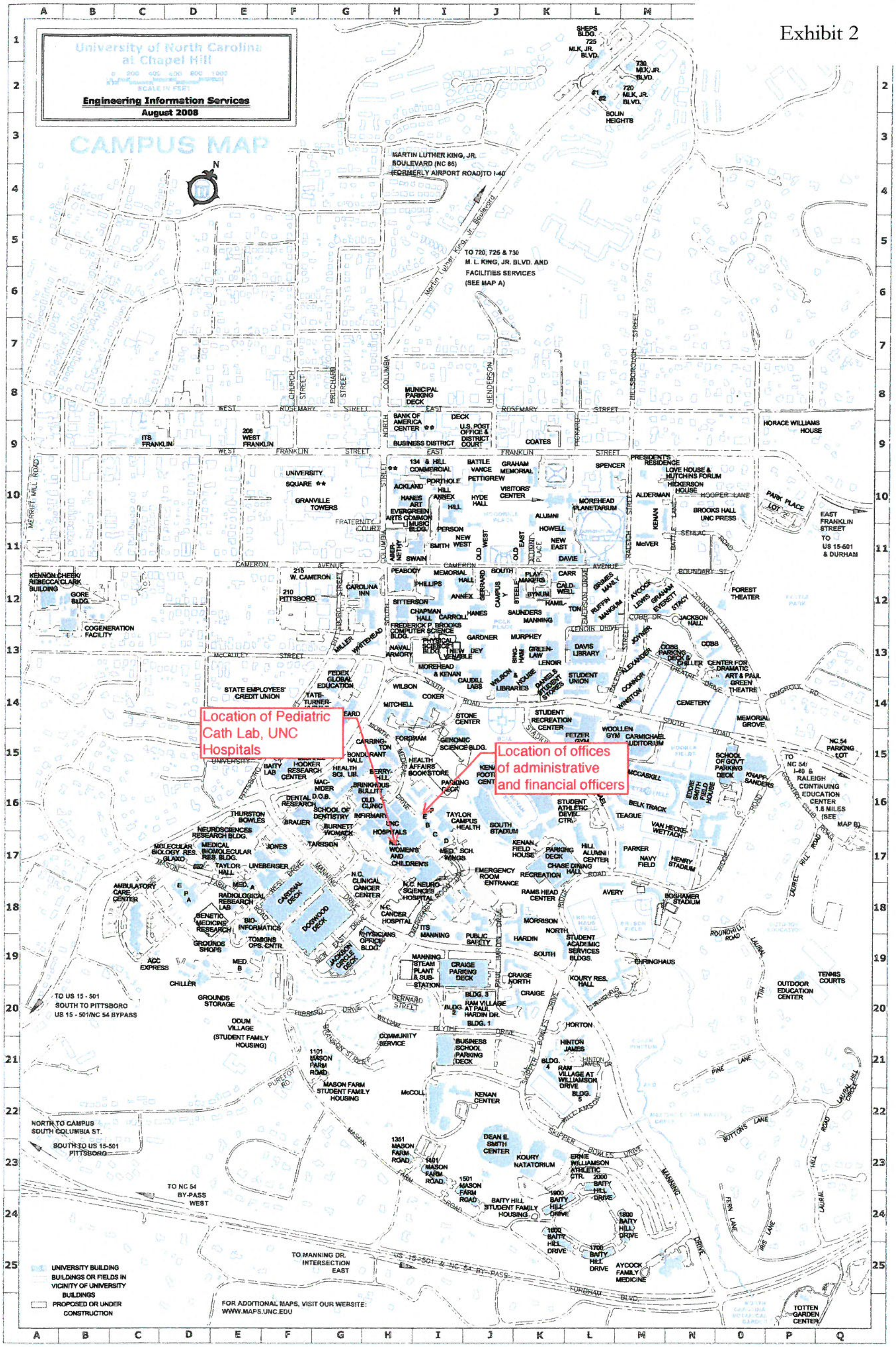
University of North Carolina at Chapel Hill
SCALE IN FEET
Engineering Information Services
August 2008
CAMPUS MAP
N
Location of Pediatric Cath Lab, UNC Hospitals
Location of offices of administrative and financial officers
MARTIN LUTHER KING, JR. BOULEVARD (NC 86) (FORMERLY AIRPORT ROAD) TO I-40
TO 720, 725 & 730 M. L. KING, JR. BLVD. AND FACILITIES SERVICES (SEE MAP A)
UNC HOSPITALS
WOMEN'S AND CHILDREN'S
N.C. NEURO-SCIENCES HOSPITAL
N.C. CANCER HOSPITAL
N.C. CLINICAL CANCER CENTER
EMERGENCY ROOM ENTRANCE
HEALTH AFFAIRS BOOKSTORE
CARDINAL DECK
DOGWOOD DECK
DAVIS LIBRARY
KENAN STADIUM
DEAN E. SMITH CENTER
MOREHEAD PLANETARIUM
TO US 15 - 501 SOUTH TO PITTSBORO US 15 - 501/NC 54 BYPASS
TO NC 54/ I-40 & RALEIGH
EAST FRANKLIN STREET TO US 15-501 & DURHAM
UNIVERSITY BUILDING
BUILDINGS OR FIELDS IN VICINITY OF UNIVERSITY BUILDINGS
PROPOSED OR UNDER CONSTRUCTION
FOR ADDITIONAL MAPS, VISIT OUR WEBSITE: WWW.MAPS.UNC.EDU

Exhibit 3

STATE OF NORTH CAROLINA
Department of Health and Human Services
Division of Facility Services

CERTIFICATE OF NEED
for
Project Identification Number J-6887-03
FID#923517

ISSUED TO: **UNC Hospitals**
101 Manning Drive
Chapel Hill, NC 27514

Pursuant to N.C. Gen. Stat. § 131E-175, et. seq., the North Carolina Department of Health and Human Services hereby authorizes the person or persons named above (the "certificate holder") to develop the certificate of need project identified above. The certificate holder shall develop the project in a manner consistent with the representations in the project application and with the conditions contained herein and shall make good faith efforts to meet the timetable contained herein. The certificate holder shall not exceed the maximum capital expenditure amount specified herein during the development of this project, except as provided by N.C. Gen. Stat. § 131E-176(16)e. The certificate holder shall not transfer or assign this certificate to any other person except as provided in N.C. Gen. Stat. § 131E-189(c). This certificate is valid only for the scope, physical location, and person(s) described herein. The Department may withdraw this certificate pursuant to N.C. Gen. Stat. § 131E-189 for any of the reasons provided in that law.

SCOPE: **UNC Hospitals shall acquire one unit of dedicated pediatric cardiac catheterization equipment pursuant to Policy AC-3 in the 2003 SMFP; renovate Hospital Dental Clinics; and develop a Pediatric Services Conference Room/Orange County**

CONDITIONS: **See Reverse Side**

PHYSICAL LOCATION: **UNC Hospitals**
101 Manning Drive
Chapel Hill, NC 27514

MAXIMUM CAPITAL EXPENDITURE: **$4,062,504**

TIMETABLE: **See Reverse Side**

FIRST PROGRESS REPORT DUE: **April 1, 2004**

This certificate is effective as of the 30th day of December, 2003.

Lee B. Hoffman

Chief, Certificate of Need Section
Division of Facility Services

CONDITIONS

1. UNC Hospitals shall materially comply with all representations made in its certificate of need application.

2. UNC Hospitals shall not acquire, as part of this project, equipment that is not included in the capital expenditure in Section VIII of the application and that would otherwise require a certificate of need.

3. UNC Hospitals shall acknowledge acceptance and compliance with all conditions stated herein to the Certificate of Need Section in writing prior to issuance of the certificate of need.

A letter acknowledging acceptance and compliance with all conditions stated in the conditional approval letter was received by the Certificate of Need Section on December 16, 2003.

TIMETABLE

Contract Award	August 10, 2004
25% completion of construction	October 1, 2004
50% completion of construction	December 1, 2004
75% completion of construction	January 20, 2005
Occupancy/offering of services	April 1, 2005
Ordering equipment	October 1, 2004

Exhibit 4

Isley | Hawkins
Architecture

Isley Hawkins, Inc.
112 S. Duke Street, #5
Durham, NC 27701
919.489.7417
isleyhawkins.com

February 22, 2017

DJ Zerman,
Regulatory Counsel, Strategic Planning
UNC Hospital

Re: **Construction cost certification**
UNC Hospital Pediatric CATH Lab Equipment Replacement
SCO# 17-16953-01
FID# 923517
101 Manning Dr. Chapel Hill, NC 27514

Dear Ms. Zerman:

This is to certify that our office has provided the design development construction cost estimate for the project noted above. This estimate is based on schematic design drawings prepared by our office and our consultants. We believe this to be a reasonable construction budget based on generally accepted methods of estimating construction costs and previous experience with similar projects in this facility.

Total Construction cost estimate:		$ 739,800
Labor and Material Costs:		
Material	(@ 40%) =	$ 295,920
Labor	(@ 60%) =	$ 443,880
	Total =	$ 739,800

UNC Hospital Plant Engineering office has represented to me the following as the complete project budget.

Total Construction	$ 739,800
Equipment	$ 1,203,621
Design Fees	$ 110,200
Project Contingency	$ 50,000
UNC Project Budget	**$ 2,103,621**

Respectfully,

J. Malcolm Hawkins, AIA

CC: Cleo Robinson, Project Manager

PROPOSED TOTAL CAPITAL COST OF PROJECT

A. Site Costs			
(1) Full purchase price of land		$ 0	
Acres _____ Price per Acre $_____			
(2) Closing costs		$ 0	
(3) Site Inspection and Survey		$ 0	
(4) Legal fees and subsoil investigation		$ 0	
(5) Site Preparation Costs			
Soil Borings	$ 0		
Clearing - Earthwork	$ 0		
Fine Grade for Slab	$ 0		
Roads - Paving	$ 0		
Concrete Sidewalks	$ 0		
Water and Sewer	$ 0		
Footing Excavation	$ 0		
Footing Backfill	$ 0		
Termite Treatment	$ 0		
Other (Specify)	$ 0		
Sub-Total Site Preparation Costs		$ 0	
(6) Other (Specify)		$ 0	
(7) **Sub-Total Site Costs**			$ 0
B. Construction Contract			
(8) Cost of Materials			
General Requirements	$ 65,000		
Concrete/Masonry		$ 0	
Woods/Doors & Windows/Finishes	$ 61,020		
Thermal & Moisture Protection	$ 0		
Equipment/Specialty Items	$ 10,000		
Mechanical/Electrical	$ 154,900		
Other (Unit Strut Support)	$ 0		
Sub-Total Cost of Materials		$ 0	
(9) Cost of Labor		$ 443,880	
(10) Other (Specify)		$ 0	
Firestopping		$ 5,000	
Asbestos Abatement		$ 0	
Window Upgrade		$ 0	
HVAC Upgrade		$ 0	
(11) **Sub-Total Construction Contract**			$ 739,800
C. Miscellaneous Project Costs			
(12) Building Purchase		$ 0	
(13) Fixed Equipment Purchase		$ 1,203,621	
(14) Movable Equipment Purchase		$ 0	
(15) Furniture		$ 0	
(16) Landscaping		$ 0	
(17) Consultant Fees			
Architect and Engineering Fees	$ 110,200		
Legal Fees	$ 0		
Market Analysis	$ 0		
Other (Structural fee)	$ 0		
Other (Specify)	$ 0		
Sub-Total Consultant Fees		$ 0	
(18) Financing Costs (e.g. Bond, Loan, etc.)		$ 0	
(19) Interest During Construction		$ 0	
(20) Other (Project Contingency)		$ 50,000	
(21) **Sub-Total Miscellaneous**			$ 1,363,821
(22) **Total Capital Cost of Project** (Sum A-C above)			$ 2,103,621

I certify that, to the best of my knowledge, the above construction related costs of the proposed project named above are complete and correct.

J. Madelon Hankins, A.I.A

Signature of Licensed Architect or Engineer

Isley | Hawkins
Architecture

Isley Hawkins, Inc.
112 S. Duke Street, #5
Durham, NC 27701
919.489.7417
isleyhawkins.com

February 20, 2017

DJ Zerman,
Regulatory Counsel, Strategic Planning
UNC Hospital

Re: **Water and Energy Conservation**
UNC Hospital Pediatric CATH Lab Equipment Replacement
FID# 923517
101 Manning Dr. Chapel Hill, NC 27514

Dear Ms. Zerman:

I am writing in regards to G.S. 131E-178 which requires a statement and plan regarding Energy and Water Conservation associated with Certificate of Need projects. We will comply with the North Carolina State Building Code and as reasonable and within budget will avail ourselves of sustainable initiatives.

This project is a renovation of existing space, and is air conditioned from the building's existing HVAC system. Water usage is anticipated to be a negligible change. The existing plumbing fixture counts to remain the same. Existing ballasted fluorescent lighting fixtures are scheduled to be replaced with energy efficient LED fixtures. We anticipate a reduction in energy consumption associated with facility lighting usage. The radiology equipment and devices selected by the Owner are beyond our control.

Respectfully,

J. Malcolm Hawkins, AIA

CC: Cleo Robinson, Project Manager

Nathan Isley, AIA, LEED AP, NCARB
J. Malcolm Hawkins AIA, EDAC

PHILIPS HEALTHCARE
A division of Philips Electronics North America Corporation
22100 Bothell Everett Highway
P.O. Box 3003
Bothell, Washington 98041-3003

PHILIPS

Quotation #: 1-1GM3ZKT	**Rev:** 9	**Effective From:** 16-Feb-17	**To:** 17-May-17

Presented To:
UNIVERSITY NORTH CAROLINA HOSPITAL
101 MANNING DR
CHAPEL HILL, NC 27514-4220

Tel:

Alternate Address:

Presented By:

Bethann Griffith-Subik
Account Manager
Tel: (919) 677-9046
Fax: (919) 677-9047

Amy Morrow
Regional Manager
Tel: (828) 553-3118
Fax:

Date Printed: 16-Feb-17

Submit Orders To:

22100 BOTHELL EVERETT HWY
BOTHELL WA 98021

Tel: (888) 564-8643 Fax: (425) 458-0390

This quotation contains confidential and proprietary information of Philips Healthcare, a division of Philips Electronics North America Corporation ("Philips") and is intended for use only by the customer whose name appears on this quotation. It may not be disclosed to third parties without the prior written consent of Philips.

IMPORTANT NOTICE: Health care providers are reminded that if the transactions herein include or involve a loan or discount (including a rebate or other price reduction), they must fully and accurately report such loan or discount on cost reports or other applicable reports or claims for payment submitted under any federal or state health care program, including but not limited to Medicare and Medicaid, such as may be required by state or federal law, including but not limited to 42 CFR 1001.952(h).

Quote Solution Summary

Line #	Product	Qty	Price
	102005 Diamond Select Advance FD10/10	1	$1,142,094.28
		Equipment Total:	$1,142,094.28

Solution Summary Detail

Product	Qty	Each	Monthly	Price
102005 Diamond Select Advance FD10/10	1	$1,142,094.28		$1,142,094.28

Buying Group: **MEDASSETS SUPPLY CHAIN SYSTEMS INC.** **Contract #:** **MS03221**

Addt'l Terms: **Product Terms and Conditions of Sale (T&C) not printed with this solution. Refer to Contract # noted above for applicable T&C details. If Service Agreement is quoted its T&C of Sale are printed**

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Payment Terms: 0% Down, 80% Upon Delivery, 20% Due When the Product is Available for First Patient Use, Net due 30 days from date of invoice

Quote Summary

102005 Diamond Select Advance FD10/10

Qty	Product
1	NNAM099 DS Advance Xper FD10/10
1	NDSA574 Cardiac
1	NDSA584 FlexVision XL,Snapshot
1	NDSA512 3D-RA Complete
1	NDSA579 Pediatrics
1	NDSA717 VesselNavigator
9	FDS0319 Legacy Video Convertor
9	FDS0318 Isolated Wall Conn.Box
1	NDSA360 Biplane FD Smartmask
1	NDSA654 Aut Pos Contr Xper sys & table
1	NDSA055 Rotational Scan
1	NDSA392 Digital subtracted Angio
1	NDSA201 Full AutoCall (Xper)
1	NDSA397 Right Vent. Quant. SW Pkg
1	NDSA398 Bipl left ventricular Analysis
1	NDSA396 Vascular Quant.Sw pkg(Xper)
1	NDSA399 2nd Xper Module pr
1	NDSA174 Catheterisation arm support
1	NDSA175 Pulse catheterisation arm support
1	NDSA403 Pivot for table base.
1	NDSA401 Xper Table Tilt
1	NDSA655 Cradle extension
2	FDS0034 Mon. cable carrier cliprail
1	NDSA652 Interventional Tools Hardware
1	NDSA238 Real Time digital image link
1	NDSA213 First Xper module is located in Examination Room
1	NDSA218 Second Xper module is located in Control room
1	FCV0604 DoseAware Bundle
1	980406041009 Rad Shield w/ Arm (Contoured) 61X76
1	980406190009 PIVOTING TABLE-MOUNTED RADIATION SHIELD
1	989801220012 Cable Spooler
1	989801220158 Mark 7 Arterion, Table Mount
1	989801220273 Ceiling Track w/Column & Handle Ext

Quote Summary

102005 Diamond Select Advance FD10/10

Qty	Product
1	989801220279 LED Single Color Exam Lamp
1	989801220284 ISM Premium Audio Package
1	989801220345 Personal Wireless Bidirectional Audio
1	989801220346 Add'l Wireless Microphone Set for Personal Audio
1	989801220375 Black Anti-fatigue Floor Mat w/logo.
1	989801220380 Full Load Remote UPS
1	SP005 Contract Labor
1	SP019 Trade in Allowance

102005 Diamond Select Advance FD10/10

System Type: Remarketing
Freight Terms: FOB Destination
Warranty Terms: Part numbers beginning with two (2) asterisks (**) are covered by a system 12 Months Warranty unless otherwise indicated. All other parts are third (3rd) party items.

Special Notations: Contingencies must be removed 120 days before scheduled shipment to assure delivery on specified date. Any rigging costs are the responsibility of the Purchaser.

Additional Terms: Product Terms and Conditions of Sale (T&C) not printed with this solution. Refer to Contract # noted above for applicable T&C details. If Service Agreement is quoted its T&C of Sale are printed

Line #	Part #	Description	Qty
1	**NNAM099	DS Advance Xper FD10/10	1

LIMITED AVAILABILITY BASED UPON RECEIPT OF CONTINGENT FREE ORDER AT THE FACTORY. CURRENT AVAILABILITY OF THIS OFFERING IS 120 DAYS ARO, SUBJECT TO AVAILABILITY AND PRIOR SALE.

NOTE: IF CUSTOMER IS UNABLE TO ACCEPT DELIVERY BY THE ABOVE STATED ARO DATE, THEN PHILIPS MAY DETERMINE A REVISED DELIVERY DATE

Allura Xper Diamond Select Advance FD10/10

The Allura Xper FD10/10 biplane cardiovascular system is comprised of a floor-mounted G-arm stand, a ceiling-mounted lateral ARC, and digital imaging X-ray system for cardiovascular diagnostic and interventional procedures.

The Allura Xper FD10/10 system is an integrated single-host concept. The system comprises five functional building blocks: Geometry, X-ray Generation, User Interface, Image Detection, and Viewing. Each functional building block is explained in further detail.

GEOMETRY

The Allura Frontal Stand

The floor-mounted geometry segment is comprised of the following features:

- A motorized dedicated cardiovascular floor-mounted Poly-Diagnost G-stand with a rotatable base that allows for a clear area around the patient table. The stand is capable of manual or motorized movement.
- All stand movements are motorized. The manual and motorized parking movement consists of floor-mounted rotation. The counterbalanced Dynamic Flat Detector can be positioning can be manually or motorized. Angulation and rotation of the Poly-Diagnost G-arm is also motorized at high speeds.
- The Poly-Diagnost G-stand can be parked either manually or motorized. The G-stand has electronic auto stop positions. The motorized parking feature provides motorized base rotation at 12 degrees per second from +105 to -105 degrees.
- The projection angles for the Poly-Diagnost G-arm are:
  - Rotation 120 degrees LAO to 120 degrees RAO
  - Angulation 45 degrees cranial to 45 degrees caudal
- Motorized stand movements are variable speed with a configurable maximum speed, allowing:
  - Rotation speed up to 25 degrees/s
  - Angulation speed up to 18 degrees/s

- The depth of the Poly-Diagnost G arm is 105 cm.
- The stand features BodyGuard capacitive sensing collision avoidance for patient protection.
- The variable source image distance range between the x-ray tube foci and the Dynamic Flat Detector input screen is 86.5 to 123 cm.

The Allura Lateral Stand

The ceiling-mounted geometry segment is comprised of the following features:

- A motorized lateral ceiling suspended double C-arc stand.
- Longitudinal manual and motorized movement on ceiling rails for convenient parking. The lateral C-arc stand is capable of manual or motorized parking over the full range of the rails with electronic auto-stop positions.
- Motorized movement makes positioning in the iso-center easy and accurate. It also features comfortable, single operator control of stand parking. The motorized longitudinal movement is max 12 cm per second over max 315cm.
- Collision protection is provided on X-ray tube, Flat Detector and inside the double C-arc.
- The double C-arc allows these angulations at any rotation:
  - Motor-driven rotation from frontal to left oblique projections of maximum 90 degrees
  - Motor-driven angulation in the cranial or caudal direction of maximum 45 degrees
- Manual or motor driven axial movement of the Flat Detector assembly for adjusting the patient/detector input distance.
- The variable source image distance range between the X-ray tube foci and the Dynamic Flat Detector input screen is 87.5-130.3 cm.
- The speed of the motorized angulation/rotation movement is 8 degrees/sec whenever the double C-arc is out of its parking position.

Patient Support

Xper Table

- Patient support provided with a flat carbon fiber tabletop
- Tabletop length of 319 cm and tabletop width of 50 cm
- Floating tabletop movement of 120 cm longitudinal and 36 cm transverse
- Motorized height adjustment from 79 to 107 cm
- Maximum patient weight 250 kg plus 500 N for CPR (or 225 kg plus 1000 N) in any longitudinal position of the table top

Patient Support Accessories

- Three rail accessory clamps
- Mattress pad
- Translucent catheterization armrest
- IV Pole
- Set of Cable Holders
- Set of Arm Supports

- Patient straps
- Table mounted radiation shield
- Antifatigue Mat with Philips logo

X-RAY GENERATION

The Allura Xper FD10/10 comprises an integrated dedicated X-ray system, micro-processor controlled 100kW generator, based on high frequency converter technology. The user interface control of this X-ray Generator is incorporated into the Xper module, Xper Desktop Console and the Xper on-screen displays.

For each plane, the Certeray generator comprises:

- X-ray generator: 100 kW
- Voltage range: 40 - 125 kV
- Program selection:
  - Pulsed X-ray up to 3.75 , 7.5 , 15 , 30, frames/s for digital dynamic exposures
  - Pulsed X-ray for pulsed fluoroscopy (3.75, 7.5, 15, 25, 30 frames/s).
  - Minimum exposure time of 1ms.
  - ECG triggered acquisition: allows acquiring one exposure for each QRS peak with selectable delay time
  - Automatic kV and mA control for optimal image quality prior to run to save dose
  - Optimal X-ray tube load incorporated in the Certeray generator
- An X-ray collimator with single semi-transparent wedged filter with manual and automatic positioning.
- SpectraBeam filtering of low energy radiation to optimize image quality and dose efficiency with the MRC-GS 0508 X-ray tube.
- Xper Beam Shaping, which means that, both shutters and wedges can be positioned on the Last Image Hold without the need for X-ray radiation.

Fluoroscopy

- Three programmable fluoroscopy modes can be selected from the Xper Imaging T.S.O. Each mode has a different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, adaptive harmonization).
- Xper Fluoro Storage, a grab function allows storage and archiving of a single fluoro frame or the last 20 seconds of fluoroscopy. These images or runs can be archived as a regular run.

The Allura Xper FD10/10 includes a Maximus ROTALIX Ceramic tube assembly MRC-GS 05 08 and cooling unit CU 3101 for cardio-vascular systems for each plane.

- The X-ray tube assembly comprising:
  - 0.5/0.8 mm nominal focal spot values maximal 45 and 85 kW short time load grid switching at pulsed fluoroscopy continuous loadability: 3400 W
  - SpectraBeam dose management
  - Tube housing ROT 1001 for oil-cooled X-ray tube with thermal safety switch cooling unit CU 3000 heat exchanger for use in oil-cooled X-ray tube systems high voltage cables

Line #	Part #	Description	Qty

IMAGE DETECTION

The Allura Xper FD10/10 has the following image detection chain for each plane:

- A 25 cm (10 in.) diagonal triple mode Dynamic Flat Detector. It comprises a 6"/8"/10" triple mode Dynamic Flat Detector
- The outer detector box is 37 cm diagonal square
- The digital output of the Flat Detector is a 1024 x 1024 matrix at 14 bit depth and the detector pixel pitch is 184 micron by 184 micron
- The DQE(0) is 75% providing high conversion of X-ray into a digital image, while maintaining a high MTF

VIEWING

The Allura Xper FD10/10 comprises the following components in order to display the clinical images in the control and examination rooms.

Displays

Examination Room

Four 19-inch monochrome LCD monitors

- 19-inch monochrome TFT-LCD display
- Native format 1280x1024 SXGA
- 10-bit gray-scale resolution with gray-scale correction

These monitors are not delivered when FlexVision XL, EP Cockpit or EP Cockpit XL is selected.

The monitor ceiling suspension in the exam room can be configured to accommodate 4, 6 or 8, LCD monitors and includes motorized height adjustment. The height-adjust feature is dependent on the room ceiling height. When FlexVision XL, EP Cockpit or EP Cockpit XL is selected the monitor ceiling suspension is configured for one of those options:

- The first reference channel is for the display of reference images or runs, controlled by infra-red remote-control Xper Viewpad.
- The On-Screen Display provides status information on stand rotation, angulation, display of system messages, X-ray tube load status, selected fluoroscopy mode, selected detector Field of View, and both the rate and accumulation of the dose area product and skin dose.

Control Room

One 19-inch color LCD monitor

- 19-inch color TFT-LCD display

Two 19-inch monochrome LCD monitors

- 19-inch monochrome TFT-LCD display
- Native format 1280x1024 SXGA
- 10-bit gray-scale resolution with gray-scale correction

These control room monitors are not delivered when EP Cockpit or EP Cockpit XL is selected.

Acquisition

The acquisition segment coordinates the parameters for automatic exposure control. The program is selected via the Xper module or Xper Desktop Console.

This Allura offers a storage capacity of:

- 100,000 images per plane at matrix size of 1024 x 1024, 10-bit
- Maximum number of examinations is 999, with no limit to the maximum number of images per examination

Xres Image Processing

- Xres is a multi-resolution spatial temporal noise reduction and edge enhancement filter. It takes advantage of the full benefits of the digital detector to enhance sharpness and contrast and to reduce noise in the clinical images.

USER INTERFACE

Xper is comprised of three elements: 1) Xper Settings, to customize the system to each user's preferred settings, 2) Xper User Interface, and, 3) Xper Integration, making advanced integration functionality available, such as DICOM Query / Retrieve, background archiving, and Xper Fluoro Storage.

The Xper User Interface comprises a range of User Interface modules in the Examination Room, including On-Screen Display.

On-Screen Display

- X-ray indicator and X-ray tube temperature condition
- Gantry position in rotation and angulation and Source Image Distance
- Detector field size display
- Selected Frame speed
- Fluoroscopy mode
- Integrated fluoroscopy time
- Stopwatch and Time
- Skin Dose: dose rate with X-ray, cumulated dose with no X-ray
- Dose Area Product: dose rate with X-ray, cumulated dose with no X-ray
- Graphical bars for indication of Body Zone specific dose-rate and accumulated skin dose levels, related to the 2 Gy level

Remote Intercom

A separate intercom is provided, which is connected independently from the system that allows separate placement of the intercom at the preferred working position in the control room and examination room.

Xper ViewPads

The Xper ViewPad contains the preprogrammed function settings. The system is provided with two Xper ViewPads. The following functions are provided:

- Run and image selection
- File and run cycle
- File overview
- Store to reference image file
- Copy image to photo file
- Digital (fixed)zoom and panning
- Recall reference images, which means switching control of Xper ViewPad function from life to reference monitor
- Laser pointer, intended to point at regions of interest on the imaging monitors
- LED indication of laser pointer on/off and battery low

Tableside Modules

One Xper Module is provided for use at either tableside or in the control room. This module has a touch-screen, which can be operated when draped with sterile covers. The Xper Module contains the following functionality:

- Acquisition settings
- Selection of Xper Setting allows the user to set frame rates and X-ray generation settings applicable for the type of the preferred intervention
- Automatic positioning recall to allow the stand position to match the reference image
- Image Processing

The Xper Biplane Geometry T.S.O. module can be positioned at three sides of the patient table, while keeping the button operation intuitive. The Xper Geometry T.S.O. provides the following functionality:

- Tabletop float
- Table height position
- Source Image Distance selection per plane
- Gantry positioning per plane
- Biplane rotation of the two gantries
- Frontal gantry rotation in an axis perpendicular to the floor and longitudinal movement of the lateral gantry
- Store and recall of two scratch gantry positions including SID
- Emergency stop button

The Xper Biplane Imaging T.S.O. module can also be positioned at three sides of the patient table, while keeping the button operation intuitive. The Xper Imaging T.S.O. provides the following functionality:

- Fluoroscopy Flavor selection defined per Xper Setting
- Shutter and wedge positioning
- Manual or automatic semi-transparent wedge filter
- Xper Fluoro Storage and Grab
- Selection of the Detector field size
- Shutter positioning
- Reset of the fluoroscopy buzzer
- Channel selection for the shutter and wedge control

Pan Handle

The Pan Handle is an extension of the control facility for floating movements of the table

Control Room

The control room comprises an Xper Review Module, Xper Viewing Console, a keyboard, and a mouse. The Xper Review Module offers the following functionality:

- Power on/off
- Tagarno wheel to control the review of a patient file
- File and run cycle
- Contrast, Brightness, and Edge enhancement settings
- File, Run, Image stepping and run and file overview
- Delete run
- Image invert and digital zoom
- Reset fluoroscopy timer and enable/disable X-ray

The workflow is divided into scheduling, preparation, acquisition, review, report, and archive. System information is displayed on the bottom of the data monitor:

Scheduling

The patients can be added, listed and selected per date, physician, or intervention type. Previous DICOM patient studies can be uploaded with the DICOM Query Retrieve function.

Patient management protocols are flexible and allow for multiple studies to be selected under one patient identification number so that new studies can be appended to an earlier patient file. Each study can contain multiple examinations to allow for split administrative purposes. Each examination contains multiple files, i.e. acquisition file, reference file, and QA results file.

Preparation

The preparation page provides the information of the room and patient preparation of each individual physician. The preparation page is customizable per Xpe r Setting and allows each physician to provide his or her own room protocols

Acquisition

The acquisition page contains information on the current selected patient.

Review

The review page allows for reviewing of patients:

- Previous examination cases
- Review of other DICOM XA or DICOM SC studies.

Archive
Biplane Continuous Autopush

Continuous Autopush is an archive accelerator, which ensures that background archiving continues with minimal disruptions.

Clinical studies can be archived to a CD or a PACS. The archive process can be completely automated and customized with Xper Settings. Parameters like multiple destinations and archive formats are programmable based on user requirements.

The Xper DICOM Image Interface enables the export of clinical images to PACS. The export formats are based on DICOM 3.0 protocols. The system exports clinical studies in Cardiac DICOM XA Multi-Frame or DICOM Secondary Capture formats.

- The export format is configurable in 512x512 or 1024x1024 matrix.
- The examination can be sent to multiple destinations for archiving and reviewing purposes.
- The Xper DICOM Image Interface provides DICOM Storage and DICOM Storage Commitment Services.
- The DICOM Query/Retrieve function allows older DICOM XA MF and DICOM SC studies to be uploaded in the system. Furthermore, additional information can be appended to a study, while keeping the patient identification the same.

Coronary Quantification Software Package

Functions:
diameter measurement along the selected segment
- cross sectional area
- %-stenosis
- pressure gradient values
- stenotic flow reserve
- calibration routines

In addition the package allows manual measurements of line lengths (absolute and ratio's) and angulations. Multiple measurements in one image are possible.

Analysis of the targeted vessel segment has been simplified by the single click function: positioning of the mouse on or close to the stenotic area and apply one click is enough to get the relevant segment detected, including the reference diameters and stenosis diameter.

RIS/CIS DICOM Interface

Line # Part # Description Qty

This package allows communication of the Allura Xper system with a local information system (CIS or RIS). The interface uses the DICOM Worklist Management (DICOM WLM) and Modality Performed Procedure Step (DICOM MPPS) standards.

If a hospital has an Allura Xper system and an information system it can receive patient and examination request information from the information system and report examination results in order to:

-Eliminate the need for retyping patient information on the Allura Xper
-Prevent errors in typing patient names and registration numbers (ensuring consistency with IS information to prevent problems in archive clusters auto-search for a name in case of later retrieval)
-Inform the IS about the acquired images and radiation dose

Upon request from the Allura Xper system the complete worklist with all relevant patient and examination data is returned from the IS to the Allura Xper system. For each patient the following information will be shown on the Allura Xper after it has been retrieved from the IS:

Patient Identification:

- Patient name
- Patient ID
- Birth date
- Sex

Examination/Request Information:

- Accession number
- Scheduled procedure step start time
- Scheduled performing physician's name

It is possible at all times to enter patient demographics information manually within the Allura Xper system in case of an emergency or in case the local Information System connection is down.

On request of the clinical user the Allura Xper will report the following information about the selected patient to the IS:
Patient Identification:

- Patient name
- Patient ID
- Birth date
- Sex

Examination/Request Information:

- Accession number
- Performed procedure step status start/end date and time
- Performing physician's name
- Referenced image sequence

Radiation dose:

- Total time of fluoroscopy
- Accumulated fluoroscopy dose
- Accumulated exposure dose

- Total dose
- Total number of exposures
- Total number of frames

Further detailed information can be found in the Allura Xper DICOM Conformance Statement.

The interface requires an EasyLink (hardware and software) if the IS is not compliant with DICOM Work List Management and Modality Performed Procedure Step.

Radiation Dose Structured Report

Collection of dose relevant parameters and settings and export to a DICOM database (e.g. PACS, RIS), according IEC60601-2-43, 2nd Edition.

The reported data can be used for, for example:

- Quality improvement: evaluating trends in X-ray dose performance per facility, system and operator.
- RDSR enables analysis of average dose levels & variance for routinely performed exams and procedures.
- Typical system usage can be extracted from the data.

Secondary Capture Dose Report

- The Secondary Capture Dose Report function allows the user to save & transfer, manually or automatically, a patient Dose Report to PACS in DICOM secondary capture format.
- The dose report will be stored in the related patient image folder.

Clinical Education Program for Allura Systems

Essentials OffSite Education: Philips will provide up to two (2) Cardiovascular Technologists, Registered Technologists Registered Nurses, or other system operator as selected by customer, with in-depth didactic, tutorial, and hands-on training covering basic functionality and work-flow of the cardiovascular imaging system. In order to provide trainees with the ability to apply all fundamental functioning on their system, and to achieve maximum effectiveness, this class should be attended no earlier than two weeks prior to system installation.

In the event that an EP Navigator workstation has also been ordered, the offsite training course will be tailored to focus on the electrophysiology functionality of the FD system and the EPN workstation.

In the event that your main FD system will be dedicated to Cardiac applications your offsite training course will be tailored to focus on the Cardiac functionality.

This twenty-eight (28) hour class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration and availability. Due to program updates, the number of class hours is subject to change without notice. Customer will be notified of current, total class hours at the time of registration. This class is a prerequisite to your equipment handover OnSite Education. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. **Travel and lodging are not included, but may be**

Line #	Part #	Description	Qty

purchased through Philips. It is highly recommended that 989801292102 (CV Full Travel Pkg OffSite) is purchased with all OffSite courses.

Handover OnSite Education: Philips Education Specialists will provide twenty-eight (28) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. Students should attend all 28 hours, and must include the two OffSite education attendees. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. **It is highly recommended for systems that are fully loaded or for customers with a large number of staff members to also purchase 989801292099 (CV Add OnSite Clin Educ 24h).**

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref# 106107-110915

2 **NDSA574 **Cardiac** 1

Diagnostic and interventional vascular angiography procedures (e.g. abdominal, thoracic and peripheral interventions)

3 **NDSA584 **FlexVision XL,Snapshot** 1

FlexVision XL is an integrated viewing solution designed to give
you full control over your viewing environment.
The FlexVision XL provides the ability to:
• Display information from up to 8 sources simultaneously (incl.
third party systems) on the Philips color LCD with LED backlight in the Exam Room.
• Resize and/or enlarge information at any stage during the case.
• Select and customize viewing lay-outs of the Philips
color LCD via the Xper table-side module
• Overview connected equipment (incl. third party systems) from
a single location.
The FlexVision XL consists of:
• DVI video composition unit.
o The DVI video composition unit allows the user to direct and switch the video output of all connected medical equipment to specific sub windows of the Philips color LCD with LED backlight in the Exam Room.
o The DVI video composition unit is operated from the
Xper tableside module.
o The DVI video composition unit supports a wide variety of display formats (up to 1920x1200)
o Up to 9 external inputs are connected to the DVI video composition unit via Wall Connection Box(es).
• Medical grade, high resolution color LCD in the Exam Room
o This display supports the image quality requirements for
monochrome X-ray images as well as color images and replaces
all displays normally delivered with an Allura Xper FD or
AlluraClarity system for the Exam Room.
o Main characteristics are:
- 8 Megapixel color LCD
- Native resolution: 3840x2160
- Brightness: Max: 700 Cd/m2 (typical) stabilized: 400 Cd/m2
- Contrast ratio: 4000:1 (typical)
- Wide viewing angle (approx. 176 degrees)
- Constant brightness stabilization control
- Lookup tables for gray-scale, color and DICOM transfer function

Line #	Part #	Description	Qty

- Full protective screen Ingress Protection: IP-21
• Large color LCD control (Xper Module)
o Resize and/or enlarge information at any stage during the case via the Xper tableside module in the Exam or Control Room
o Select viewing lay-outs via the Xper table-side module in the Exam Room
o Create new layouts by matching inputs to desired locations on preset templates.

• Monitor Ceiling Suspension
o Monitor ceiling suspension for use in the Exam Room carries the color LCD, providing highly flexible viewing capabilities. The monitor ceiling suspension is height-adjustable and moveable along ceiling rails. It can be positioned on either side of the table.

• Snapshot
o The snapshot function allows the user to store/save a screen-capture of any image on the display as a DICOM Secondary Capture image to a connected PACS. The snapshot-all function allows the user to store/save a screen-capture for each displayed image in the Exam Room / Control Room as separate DICOM Secondary Capture images.

4 **NDSA512 3D-RA Complete 1

The combination of Allura 3D-RA with 3D dynamic roadmap offers a real time registration of 'live" 2D fluoro and a 3D-RA angiography volume (3D roadmap) or a previous acquired CT or MR data set (CT/MR roadmap). With the roadmap a better understanding of the anatomy can be obtained for procedure planning or risk assessment

Allura 3D-RA assists physicians in decision making for treatment strategy in endovascular procedures, neuro or vascular surgery or even radiotherapy.

Allura 3D-RA reduces the number of DSA acquisitions and fluoroscopy time needed to perform an examination. This means less X-Ray dose for the patient and the medical staff and a reduced quantity of dye, leading to reduced procedure costs.

Allura 3D-RA provides a unique assessment after treatment due to the use of non-subtracted images that allows to shows devices stents, coils, clips and provide the optimal stand projection for endovascular treatment.

Allura 3D-RA provides a wide range of communication facilities to export 3D images.

Image Acquisition
Image acquisition is performed with the Rotational Angiography feature of the Allura Xper FD series with the flexibility to position the C-arm in either head or side position.

- C-arm in Head position: the Rotational Angiography run is performed over a scan range of 240 degrees with a rotation speed up to 55 degrees/sec.
- C-arm in Side position: the Rotational Angiography run is performed over a scan range of 180 degrees with a rotation speed up to 30 degrees/sec.

3D Vessel Reconstruction
The rotational run is automatically transferred and displayed as a 3D vessel model: with the Real-

Time digital link (option) 120 images are reconstructed into a 3 dimensional model within seconds. Additional reconstructions, using the Reconstructive Zooming Technique, can be performed as well.

Workflow
Allura 3D-RA in combination with the Allura Xper FD series will provide an optimal workflow via the following workflow enhancers:

- Complete automated 3D-RA process from 3D acquisition to 3D Viewing: no user interaction needed.
- 3D Automatic Position Control (3D-APC); When the optimal working position has been choosen via the Allura 3D-RA interventional tool, the C-arc will automatically steer to this position.
- 3D Follow C-arc; When the position of the C-arc (not using any X-ray) is changed, the 3D volume will automatically follow the position of the C-arc. This means the position of the C-arc (and therefore the 2D projection) and the 3D volume are always aligned. As last seen; when the user leaves the patient in the model and later selects that patient again, the Allura 3D-RA interventional tool will return to the image last used by the user.
- Mouse over: When moving the mouse cursor over a button the mouse over text will show up to explain the function of that specific button.

Calibration
Allura 3D-RA calibrations are performed by Philips Healthcare Customer Support. Allura 3D-RA calibration data are stable over at least 6 months time.

Viewing
A Real Time user interface is available with 3D-RA, providing 3D object viewing in any space direction.

- A graphical display of (C-arm) stand position including angulation/rotation for any projection.
- Philips' CRM (Contrast Resolution Management) Technology for a considerable increase in contrast resolution in all volumes.
- Various Image Rendering possibilities: Volume/Surface Rendering, MIP, Endoscopy, SUM (pseudo x-ray image) Gradient rendering; the possibility to display the vessel structure transparently.
- Cut-plane function to get a precise insight of the shape of the pathology
- Orthoviewer providing a multi-planar visualization of objects using the different Image Rendering possibilities.
- MPR (Multi-Planar Reformatting): enables visualization of the volume in all three standard projections (coronal, sagital and axial) Especially useful for optimal viewing of spine procedures (e.g.Vertebroplasty)
- SpineView: special acquisition protocol for optimal viewing of the spine, especially osteoporotic vertebrae
- CalciView: allows visualization of Hyper dense plaque in 3D, separately or in relation to the lumen.
- 5 different distance measurements calculated in the same volume, including "Quick measurement" feature
- Volume calculation
- Automated Vessel Analysis (AVA), provides information on vessel segment diameter, area and length with only three mouse-clicks. Endoscopic and cross sectional views are available.
- Computer Assisted Aneurysm Analysis (CAAA), providing information on Aneurysms, like volume, neck size etc..
- Catheter tip shape simulation, providing information on how to shape the catheter tip.

- Virtual stenting; Ability to simulate a stent placement in a selected vessel segment for proper stent sizing. All relevant data of the simulated stent are displayed
- Annotation: text can be added to a volume to capture comments.
- Interpolative Zoom
- Reconstructive Zooming Technique, 2 additional user defined reconstructions focused on the Volume Of Interest (VOI) using different cube size and voxel resolution.
- Subtraction of reconstructed volumes, allowing to visualize vessels without embolization devices (stents, coils, clips,..) to assess the outcomes of treatment
- Automatic Voxelshift: compensates for movement when rendering subtracted or superimposed volumes
- Set the grey values WW/WL
- Store/Recall of user defined projections.

3D-RA on Xper Module

The 3D-RA on XPER MODULE integrates the off-line 3D-RA application in the Allura Xper system. It allows operation of 3D-RA with the Xper module in the examination room during an examination. Display of 3D-RA imaging in the examination room has to be arranged for the monitor ceiling suspension with an additional monitor or with MultiVision (sharing an existing monitor). Following 3D-RA functions are available on the Xper module:

- Image rotation
- Image translation
- Start mouse mode
- Snapshot
- Segmentation (window-width/window-level control)
- 3D zoom control
- Store/recall views
- Recall Anterior-Posterior view
- Select 3D APC / Follow stand mode

3D and MR/CT Roadmap

3D Roadmap extends the capabilities of the integrated 3D product by providing a sustainable 3D roadmap to support interventional procedures. The 3D Roadmap option matches the real-time 2D fluoro images with the 3D-RA reconstruction or a previous acquired CT or MR data of the vessel tree. It provides a 3D real time insight of the advancement of the guide wire, catheter and coils through complex vessel structures.

Image Acquisition

The 3D Roadmap is based on the visualization of the vessel tree out of 3D-RA. The MR/CT roadmap is based on visualization of the anatomy on previous acquired CT or MR data sets which are matched with the X-ray unit by registration of the CT or MR data sets with a low dose 3D-RA scan. The roadmap is activated with one button touch at tableside (Xper Module). Select the roadmap function on the touch screen module, activate fluoroscopy and the roadmap is activated. The "live" 2D fluoroscopy image is overlaid with the 3D volume of the vessel tree and is automatically displayed on the roadmap monitor in both the examination and control room.

Table side control

The bidirectional link between the X-ray system and the roadmap allows the user to select the optimal stand position for the procedure in two ways. 3D Automatic Position Control allows the gantry to automatically move to the best interventional projection as shown on the roadmap monitor. 3D Follow C-arc allows the roadmap to remain in sync with the 2D projection, automatically adjusting viewpoint as the gantry is repositioned

Line # Part # Description Qty

The roadmap is dynamic, providing the freedom to change:

- The angulation of the C-arc;
- The rotation of the C-arc;
- The Field of View;
- The Source to Image Distance (i.e. if the geometry system is changed, the image angle changes accordingly, real-time)

Intuitive, fully controlled from tableside:

- Landmarking to adjust the intensity of the anatomical reference surrounding the vessels;
- 3D blending to fade in/out the 3D view;
- WW/WL settings to control the contrast/brightness;
- Store and review runs for reporting and archive purposes;
- Store snapshots and movies

Archiving
Transfer to:

- Optional Hard Copy unit (DICOM Print)
- Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
- Any PC in a standard PC compatible format (JPEG,AVI)
- One or multiple DVD's, CD-ROM(s) for easy archiving
- Store a subset of exportable objects (snapshots and AVI Movies) to a USB removable memory device.

Clinical Education Program for 3DRA

CV 3DRA Handover OnSite Education: Philips Education Specialists will provide sixteen (16) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref# 222-100615

5 **NDSA579 Pediatrics 1

Diagnostic and interventional procedures (pediatric cardiology or pediatric radiology)

6 **NDSA717 VesselNavigator 1

VesselNavigator
Reduce your need for contrast in complex endovascular procedures

VesselNavigator allows reuse of 3D vascular anatomical information from existing CTA and MRA datasets as a 3D roadmap overlay on live X-ray images. With its sophisticated visualization, it provides an intuitive and continuous 3D roadmap to guide you through vasculature during the entire procedure. This reduces the need for a contrast enhanced run to create a conventional roadmap and potentially shortens procedure times.

The essential components of VesselNavigator are:

- 3D roadmap navigation with a personalized visualization of a CT or MR overlay of the selected vasculature on live fluoro.
- Both 2D and 3D registration for CT or MR image fusion, allowing to choose the optimal registration method for the user's workflow
- Easy, intuitive four step workflow, with one click vessel segmentation
- Ring markers to easily indicate the ostia and landing zones.

VesselNavigator can be used for any type of endovascular procedure, except for coronaries and intracranial vessels. It is especially beneficial for complex and tortuous vasculature where it is challenging to accurately navigate and place stents or for procedures where contrast use should be minimized.

VesselNavigator provides the following functions:

- One click vessel segmentation; the user can select the relevant vessels for the overlay in the CT or MR volume in one click
- 3D landmarks. In the planning step the user can place ring markers for denoting ostia or landing zones and markers for denoting specific structures like calcifications Plan angles; VesselNavigator provides three dimensional views of vasculature that allow you to easily define the right projection angle. These angles can be recalled during the procedure for optimal navigation and stent placement.
- 2D registration; The CT or MR volume needs to be matched with the X-ray image for continuous live overlay. This can be performed with 2 X-ray images from different orientations. Once the 2 images are acquired, the user must manually match the bones on the preoperative scan with the X-ray image.
- 3D registration; The existing CTA or MRA volume needs to be matched with the X-ray image for continuous live overlay. This can be performed with a rotational angiogram or cone beam CT. The user has to identify 3 identical anatomical points on the rotational scan and the CTA or MRA volume. The software automatically matches the identified points to register the pre-operative scan with the X-ray system.
- Live image guidance; Real-time overlay of the 3D Vessel segmentation on the live 2D X-ray images from the Allura X-ray system of the same anatomy. For optimal viewing, the user can personalize the visualization of the overlay. The overlay can provide additional 3D image guidance to help the user with navigating the device/catheter to the target, enhancing clinical outcomes.
- Table tracking; The overlay will be aligned with the live X-ray image, irrespective of table movements.
- Table side control; Registration and live guidance can be controlled from table-side to provide efficient work-flow during the interventional procedures

Image data for VesselNavigator is stored together with the VesselNavigator movies and snapshots and can be sent to any optional DICOM compatible device (e.g. PACS/IntelliSpace Portal/Xcelera). Supported are DICOM XA, DICOM SC, DICOM CT and DICOM MR and any PC in a standard PC compatible format (JPEG, AVI). All this data can be reviewed at any time.

VesselNavigator movies and snapshots can be stored/archived on:

Line #	Part #	Description	Qty

- A PACS systems as DICOM Secondary Capture images or movies.
- USB removable memory device.
- One or multiple DVD's, CD-ROM(s) for easy archiving.
- Hard copy via the (DICOM Print) protocol

Clinical Education Program for Vessel Navigator:

Philips Imaging Systems Clinical Education Specialist will provide sixteen (16) hours of education for up to four (4) students, as selected by customer, including technologists from weekend/night shifts as necessary. CEU credits are not available for this portion of training. Please refer to guidelines for more information. Note: Site must be patient ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref#296273-20150805

7 **FDS0319 Legacy Video Convertor 9

Legacy Video Convertor

If 3rd party video signal is VGA, Video Legacy Convertor is required

The Legacy Video Cenvertor enables conversion from VGA towards DVI.
The Legacy Video Convertor enables conversion from VGA towards DVI for supported input resolutions, as listed in the table below.

Signal type Native resolution Image Aspect Ratio
VGA 640x480 4:3
SVGA 800x600 4:3
XGA 1024x768 4:3
SXGA 1280x1024 5:4
SXGA+ 1400x1050 4:3
UXGA 1600x1200 4:3
WXGA 1280x800 16:10 (8:5)
WSXGA 1440x900 16:10 (8:5)
WSXGA+ 1680x1050 16:10 (8:5)
WUXGA 1920x1200 16:10 (8:5)
2K 2048x1080 19:10
TV1080I/P 1920x1080 16:9
TV 480I 720x480 4:3
TV 480P 704x480 4:3
TV 576I 720x576 4:3
TV 576P 704x576 4:3
TV 720P 1280x720 16:9

8 **FDS0318 Isolated Wall Conn.Box 9

Line #	Part #	Description	Qty

Isolated Wall Connection Box
This Isolated Wall connection Box facilitates connection of the video source via standard DVI cable/connector and lossless transfer of the video signal over the approximate 30 m cable distance.
. It can be mounted in the exam room or in the control room, depending on the location of the video source.

The quantitiy of the VWCB's has to be calculated as follows:
For each video signal via MultiVision: 1 VWCB (max = 4)
For each video signal to FlexVision XL on Cardio System: 1 VWCB (max = 9)
For each video signal to FlexVision XL on Vascualr System: 1 VWCB (max = 8)
For each 3rd party video signal directly connected to an LCD in the MCS: 1x VWCB.

Note:
No VWCB is required in case a video signal is connected directly to a dedicated LCD from the following sources:
1) Xper Live/ref Slaving
2) Interventional HW (XtraVision), ViewForum, Xcelera (only if workstations are powered by Allura Xper)
3)Xper IM

9 ****NDSA360** **Biplane FD Smartmask** **1**

SmartMask simplifies the roadmapping procedures by overlaying on the live monitor fluoroscopy with a selected reference image.
Smartmask can be applied to both the frontal and lateral channel simultaneously.

The reference image can be faded in/out with variable intensity, controlled from tableside.
SmartMask uses the reference image displayed on the reference monitor.
Any previously acquired image can be used as reference.

SmartMask facilitates pre- and post- intervention comparisons to assess treatment results.

10 ****NDSA654** **Aut Pos Contr Xper sys & table** **1**

This Automatic Position Controller (APC) combines APC for Allura Xper FD10 and FD20 systems with table APC.
System APC provides two modes of operation:
Preset Position Sequence: the sequence of projections is determined through personnalized Xper Settings. Each set contains a maximum of 10 positions. Positions can be recalled in sequence or directly. The projection sequence comprises rotation angulation and SID settings related to the selected reference image.
Reference driven positioning: The projections on the reference monitors can be recalled with the push of a button. The reference driven positioning recollects the C-arm rotation angulation Flat detector image format and SID.
Table APC
The Automatic Position Controller (APC) for the table provides

Line #	Part #	Description	Qty

two modes of operation:
Auto positioning. The tabletop position and table height will be adjusted automatically to the pre-defined default point of interest. This to save time and x-ray dose at the start of an exam or for setting up the system for rotation scans.
Store/recall of a position of the table top. This includes the height-, longitudinal- and lateral position of the table top.

11 **NDSA055 Rotational Scan 1

Rotational Scan provides real-time 3D impressions of complex vasculature and the coronary artery tree. It acquires multiple projections with just one contrast injection.

Rotational Scan can be used during screening procedures to quickly determine the optimal projection for the study as the angle (rotation/angulation) of the projection is indicated on each image.

Compared with traditional angiography Rotational Scan can save considerable time dose and contrast while providing image detail required for diagnostic and therapeutic decisions.

Rotational Scan is possiblewith the Allura Xper systems in the side position (ceiling mounted systems) and in the head position which provides the flexibility to perform procedures virtually from head to toe.

With Allura Xper FD20

C-arm in side position:

- Max. rotation speed: 30°
- Max. rotation angle: 180°

C-arm in head position:

- Max. rotation Speed: 55°
- Max. rotation Angle: 305°

With Allura Xper FD10:

Poly G in side position (ceiling version):

- Max. rotation Speed: 30°
- Max. rotation Angle: 90°

Poly G in head position:

- Max. rotation Speed: 55°
- Max. rotation Angle: 240°

Maximum speeds are given by the framespeed specifications of the system configuration.

The speed and range of rotation are the highest available (see table). The very high speed allows using less contrast whereas the very wide rotation range provides a complete evaluation of the anatomy.

Line #	Part #	Description	Qty

The stand is designed forvery high mechanical stability. It offers precise positioning and high reproducibility assuring you of high quality images and excellentstudies.

Operation of Rotational Scan is extremely easy. The procedure is selected set up and executed virtually within a matter of seconds supporting the highest patient throughput. A set of dedicated acquisition programs is available on the Xper Module and can be selected at the touch of a button. The rotation endand start positions are easily selected. The procedure is controlled from the exposure hand or foot-switch.

12 ****NDSA392** **Digital subtracted Angio** **1**

The DSA-option extends the application functions with additional vascular studies. DSA features real-time digital subtraction at low frame speeds of 0.5, 1, 2, 3, or 6 frames per second. The DSA programs can be selected per Xper Settings. It offers exposure technique for uncompromised image quality of subtracted images.
In addition, this option also allows subtraction on run basis (run-subtract), which can be applied in the Rotational Scan and Bolus Chase Subtract options.

This function will comprise following functionality:
- Roadmap Pro (former Trace Subtract Fluoroscope) can be selected from the Xper imaging module and Xper module.
A vessel map is created and superimposed with live fluoroscopy. Acquisition runs can be done during Roadmap without losing the vessel map.
- Roadmap Pro features Smart Settings in special clinical modes that are optimized to visualize special materials such as coil and glue.
Live Processing of the vessel map, the device map and the landmark map can be done on the Xper Module.
- Automatic Motion Compensation" (AMC) functionality; during roadmapping, small movements of the patient can lead to subtraction artifacts. These artifacts might conceal important clinical information.
- Automatic Motion Compensation** compensates for rigid, uniform (skeletal/table) translations and is therefore very effective in interventional (neurology) applications where subtraction imaging is applied.
- Exposure subtract on individual image or run basis
- Mask selection
- Average masking during acquisition as additional subtracted IQ improvement
- Landmarking
- Pixel shift
This option also comprises an extra viewpad which has vascular functionality oriented buttons

** Disclaimer:
AMC only corrects movement artifacts in 2 dimensions.
3 dimensional movements like swallowing or rotation of the head cannot be corrected!

13 ****NDSA201** **Full AutoCall** **1**

(Xper)

Line #	Part #	Description	Qty

The Auto call option is a software package to be used in conjunction with quantitative analysis software packages. It provides an auto calibration procedure for an object to be analyzed that is placed in the iso-center. When the object to be analyzed (e.g. Left Ventricle Vessel Segment) is placed in the iso-center Autocal avoids the need to:

- acquire an additional image series containing a sphere or grid for calibration purposes or
- calibrate manually on a calibration object (e.g. catheter) displayed in the image or image series to be analyzed.

14 **NDSA397 Right Vent. Quant. SW Pkg 1

Software package for assessment of ejection fraction and right ventricular volumes. This package allows right Ventricular analysis from a single plane
or a biplane run: the calculations can be executed from single plane or biplane projections.
The package is especially intended for Pediatric Cardio applications, focussing on easy and efficient wall contour detection.
Comprising:

- Calibration routines
- Various RV-volumes
- Ejection Fraction
- Cardiac Output
- Centerline Wall Motion
- Slager Wall Motion
- Regional Wall Motion
- biplane Ejection Fraction automatic
- biplane Ejection Fraction manual

In addition the package allows manual measurements of line lengths (absolute and ratio's) and angulations. Multiple measurements in one image are possible.
Compatible with:

- Allura Xper FD10 Rel 3 and FD10/10 Rel 2 onwards
- Allura Xper FD20 Rel 2 and FD20/10 Rel 2 onwards
- Allura CV20 R1 onwards

15 **NDSA398 Bipl left ventricular Analysis 1

Software package for assessment of ejection fraction and left ventricular volumes. This package combines the single plane and the biplane Left Ventricular analysis software: the calculations can be executed from single plane or biplane projections.

Comprising:

- Calibration routines
- Various LV-volumes
- Ejection Fraction
- Cardiac Output
- Centerline Wall Motion
- Slager Wall Motion
- Regional Wall Motion
- biplane Ejection Fraction automatic

Line #	Part #	Description	Qty

- biplane Ejection Fraction manual

In addition the package allows manual measurements of line lengths (absolute and ratio's) and angulations. Multiple measurements in one image are possible.
Compatible with:

- Allura Xper FD10/10 Rel 2 onwards
- Allura Xper FD20/10 Rel 2 onwards

16 ****NDSA396** **Vascular Quant.Sw pkg(Xper)** **1**

Functions:

- vessel diameter / stenotic index
- automated vessel analysis
- calibration routines

In addition the package allows manual measurements of line lengths (absolute and ratio's) and angulations. Multiple measurements in one image are possible.
Compatible with:

- Allura Xper FD10 Rel 3 and FD10/10 Rel 2 onwards
- Allura Xper FD20 Rel 2 and FD20/10 Rel 2 onwards
- Allura CV20 R1 onwards

17 ****NDSA399** **2nd Xper Module pr** **1**

Second Xper Module

The second Xper Module is equal to the standard Xper Module and provides touch screen control of displayed functionality.
The following functions can be made availabe providing the relevant commercial options have been selected:

- Acquisition settings
- Image processing controls
- Automatic position control (optional)
- Channel selection for MultiVision
- Quantitative Analysis controls (optional)
- Xcelera and ViewForum viewing (optional)
- Interventional tool controls (optional)
  - Allura 3D-RA, Dynamic 3D Roadmap
  - StentBoost, Allura 3D-CA
  - XperCT, XperGuide
- XIM physiomonitoring controls (optional)

Comprising:

- Xper Module with Cabling
- Mounting materials
- Software

Connectivity:

Line #	Part #	Description	Qty

A maximum of 3 Xper modules can be connected to the Allura Xper system:

- one Xper module can on the XperTable
- one Xper module in the control room
- one Xper module on the Xper Pedestal

Compatible with:

- Allura Xper FD20 Rel.3
- Allura Xper FD20/10 Rel.2
- Allura Xper FD20/20 Rel.1

Power requirements: refer to system configuration.

18 ****NDSA174** **Catheterisation arm support** **1**

For brachial catheterization and digital imaging technique the support is made of X-ray transparent material with exception of the fixingclamp and pivots.

19 ****NDSA175** **Pulse catheterisation arm support** **1**

Facilitates catheterization trough the pulse and provides room for placing catheterization instruments. It is a flat radio translucent board and is placed under the patient while a part projects at either the left or right side of the tabletop to support the arm.

Size: 100 x 85 cm
Material: carbon-fibre reinforced material

20 ****NDSA403** **Pivot for table base.** **1**

For angiographic- and interventional procedures of the upper peripherals.
Provides improved table access for patient transfer.
Allows pivoting of the table base around its vertical axes.
Pivot range from -90 degrees to + 180 degrees (or -180 to +90 degrees) with locked positions on 0, -13/+13 (facilitating arm-angiography) and -90/+90 and 180 degrees.

Comprising:

- pivot device with graduated scale.

To be mounted on the universal floor plate of the table.

Compatible with Xper Table

21 ****NDSA401** **Xper Table Tilt** **1**

This innovating SyncraTilt enhances the accuracy and efficiency of gravity-oriented procedures. It is available as an option for the Xper table in Allura Xper series systems.

SyncraTilt is ideal for interventional, myelography, phlebography and head down procedures because it provides more precise imaging of contrast medium, blood, or objects in the body.

With SyncraTilt, the isocentre is automatically located at the isocentre of rotation and angulation of the stand. If the longitudinal position of the stand changes, the tilt isocentre is changed to match with the new stand position. As a result, the region of interest is always centred.
As the table tilts, the X-ray beam automatically coordinates to the movement.

Line #	Part #	Description	Qty

The table floats even when tilted, and the region of interest can be followed by panning the tabletop.

When combined with the Bolus Chase option, SyncraTilt enables phlebography to be performed with a head-up tilted patient.

The option provides:

- maximum tilt range:
  -17 degrees (head down) to +17 degrees
  (head up).
  tilt speed: 2 degrees/sec
- automatic safeguarding system with manual override
- panning range in tilted plane: equal to the standard tabletop specifications (longitudinal 120cm, lateral 35cm)
- easy to use controls

Comprising:

- Tilt drive with user controls `

Compatible with:

- Xper table in Allura Xper FD series Rel 3 onwards (monoplane versions) and Rel 2 onwards (biplane verions)
- Bolus Chase
- Pivot for table base
- swivel for table base

22 ****NDSA655** **Cradle extension** **1**

This extension provides the possibility to cradle the table top.
This allows optimal positioning of the patient for f.i. more invasive (surgical) or guided puncture procedures.
Functionality:
. isocentric cradle with maximum cradle range: -15 degrees to +15 degrees for the full tilt range
cradle speed: 3 degrees/sec
. automatic safeguarding system with manual override
. easy to use controls

23 ****FDS0034** **Mon. cable carrier cliprail** **2**

Additional monitor cable carrier for Cliprails.
This is an extra monitor cable hose relief between the MCC and the ceiling inlet.
For instance if the ceiling inlet cannot be placed in the middle of the cliprails (due room restrictions).

This item is not suitable for Monitor Ceiling Carriage (MCC) mounting or for Stand hose.

24 ****NDSA652** **Interventional Tools Hardware** **1**

Line #	Part #	Description	Qty

The Interventional hardware is the hardware for the 3D interventional tools and enables import and viewing of DICOM compatible data from other imaging modalities.

The Interventional Hardware comprises at least:
- Computer Workstation
- CR 19" display
- 16 GB memory
- 2 TB disk for the operating system, application software and application data
- Internal CD-Rom / DVD writer
- Mouse tablet to interact with all the interventional tools at the table side.

Conditionally:
FD Calibration Tool Kit for 3D-RA

25 ****NDSA238** **Real Time digital image link** **1**

Real Time digital image link to an off-line Allura Interventional Hardware station.
This applies on the applications 3D-RA, StentBoost and 3D-CA on the Interventional Hardware.
This dedicated digital link sends raw or processed image data (depending on the application) real time during monoplane exposures to the connected Interventional Hardware station, to allow instant results of
the applicable reconstruction after the exposure run.
In biplane systems, this digital link is available for the frontal channel only.

26 ****NDSA213** **First Xper module is located in Examination Room** **1**

First Xper module is located in Examination Room

27 ****NDSA218** **Second Xper module is located in Control room** **1**

Second Xper module is located in Control room

28 ****FCV0604** **DoseAware Bundle** **1**

DoseAware is a unique solution providing staff working in an X-Ray environment with direct, real time dose feedback, enabling them to optimize their behaviour and reduce exposure to scattered dose. The DoseAware bundle comprises:

- 1 BaseStation Package
- 10 PDMs
- DoseManager
- 2 PDM racks.

Base Station Package

The Base Station is the heart of the DoseAware system. It offers Online View, which displays real time dose rate and immediate dose data for any Personal Dose Meter (PDM) in range. The Walk-Up View enables easy access to personal dose history and PDM settings.
The Base Station has a touch screen interface and wireless communication with the PDM. The PDM dose information is stored within the Base Station and can be retrieved by the DoseAware Dose Manager software via a standard network interface to complete the DoseAware system with archiving and reporting functions.
The Base Station package includes also:

Line #	Part #	Description	Qty

- a cradle and the DoseView software package that can be installed on a local PC (not included), which has Windows XP or Vista as operating system.
- Mounting material for the Base Station, facilitating mounting on a wall or on a Philips Monitor Ceiling Suspension or a Philips mobile C-arm system.

10 Personal Dose Meters
The Personal Dose Meter (PDM) is a small and easy to wear active X-ray dose meter intended to measure and store received X-ray dose of staff, present in an X-ray room during radiation. The PDM has build-in radio-frequency wireless communication (868.3 Mhz for Europe version, 915 Mhz for USA version) to connect to the DoseAware Base Station for real time dose-rate indication and has a long battery life for maintenance-free usage. In addition it can be personalized to increase interest and awareness. The PDM not only records warning level profiles every second for a total of 3600 sec (cyclic overwritten), but also stores accumulated dose data every hour for maximum 5 years. A clip and a lanyard holder are included to facilitate easy wearing.

The PDM can be configured via the cradle, DoseView, and Dose Manager Software.

Dose Manager Package

The Dose Manager is a software program that serves as archive and reporting facility for all dose data of the DoseAware system. It allows tracking of multiple PDM's at a location.

Core functionality is:

- Store and manage dose history for multiple PDM's
- Collect all dose history from connected Base Stations via the network
- Browse dose history of PDM's as graph or table
- Export dose data for personal analysis with other software tools, like Windows Excel
- Create and print reports of dose history

29	**980406041009	**Rad Shield w/ Arm (Contoured) 61X76**	1

Contoured Rad Shield with Arm rest. 61X76

30	**980406190009	**PIVOTING TABLE-MOUNTED RADIATION SHIELD**	1

Table-mounted radiation shield for additional protection of physician and staff against scatter radiation. The shield consists of two protective parts: a lower shield and an upper shield. The shield is specially designed for use with the AD5 patient table.

The table mounted radiation shield provides the following features:

- Mounting to either the right orleft tableaccessory rails;
- Pivoting into the required working position;
- Pivoting into the parking underneath the tabletop facilitating patient preparation;
- The upper shield can be positioned upright providing optimal protection or can be folded down for free access to the patient.

Line #	Part #	Description	Qty

The table mounted radiation shield includes:

- Lower shield measuring 70 cm high 80 cm wide 0.5 mm Pbequivalence;
- Upper shield measuring 40 cm high 50 cm wide 0.5 mm Pbequivalence;
- Mounting clamp;

Docking device for wall mounting.

31 ****989801220012** **Cable Spooler** **1**

32 ****989801220158** **Mark 7 Arterion, Table Mount** **1**

The Mark 7 Arterion Injection System is the latest in MEDRAD's "Mark" series of angiographic injectors. Compared to earlier systems, the Mark 7 Arterion injector head is lighter and easier to use so you can focus more on the patient.
The clear and intuitive user interface guides you through proper set-up, and highlights the information you need to perform safe procedures.
Unique to the market, the front load system simplifies set-up and makes for a cleaner tear down.
The clear syringe provides a higher level of confidence that you are ready to inject.

Made from a clear material, the Mark 7 Arterion syringe (Catalog ART 700 SYR) allows you to easily view the inside of the syringe for smoother purging of air. And MEDRAD's famous fluid dots are still there to help-round for fluid, oval for air.
The table mount injector solution ensures the contrast injector is conveniently placed and always available when it is needed. It provides a clean workspace without occupying valuable floor space.
System includes:

- Table Mount
- display control panel
- 6 ft. coiled hand switch
- operation manual (CD)
- 10 ft. head cable
- syringe heat maintainer
- imaging system interface cable for the Allura / Allura Xper
- consumables starters kit

For the MEDRAD Mark7 Injector system Philips is only the distributor. MEDRAD provides the service as well as the application support of both versions unless stated differently in the Philips Service Agreement

System Specifications:

- Flow Rate 0.1-45.0 ml/s in 0.1 ml increments
- 0.1-59.9 ml/m in 0.1 ml increments
- Volume 1-150 ml in 1 ml increments
- Pressure Limit 100-1200 psi in 1 psi increments
- (150ml syringe) 689-8273 kPa in 1 kPa increments
- Rise Time 0.0-9.9 seconds in 0.1 increments
- Delay Time 0.0-99.9 seconds in 0.1 increments

Line #	Part #	Description	Qty

- Fill Speed 1-20 ml/s
- Fill Volume 1-150 ml
- Syringe Size 150 ml
- Syringe Heat Maintainer 35 °C (95 °F) ± 5 °C (9 °F)
- Protocol Memory 40 Protocols
- Injection Memory History

33 ****989801220273** **Ceiling Track w/Column & Handle Ext** **1**

Mavig 2.5m Ceiling Track with Ceiling trolley, 360 degree column, and brake handle extension.

34 ****989801220279** **LED Single Color Exam Lamp** **1**

LED Single Color M LED130F
Examination Lamp

Portegra2 Extension/Spring Arm Combination with M LED 130F,
Single Color, incl. Power Supply

Light in new dimension LED lamps support your daily operations through innovative technology and design. In addition to advantages provided by MAVIG with all light equipment, LED technology offers the following enhanced features:

- Faceted multi-lens system
- In-depth illumination
- Superior color rendition
- Extension arm 750mm
- Spring arm 900mm
- LED-Examination-light
- Operating voltage is 24V DC. The lamp is supplied with a transformer, should it be used with 230V.

Technical data LED 130F:

- Light intensity at 1 meter distance: 60.000 Lux
- Color rendering index: Ra = 95
- Focusable: yes
- Focusable size of the light field: 14-25 cm
- Color temperature: 4500 Kelvin
- Electronic light intensity control at the lamp head: standard dimming range: 50 - 100 %
- Temperature increase in head area: 0.5° C
- Mains: 230 V / 60 Hz
- Power consumption: 28 W
- Number of LEDs: 19
- Life-span of the LEDs: > 40.000 h
- Diameter of the lamp head: 33 cm
- Working distance: 70 - 140 cm
- Height Adjustment: 117 cm

35 ****989801220284** **ISM Premium Audio Package** **1**

Line #	Part #	Description	Qty

The Premium Audio Package is comprised of the following items:

Control System - Touchscreen Control Package offers touchscreen control with 7" Touch panel

Advanced Audio Communication System with Hands Free Telephony - Advanced audio uses an echo cancelling audio communication system with the EasySuite touchscreen to call or receive a telephone call. The hands-free system utilizes O.R. loudspeakers and 1 boom mounted microphones with no handset required.

MP3 Audio and Charging Interface - Universal MP3 music interconnection system allows any 3.5mm jack-enabled personal audio device to play music through the Advanced Audio System. Provides integrated charging capability via USB.

Speaker Upgrade for AAC (adds 2 additional speakers for Exam Room) Upgrade adds two recessed ceiling mounted speakers to the Standard Audio System, or Advanced Audio System, for a total of four speakers per Operating Room.

PTT Control Room Communication System with Control Room Loudspeakers - Push to talk intercom microphone system for control room plus two recessed ceiling mounted speakers for Control Room.

Ambient Room Lighting Control Enables touch panel control of room lights using customer provided lighting controller. Functions include on/off and ability to select multiple lighting presets.

36	**989801220345	**Personal Wireless Bidirectional Audio**	1

Personal Wireless Bidirectional Audio with One Wireless Microphone Set - Provides bidirectional audio comunication for one user with one wireless microphone set.

37	**989801220346	**Add'l Wireless Microphone Set for Personal Audio**	1

Additional Wireless Microphone Set for Personal Bidirectional Audio - Adds a second user to Personal Wireless Bidirectional Audio Option plus additional wireless microphone set.

38	**989801220375	**Black Anti-fatigue Floor Mat w/logo.**	1

Black Anti-fatigue Floor Mat with Philips Logo

36" x 60"

39	**989801220380	**Full Load Remote UPS**	1

MGE Galaxy 5000 80 kVA Full Load – 40kW UPS with remote capability. Includes top feed cabinet and optional side panels, ISX0001369526 G5TUPSU80KPAdjacent MGE Galaxy 5000 Battery Cabinet with one full string of batteries and standard Galaxy 5000 Adjacent battery Temp sensor.
High Voltage 6 Alarm Relays Card
MGE GALAXY 5000 Remote Alarm Status Panel
MGE SNMP/Web Communication Card
Top Feed Auxiliary Cabinet
In the event of a power loss the UPS provides emergency power to allow system function and full X-Ray exposure and fluoroscopy for up to 15 minutes.

40	SP005	Contract Labor	1

Labor to remove and dispose of existing Toshba equipment.

102005 Diamond Select Advance FD10/10

Line #	Part #	Description	Qty
41	SP019	Trade in Allowance	1

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

Product: Toshiba CATH LAB
Serial Number: B4622047
Manufacturer: TOSHIBA AMERICA MEDICAL SYSTEMS

Trade-In authorization number: 40810

Trade-In Value: $0.00

De-install Date: 12/26/2016

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

1. Customer represents and warrants that Customer has good and marketable title to the Trade-In as of the date of this Quotation and will have good and marketable title when Philips removes the Trade-In from Customer's site (the "Removal Date");
2. Title to the Trade-In shall pass from Customer to Philips on the Removal Date, unless otherwise agreed by Philips and the Customer;
3. Notwithstanding anything to the contrary in any Business Associate Addendum, Customer represents and warrants that as of the Removal Date all Protected Health Information will have been de-identified or removed from the Trade-In;
4. Philips may test and inspect the Trade-In prior to de-installation. If the condition of the Trade-In is not substantially the same on the Removal Date (ordinary wear and tear excepted) as it is identified on the System Disclosure Form, then Philips may reduce the price quoted for the Trade-In;
5. If the removal date is delayed until after the De-Install Date, unless Philips causes the delay, then Philips may reduce the price quoted for the Trade-In by six percent (6%) per month.
6. Philips is responsible for normal de-installation costs of the Trade-In.
7. The trade-in value will not include costs associated for any facility modifications and/or rigging required for de-installation and must be accounted for separately.
8. Customer is responsible for all plumbing necessary to properly drain coolant from chiller system and cap the lines.
9. Prior to the Removal Date, Customer shall remove from the room all equipment that is not being de-installed.

NET PRICE $1,142,094.28

Buying Group: MEDASSETS SUPPLY CHAIN SYSTEMS INC. Contract #: MS03221

Addt'l Terms: Product Terms and Conditions of Sale (T&C) not printed with this solution. Refer to Contract # noted above for applicable T&C details. If Service Agreement is quoted its T&C of Sale are printed

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Price above does not include any applicable sales taxes.

The preliminary delivery request date for this equipment is:_____.

If you do not issue formal purchase orders indicate by initialing here_____.

Tax Status:

Taxable_____ Tax Exempt_____

If Exempt, please indicate the Exemption Certification Number:_____, and attach a copy of the certificate.

Delivery/Installation Address:

_____

_____

_____

Invoice Address:

_____

_____

_____

Contact Phone #:

_____

Contact Phone #:

_____

Purchaser approval as quoted:

_____

Date:

_____

Title:

_____

This quotation is signed and accepted by an authorized representative in acknowledgement of the system configuration, terms and conditions stated herein.

PHILIPS PRODUCT WARRANTY

CARDIOVASCULAR (CV) SYSTEMS

This product warranty document is an addition to the terms and conditions set forth in the quotation to which this warranty document is attached. The terms and conditions of the quotation are incorporated into this warranty document. The capitalized terms herein have the same meaning as set forth in the quotation.

TWELVE-MONTH SYSTEM WARRANTY
Philips warrants to Customer that the Philips Vascular and Cardiac Systems (the "System") as delivered to Customer will perform in substantial compliance with its performance specifications for a period of twelve (12) months upon first patient use. Any glassware or flat detectors provided with the System is subject to special warranty terms set forth below.

PLANNED MAINTENANCE
During the warranty period, Philips personnel will schedule planned maintenance visits, in advance, at a mutually agreeable time on weekdays, between 8:00 A.M. and 5:00 P.M. local time, excluding Philips observed holidays.

SYSTEM UPGRADES
Any commercially available upgrade to the System which is hereafter installed by Philips during the original term of the System warranty shall be subject to the warranty terms contained in the first paragraph of this warranty, except that such warranty shall expire on the later of: a) upon termination of the initial twelve (12) month warranty period for the System on which the upgrade is installed or b) after ninety (90) days for parts only from the date of installation.

MRC X-RAY TUBES
Philips warrants to Customer, for the warranty periods further specified in this section, that the Philips X-Ray tube will be substantially free from defects in material and manufacturing workmanship, which impair performance under normal use as specified in Philips product descriptions and specifications.

The warranty period for MRC tubes provided with Customer's purchase of a new or refurbished X-ray system shall be the shorter of thirty-six (36) months after installation or thirty-eight (38) months after date of shipment from Philips. The warranty period for purchases of replacement tubes shall be the shorter of twelve (12) months after installation or fourteen (14) months after date of shipment from Philips.

MRC TUBE WARRANTY EXCLUSION
The above warranty shall not apply to X-ray tubes outside the United States and Canada. Philips' obligations under the product warranty do not apply to any product defects resulting from: improper or inadequate maintenance or calibration by Customer or its agents; Customer or third party supplied software, interfaces, or supplies; use or operation of the product other than in accordance with loss, or damage in transit; improper site preparation; unauthorized maintenance or Philips' applicable product specifications and written instructions; abuse, negligence, accident, modifications to the product; or, to viruses or similar software interference resulting from the connection of the product to a network.

MRC TUBE WARRANTY REMEDIES
If a tube is found to fail during the warranty period, and if, in the best judgment of Philips, the failure is not due to neglect, accident, improper installation, use contrary to instructions, or the exclusions stated above, Philips' tube warranty liability hereunder is limited to, at Philips option, the repair or replacement of the tube. Any replacement tube would have a warranty period equal to the balance of the warranty period left on the tube replaced.

IMAGE INTENSIFIER TUBES
Philips warrants the image intensifier tubes provided with the System, if any, will be free from defects in material and manufacturing workmanship for twenty-four (24) months. Claims must be made within twenty-four (24) months after installation or twenty-seven (27) months after date of shipment from Philips, whichever occurs first. If an image intensifier tube fails to meet this warranty, as Customer's sole and exclusive remedy, upon return of the tube, Philips will provide a prorated credit towards the purchase of a replacement tube from Philips as follows:

USAGE				CREDIT
0	to within	12	months	100%
12	to within	13	months	50%
13	to within	14	months	46%
14	to within	15	months	42%
15	to within	16	months	37%
16	to within	17	months	33%
17	to within	18	months	29%
18	to within	19	months	25%
19	to within	20	months	21%
20	to within	21	months	17%
21	to within	22	months	12%
22	to within	23	months	8%
23	to within	24	months	4%

Tubes received by Philips under this warranty that are found to meet all test specifications will be returned to the Customer and the warranty will continue as of the original date of installation. Examination of the returned tube may necessitate its destruction, but Philips' liability shall, in any case be limited to repair or replacement as aforesaid, only if in its sole opinion the tube has been properly used, installed and applied and has not been subjected to neglect, accident, or improper installation, or use. Transportation charges and risk of loss, both ways, of returned or replaced tubes shall be at the expense of the Customer.

DYNAMIC FLAT DETECTORS
Philips warrants the flat detectors provided with the System, if any, will be free from defects in material and manufacturing workmanship for twelve (12) months. Claims must be made within twelve (12) months after installation or fifteen (15) months after date of shipment from Philips, whichever occurs first. If a detector fails to meet this warranty, as Customer's sole and exclusive remedy, upon return of the detector, Philips will provide Customer a replacement detector at no additional charge.

SYSTEM SOFTWARE AND SOFTWARE UPDATES
The software provided with the System will be the latest version of the standard software available for that System as of the 90th day prior to the date the System is delivered to Customer. Updates to standard software for the System that do not require additional hardware or equipment modifications will be performed as a part of normal warranty service during the term of the warranty.

All software is and shall remain the sole property of Philips or its software suppliers. Use of the software is subject to the terms of a separate software license agreement. Customer must sign all such license agreements prior to or upon the delivery of the product. No license or other right is granted to Customer or to any other party to use the software except as set forth in the license agreements.

Any Philips maintenance or service software and documentation provided with the product and/or located at Customer's premises is intended solely to assist Philips and its authorized agents to install and to test the System, to assist Philips and its authorized agents to maintain and to service the System under a separate support agreement with Customer, or to permit Customer to maintain and service the System. Customer agrees to restrict the access to such software and documentation to Philips' employees and those of its authorized agents, and to authorized employees of Customer only.

WARRANTY LIMITATIONS
Philips' obligations under the System warranty are limited, at Philips' option, to the repair or the replacement of the System or a portion thereof, or to a credit or refund of a portion of the purchase price paid by Customer. Any refund or credit will be paid to Customer when the System is returned to Philips. Certain of the parts used in the manufacture or installation of, or in the replacement parts for, this System may contain refurbished components. If such components are used, they will be subject to the same quality control and inspection procedures as all other components in the System. Any System warranty is made on condition that Philips receives written notice of a System defect during the warranty period, and within thirty (30) days following the discovery of the defect by Customer. Philips' obligations under the System warranty do not apply to any System defects resulting from: improper or inadequate maintenance or calibration by Customer or its agents; Customer or third party supplied software, interfaces, or supplies; use or operation of the product other than in accordance with loss, or damage in transit; improper site preparation; unauthorized maintenance or Philips' applicable product specifications and written instructions; abuse, negligence, accident, modifications to the System; or to viruses or similar software interference resulting from the connection of the product to a network. Philips does not provide a warranty for any such third party products furnished to Customer by Philips; however, Philips shall use reasonable efforts to extend to Customer the third party warranty for the product. The obligations of Philips described above are Philips' only obligations and Customer's sole and exclusive remedy for a breach of a System warranty. Repairs or replacement parts do not extend the term of this warranty.

THE WARRANTIES SET FORTH IN THIS WARRANTY DOCUMENT WITH RESPECT TO THE SYSTEM (INCLUDING THE SOFTWARE PROVIDED WITH THE SYSTEM), GLASSWARE, AND DETECTORS ARE THE ONLY WARRANTIES MADE BY PHILIPS IN CONNECTION WITH THE SYSTEM, SOFTWARE, GLASSWARE, DETECTORS, AND THE TRANSACTIONS CONTEMPLATED BY THE QUOTATION, AND ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

ACCESS TO SYSTEM
Philips shall have full, free and safe access to the System and Customer's operation, performance and maintenance records for the System, on each scheduled or requested warranty service visit. Philips shall also have access to and use of any machine, service, attachment, features or other equipment required to perform the necessary service contemplated herein at no charge to Philips. Customer waives warranty service if it does not provide such access to the System and Customer's records. Should Philips be denied access to the System and Customer's records at the agreed upon time, a charge equal to the appropriate hourly rate will be accepted by Customer for "waiting time."

WARRANTY SERVICE
In the event it is not possible to accomplish warranty service within normal working hours (8:00 A.M. to 5:00 P.M., Monday through Friday, excluding Philips observed holidays), or in the event Customer specifically requests that warranty service be performed outside of Philips normal working hours, Customer agrees to pay for such services at Philips standard service rates in effect. Maintenance Agreements are available for extended coverage.

TRANSFER OF SYSTEM
In the event Customer transfers or relocates the System, all obligations under this warranty will terminate unless Customer receives the prior written consent of Philips for the transfer or relocation. Upon any transfer or relocation, the System must be inspected and certified by Philips as being free from all defects in material, software and workmanship and as being in compliance with all technical and performance specifications. Customer will compensate Philips for these services at the prevailing service rates in effect as of the date the inspection is performed. Any System which is transported intact to pre-approved locations and is maintained as originally installed in mobile configurations will remain covered by this warranty.

CONDITIONS
This warranty is subject to the following conditions: the System (a) is to be installed by authorized Philips representatives (or is to be installed in accordance with all Philips installation instructions by personnel trained by Philips), (b) is to be operated exclusively by duly qualified personnel in a safe and reasonable manner in accordance with Philips written instructions and for the purpose for which the products were intended, (c) is to be maintained and in strict compliance with all recommended and scheduled maintenance instructions provided with the System, and (d) Customer is to notify Philips immediately in the event the System at any time fails to meet its printed performance specifications.

LIMITATIONS OF LIABILITY AND DISCLAIMERS
The liability, if any, of Philips AND ITS AFFILIATES for damages whether arising from breach of the terms in the quotation, breach of warranty, negligence, indemnity, strict liability or other tort, or otherwise with respect to the products and services is limited to an amount not to exceed the price of the product or service giving rise to the liability.

IN NO EVENT SHALL PHILIPS OR ITS AFFILIATES BE LIABLE FOR ANY INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, OR THE COST OF SUBSTITUTE PRODUCTS OR SERVICES WHETHER ARISING FROM BREACH OF THE TERMS IN THIS QUOTATION, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHER TORT. PHILIPS SHALL HAVE NO LIABILITY FOR ANY GRATUITOUS ADVICE PROVIDED TO THE CUSTOMER.

FORCE MAJEURE
Philips and Customer shall each be excused from performing its obligations arising from any delay or default caused by events beyond its reasonable control including, but not limited to: acts of God, acts of third parties, acts of the other party, acts of any civil or military authority, fire, floods, war, embargoes, labor disputes, acts of sabotage, riots, accidents, delays of carriers, subcontractors or suppliers, voluntary or mandatory compliance with any government act, regulation or request, shortage of labor, materials or manufacturing facilities.

Philips system specifications are subject to change without notice Document Number 4535 983 03234 999

Non Disclosure Agreement for Philips Confidential Pricing Information

The parties specified below agree to the following terms:

A. Philips

Name	Philips Healthcare, a division of Philips Electronics North America Corporation
Address	22100 Bothell-Everett Highway, Bothell, WA 98021 United States of America

B. Company

Name	UNIVERSITY NORTH CAROLINA HOSPITAL
Address	101 MANNING DR CHAPEL HILL, NC 27514-4220

C. Confidential Information

Authorized Purpose	To evaluate Philips' confidential information relating to pricing for imaging equipment ("Pricing") in connection with the potential purchase of such imaging equipment.
Period	Begins on the date Pricing is first disclosed and continues for 5 years from date Pricing is last disclosed.

D. Philips Contact

Name	Bethann Griffith-Subik
Title	
Telephone	(919) 677-9046
Fax	(919) 677-9047
e-mail	
Signature	

Company Contact

Name	
Title	
Telephone	
Fax	
e-mail	
Signature	

1. The following terms and conditions (the "Agreement") apply to Pricing disclosed by Philips and its Affiliates ("Philips") to Company and its Affiliates ("Company"), in connection with the Authorized Purpose.

   (a) Subject to Philips' prior written consent, Company may disclose, or request that Philips disclose, Pricing to Company's Affiliates that need to know the Pricing for carrying out the Authorized Purpose, provided they are advised of and agree to be bound by this Agreement. Company is responsible for any breach of this Agreement by its Affiliates.

   (b) An Affiliate is any corporation, company, or other entity, that: (i) is under the Control of a party hereto; or (ii) has Control of a party hereto; or (iii) is under common Control with a party hereto. For this purpose "Control" means that more than fifty percent (50%) of the controlled entity's shares or ownership interest representing the right to make decisions for such are owned or controlled, directly or indirectly, by the controlling entity.

2. Philips may disclose Pricing to Company with respect to the Authorized Purpose in writing, orally, or otherwise. All information is assumed to be Pricing, and confidential, if the confidential or proprietary nature is reasonable under the circumstances.

3. All Pricing disclosed by Philips shall remain Philips' the property. Company does not, by implication, estoppel, or otherwise, acquire any intellectual property right, title, or ownership, nor a license to any such intellectual property right, with respect to any Pricing disclosed by Philips hereunder.
   ALL PRICING IS PROVIDED ON AN "AS IS" BASIS, WITHOUT ANY WARRANTY WHATSOEVER. PHILIPS SHALL HAVE NO LIABILITY WHATSOEVER RESULTING FROM THE USE OF THE INFORMATION PROVIDED.

4. Company shall:
   (a) not use the Pricing for any purpose other than the Authorized Purpose;
   (b) not disclose the Pricing to any third party;
   (c) protect the Pricing against disclosure in the same manner and with the same degree of care with which Company protects its own confidential information but not less than a reasonable degree of care; and
   (d) limit circulation of the Pricing to Company's employees as have a need to know in connection with the Authorized Purpose.

   These obligations shall survive the termination of this Agreement. Philips may terminate this Agreement at any time by means of a written notice to Company. Company shall return to Philips, or certify destruction of, all Pricing, immediately upon termination or expiration of this Agreement.

5. Information disclosed by Philips to Company pursuant to this Agreement shall not be confidential to the extent that the information:
   (a) is or becomes part of the public domain without violation of this Agreement or any other obligation of confidentiality;
   (b) is known by Company prior to disclosure by Philips;
   (c) is lawfully obtained by Company from a third party without any breach of confidentiality or violation of law; or
   (d) is developed by Company completely independently of any such disclosure by Philips.

6. If Company is required, pursuant to administrative or judicial action or subpoena, to disclose the Pricing, Company shall use its best efforts to maintain the confidentiality of the Pricing, e.g. by asserting in such action any applicable privileges. Immediately after gaining knowledge or receiving notice of such action or subpoena, Company shall notify Philips and give Philips the opportunity to seek any other legal remedies so as to maintain such Pricing in confidence, including a reasonable protective order.

7. Company may not transfer or assign any or all of its rights and/or obligations or delegate the performance of any or all of its obligations under this Agreement, directly or indirectly, through acquisition, merger or otherwise, without the prior written consent of Philips. Any transfer, assignment or delegation in contravention of the foregoing shall be void.

8. Company shall not disclose, export or release the Pricing in contravention of any applicable laws or regulations.

9. This Agreement shall be governed and construed in accordance with the laws of the State of New York, without giving effect to its conflict of laws provisions.

10. This Agreement contains the entire understanding of the parties and supersedes any previous understandings or agreements with respect to the subject matter hereof. This Agreement may be amended only in writing signed by authorized representatives of each party.

PHILIPS HEALTHCARE
A division of Philips Electronics North America Corporation
22100 Bothell Everett Highway
P.O. Box 3003
Bothell, Washington 98041-3003

PHILIPS

Quotation #: 1-1FV83TJ	**Rev:** 6	**Effective From:** 17-Feb-17	**To:** 17-May-17

Presented To:

UNIV N CAROLINA HEALTH CARE SYSTEM
101 MANNING DR
CHAPEL HILL, NC 27514-4220

Tel:

Alternate Address:

Presented By:

Chris Mason
Account Manager
Tel: (615) 517-6955
Fax:

John Baumann
Regional Manager
Tel:
Fax:

Date Printed: 17-Feb-17

Submit Orders To:

22100 BOTHELL EVERETT HWY
BOTHELL WA 98041

Tel:

Fax: (425) 458-0390

This quotation contains confidential and proprietary information of Philips Healthcare, a division of Philips Electronics North America Corporation ("Philips") and is intended for use only by the customer whose name appears on this quotation. It may not be disclosed to third parties without the prior written consent of Philips.

IMPORTANT NOTICE: Health care providers are reminded that if the transactions herein include or involve a loan or discount (including a rebate or other price reduction), they must fully and accurately report such loan or discount on cost reports or other applicable reports or claims for payment submitted under any federal or state health care program, including but not limited to Medicare and Medicaid, such as may be required by state or federal law, including but not limited to 42 CFR 1001.952(h).

Quote Solution Summary

Line #	Product	Qty	Price
	100751 Xper Flex Cardio	1	$61,526.48
		Equipment Total:	$61,526.48

Solution Summary Detail

Product	Qty	Each	Monthly	Price
100751 Xper Flex Cardio	1	$61,526.48		$61,526.48

Buying Group: **MEDASSETS SUPPLY CHAIN SYSTEMS INC.** **Contract #:** **MS03282 HEMO**

Addt'l Terms:

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Payment Terms: 0% Down, 80% Upon Delivery, 20% Due When the Product is Available for First Patient Use, Net due 30 days from date of invoice

Quote Summary

100751 Xper Flex Cardio

Qty	Product
1	P_860335_PL1 Xper Flex Cardio Control Room
1	P_860335_SF1 Side Stream ETCO2
1	P_860337_DS1 4:3 LCD HQ Display (19 inch)
1	P_860337_AC8 UPS - Medical Grade
1	P_860337_WS5 Customer Provided Workstation HW
1	AS3 Customer prov. Data Center and/or Broker Server HW
1	P_860337_DM6 Xper Flex Cardio Table Mount
1	RK4 Customer to provide rack enclosure
1	P_860337_CK1 Installation Cable Kit Control Room
1	FNA0988 OnSite Clinical Training, 2 days
24	989801200724 Contracts - Onsite PS Hours
16	989801200725 Contracts - Onsite Training PS hours
80	989801200726 Contracts - Remote PS hours
1	FNA0857 Total number of Facilities

100751 Xper Flex Cardio

System Type: New
Freight Terms: FOB Destination
Warranty Terms: Part numbers beginning with two (2) asterisks (**) are covered by a System 12 Months Warranty. All other part numbers are third (3rd) party items.
Special Notations: Contingencies must be removed 120 days before scheduled shipment to assure delivery on specified date. Any rigging costs are the responsibility of the Purchaser.
Additional Terms:

Line #	Part #	Description	Qty
1	**P_860335_PL1	**Xper Flex Cardio Control Room**	1

Xper Flex Cardio Control Room configuration is a physiomonitoring/hemodynamic system that is optimized for the cath lab environment. The system allows for monitoring the patient's vital signs as well as allows for hemodynamic measurements required during interventional procedures. This Control Room configuration consists of a signal acquisition unit that is installed within the procedure room and a computer workstation in the x-ray control room. This configuration is typically used within the cath lab, hybrid OR and multi-purpose labs where cardiac monitoring is required. User logins allow for networking to a central database server for archival of case procedure information. The system outputs the monitored signals to a boom display within the procedure room, while dual LCDs displays connected to the control room workstation can be used for all of the hemodynamic and information management functionality.

Software Features:
-Physiomonitoring, manual or automated entry of patient information in case details, sampling of waveforms, charting, hemodynamics
-Non-clinical functionality available via Xper Information Management modules loaded on the control room workstation

Xper Information Management modules included:
-Hemodynamic control software
-Charting for case procedure documentation
-Hemodynamic calculations
-Vitals capture
-Scheduler

Optional Features:
-FFR Measurement for Volcano or St. Jude
-End Tidal CO2 (Side Stream and/or Main Stream)
-16 Lead ECG
-ECG Analysis using Philips DXL Algorithm

Optional Modules:
-Xper IM Documentation Workflow Modules
-Xper IM Registries
-Xper IM Patient Status Viewer

Minimum Hardware included:
-Flex Cardio device (Model FC2010)
-Workstation
-Dual LCD Displays
-Keyboard
-Mouse
-Patient cable kit

100751 Xper Flex Cardio

Line #	Part #	Description	Qty

Minimum Software included:
-Microsoft Windows 7 or greater
-Current version of Xper IM software for workstation
-PC Anywhere v12.5 or greater
-McAfee Antivirus

Monitoring functionality included:
-NIBP
-Respiration
-Temperature
-12-lead ECG
-SpO2
-Cardiac output (Thermodilution)
-Invasive pressures (4 channels)

Requires purchase of:
-Xper IM Data Center SW
-Table Mount
-4:3 LCD HQ Display

NOTE:
- Pressure transducers, or adapter cables, are not included.
- Contact: Fogg System Company
USA: 1-800-525-0292
http://www.foggsystem.com/

2 ****P_860335_SF1** **Side Stream ETCO2** **1**

Incorporates Side Stream End Tidal CO2 monitoring capabilities to Xper Flex Cardio devices via external Philips Sidestream cable (M2741A)

- Monitoring accomplished via nasal canula.

Include:
-One box (10 each) disposable Adult CO2/O2 Nasal Canulas (M2750A)
-One box (10 each) disposable Pediatric CO2/O2 Nasal Canulas (M2751A)

3 ****P_860337_DS1** **4:3 LCD HQ Display (19 inch)** **1**

19" Medical Grade LCD Color Display (1280 x 1024 resolution) for mounting on suspension boom in procedure room, or for use with client workstations

- Includes VGA Cable (To be pulled / installed by customer). Cable not included with Boom monitor if purchased with a hemodynamic system, as the cable is included with that product.

4 ****P_860337_AC8** **UPS - Medical Grade** **1**

Medical grade UPS for use with Xper Information Management Flex Cardio servers

5 ****P_860337_WS 5** **Customer Provided Workstation HW** **1**

Hardware for use with concurrent user licenses and Patient Status Viewer software.

Minimum Workstation Hardware Specifications:
- Main Board
- 3.0 GHz or greater hyper-threading processor
- 2 GB RAM
- 80 GB or greater hard drive

Line #	Part #	Description	Qty

- DVD-ROM drive reader
- Video – 1280 x 1024 res, 24/32 bit color (optional Dual Head DVI)
- 10/100/1000 MB network adapter (may have multiple)
- Mouse
- Keyboard

NOTE: Xper IM Concurrent User Licenses and/or Patient Status Viewer license must be purchased separately.

6 ****AS3** **Customer prov. Data Center and/or Broker Server HW** **1**

Customer to provide Data Center Server hardware that meets or exceeds the following minimum specifications:

-File Server
- Main Board
- Dual Core 1.6 GHz or greater processor
- 4 GB RAM
- Hard Disk (500 GB capacity, RAID possible)
- DVD-ROM drive
- Video – 1280 x 1024 res, 16 bit color Min
- 10/100/1000 Network Adapter (may have multiple)

-Microsoft Windows Server Operating System
-Microsoft SQL Server Software
-Symantec pcAnywhere
-Rack in which to place Server, monitor, keyboard, mouse and UPS

Alternatively, customer to provide higher capacity Data Center server hardware, recommended for use when there is a need for either higher database storage capacity, or to allow multiple facilities to share a single data center, to meet or exceed the following specifications:

- File Server
- Main Board
- Dual Quad Core 3.16 GHz or greater processor
- 32 GB RAM
- RAID 5 or greater
- DVD-ROM Drive
- 4 TB Storage Space
- Video – 1280 x 1024 res, 24/32 bit color Min
- 10/100/1000 Network Adapter (2)

-Microsoft Windows Server Operating System
-Microsoft SQL Server Software
-Symantec pcAnywhere
-Rack in which to place Server, monitor, keyboard, mouse and UPS

NOTE:
If this hardware is to support more than one facility, each facility must have a 1000mb uplink between the facility and the Server.

Customer to provide the Interface Server hardware, to meet or exceed the following minimum specifications:

-File Server
-Main Board
-Dual Core 1.6 GHz or greater processor
-4 GB RAM
-RAID 5 array (500 GB capacity)

100751 Xper Flex Cardio

Line #	Part #	Description	Qty
		-CD-ROM drive -Video – 1280 x 1024 res, 24/32 bit color Min -10/100/1000 Network Adapter (2) -Microsoft Windows Server Operating System -Microsoft SQL Server Software -Symantec pcAnywhere -Rack in which to place Server, monitor, keyboard, mouse and UPS	
7	**P_860337_DM6	**Xper Flex Cardio Table Mount** This Xper Flex Cardio Table Mount is a customized mounting system and is required to mount FC2010 to x-ray table. The mount includes cable management to minimize clutter of cables connected to the FC2010 device. *This wall mount is optimized for the Philips Allura X-ray table, but could be used for x-ray tables from other manufacturers.	1
8	**RK4	**Customer to provide rack enclosure**	1
9	**P_860337_CK1	**Installation Cable Kit Control Room** Provides all installation cables required for normal installation, Flex Cardio Control Room.	1
10	**FNA0988	**OnSite Clinical Training, 2 days** Provides one Clinical Applications Specialist on-site for two days (minimum 8 hours/day) Training is valid for one year from the purchase date. Any unused training will expire after this time.	1
11	**989801200724	**Contracts - Onsite PS Hours** Philips Healthcare applies disciplined project management methodology to delivery of each engagement. Our methodology closely parallels the Project Management Institute's (PMI) worldwide -recognized framework of Initiating, Planning, Executing, Controlling and Closing. The Philips team, led by an experienced project manager, will work with you throughout the duration of the project to deliver the products and services described in this quotation. Team members typically include the following: • Implementation Specialists - responsible for technical work such as installation and configuration of the system hardware and software • Application Consultants – responsible working within the clinical environment providing expertise in workflow, application configuration and training • Integration Engineer – responsible for development and testing of HIS and clinical interfaces The work effort to implement your solution is based upon the specific configuration that has been defined in the quotation. The Statement of Work (SOW) or Project Scope Document (PSD) describes how the solution will be implemented within your environment. For Government accounts, signed meeting minutes of the work effort involved can also be used as a substitute for the signed SOW.	24
12	**989801200725	**Contracts - Onsite Training PS hours**	16

Line #	Part #	Description	Qty

Provides onsite training to be delivered by a Philips Healthcare Application Consultant. Training is valid for one year from the date of purchase. Any unused training will expire after this time. Refer to the Statement of Work (SOW) or Project Scope Document (PSD) for additional detail.

For Government accounts, signed meeting minutes of the work effort involved can also be used as a substitute for the signed SOW.

13	**989801200726	**Contracts - Remote PS hours**	**80**

Philips Healthcare applies disciplined project management methodology to delivery of each engagement. Our methodology closely parallels the Project Management Institute's (PMI) worldwide -recognized framework of Initiating, Planning, Executing, Controlling and Closing. The Philips team, led by an experienced project manager, will work with you throughout the duration of the project to deliver the products and services described in this quotation. Team members typically include the following:

- Implementation Specialists - responsible for technical work such as installation and configuration of the system hardware and software
- Application Consultants – responsible working within the clinical environment providing expertise in workflow, application configuration and training
- Integration Engineer – responsible for development and testing of HIS and clinical interfaces

The work effort to implement your solution is based upon the specific configuration that has been defined in the quotation. The Statement of Work (SOW) or Project Scope Document (PSD) describes how the solution will be implemented within your environment.

For Government accounts, signed meeting minutes of the work effort involved can also be used as a substitute for the signed SOW.

14	**FNA0857	**Total number of Facilities**	**1**

100751 Xper Flex Cardio

NET PRICE $61,526.48

Buying Group: MEDASSETS SUPPLY CHAIN SYSTEMS INC. Contract #: MS03282 HEMO

Addt'l Terms:

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Price above does not include any applicable sales taxes.

The preliminary delivery request date for this equipment is:_____.

If you do not issue formal purchase orders indicate by initialing here_____.

Tax Status:

Taxable_____ Tax Exempt_____

If Exempt, please indicate the Exemption Certification Number:_____, and attach a copy of the certificate.

Delivery/Installation Address:

_____

_____

_____

Invoice Address:

_____

_____

_____

Contact Phone #:

_____

Contact Phone #:

_____

Purchaser approval as quoted:

_____

Date:

_____

Title:

_____

This quotation is signed and accepted by an authorized representative in acknowledgement of the system configuration, terms and conditions stated herein.

Non Disclosure Agreement for Philips Confidential Pricing Information

The parties specified below agree to the following terms:

A. Philips

Name	Philips Healthcare, a division of Philips Electronics North America Corporation
Address	22100 Bothell-Everett Highway, Bothell, WA 98021 United States of America

B. Company

Name	UNIV N CAROLINA HEALTH CARE SYSTEM
Address	101 MANNING DR CHAPEL HILL, NC 27514-4220

C. Confidential Information

Authorized Purpose	To evaluate Philips' confidential information relating to pricing for imaging equipment ("Pricing") in connection with the potential purchase of such imaging equipment.
Period	Begins on the date Pricing is first disclosed and continues for 5 years from date Pricing is last disclosed.

D. Philips Contact

Name	Chris Mason
Title	
Telephone	(615) 517-6955
Fax	
e-mail	
Signature	

Company Contact

Name	
Title	
Telephone	
Fax	
e-mail	
Signature	

1. The following terms and conditions (the "Agreement") apply to Pricing disclosed by Philips and its Affiliates ("Philips") to Company and its Affiliates ("Company"), in connection with the Authorized Purpose.

   (a) Subject to Philips' prior written consent, Company may disclose, or request that Philips disclose, Pricing to Company's Affiliates that need to know the Pricing for carrying out the Authorized Purpose, provided they are advised of and agree to be bound by this Agreement. Company is responsible for any breach of this Agreement by its Affiliates.

   (b) An Affiliate is any corporation, company, or other entity, that: (i) is under the Control of a party hereto; or (ii) has Control of a party hereto; or (iii) is under common Control with a party hereto. For this purpose "Control" means that more than fifty percent (50%) of the controlled entity's shares or ownership interest representing the right to make decisions for such are owned or controlled, directly or indirectly, by the controlling entity.

2. Philips may disclose Pricing to Company with respect to the Authorized Purpose in writing, orally, or otherwise. All information is assumed to be Pricing, and confidential, if the confidential or proprietary nature is reasonable under the circumstances.

3. All Pricing disclosed by Philips shall remain Philips' the property. Company does not, by implication, estoppel, or otherwise, acquire any intellectual property right, title, or ownership, nor a license to any such intellectual property right, with respect to any Pricing disclosed by Philips hereunder.
   ALL PRICING IS PROVIDED ON AN "AS IS" BASIS, WITHOUT ANY WARRANTY WHATSOEVER. PHILIPS SHALL HAVE NO LIABILITY WHATSOEVER RESULTING FROM THE USE OF THE INFORMATION PROVIDED.

4. Company shall:
   (a) not use the Pricing for any purpose other than the Authorized Purpose;
   (b) not disclose the Pricing to any third party;
   (c) protect the Pricing against disclosure in the same manner and with the same degree of care with which Company protects its own confidential information but not less than a reasonable degree of care; and
   (d) limit circulation of the Pricing to Company's employees as have a need to know in connection with the Authorized Purpose.

   These obligations shall survive the termination of this Agreement. Philips may terminate this Agreement at any time by means of a written notice to Company. Company shall return to Philips, or certify destruction of, all Pricing, immediately upon termination or expiration of this Agreement.

5. Information disclosed by Philips to Company pursuant to this Agreement shall not be confidential to the extent that the information:
   (a) is or becomes part of the public domain without violation of this Agreement or any other obligation of confidentiality;
   (b) is known by Company prior to disclosure by Philips;
   (c) is lawfully obtained by Company from a third party without any breach of confidentiality or violation of law; or
   (d) is developed by Company completely independently of any such disclosure by Philips.

6. If Company is required, pursuant to administrative or judicial action or subpoena, to disclose the Pricing, Company shall use its best efforts to maintain the confidentiality of the Pricing, e.g. by asserting in such action any applicable privileges. Immediately after gaining knowledge or receiving notice of such action or subpoena, Company shall notify Philips and give Philips the opportunity to seek any other legal remedies so as to maintain such Pricing in confidence, including a reasonable protective order.

7. Company may not transfer or assign any or all of its rights and/or obligations or delegate the performance of any or all of its obligations under this Agreement, directly or indirectly, through acquisition, merger or otherwise, without the prior written consent of Philips. Any transfer, assignment or delegation in contravention of the foregoing shall be void.

8. Company shall not disclose, export or release the Pricing in contravention of any applicable laws or regulations.

9. This Agreement shall be governed and construed in accordance with the laws of the State of New York, without giving effect to its conflict of laws provisions.

10. This Agreement contains the entire understanding of the parties and supersedes any previous understandings or agreements with respect to the subject matter hereof. This Agreement may be amended only in writing signed by authorized representatives of each party.

Exhibit 6

IMEXSAL, CORP.
7821 LAUREL AVE.
CINCINNATI, OH 45243
STEVEN A. LYNCH, PRESIDENT
MARY GAUCHE - SALES
TEL: 513-272-6703 FAX: 513-272-6744
E-MAIL ADDRESS: mgauche@imexsal.com

Feb. 16, 2017

University of North Carolina Hospital
4800 NC Highway 54 W
Chapel Hill, NC 27516-8294

To Whom It May Concern:

As per your trade-in agreement with Philips Healthcare, Imexsal, Corp. will be handling the disposition of your 2005 Toshiba Infinix Bi-Plane Cath Lab S/N B4622047.

The system will be removed from your facility on a date yet to be determined between your facility and Philips Healthcare. The system will be removed with the understanding that it will not be reinstalled into the State of North Carolina without the proper CON authorization from the State.

Please let me know if you have any additional questions.

Thank you,
Mary Gauche
Sales

Mary Gauche