

V.A. MEDICAL CENTER
 10 W. GREENE ST
 BALTIMORE, MD 21201

 PO# 512-B30605

TRADE IN:
 -Manufacturer name: PHILIPS
 MEDICAL ;YS, MRI (Intera 1.5
 Nova)
 -Model #: 1.51
 MRI Ocheva
 #: : 45221317792X
 -Hcq Date: 02/14/05

Line #	Description	Qty
1	SmartPath to dStream ND PS for Achieva 1.5T	1

SmartPath to dStream including NovaDual gradients and PowerSave for Achieva 1.5T
 SmartPath to dStream will convert the existing Philips Intera/ACS NT 1.5T system to digital broadband MRI.

Compatibility

SmartPath to dStream for Achieva 1.5T is compatible with all stationary Philips Achieva 1.5T systems. More information on system compatibility and supported functionality can be found at the end of this text.

SmartPath to dStream

SmartPath to dStream integrates dStream architecture on the current magnet, providing flexible and intelligent tools for faster exams and more consistent scanning, as well as excellent clinical performance for a variety of applications – all while increasing patient comfort. Designed for today and tomorrow, it is a safe investment that will serve clinical needs well into the future. SmartPath to dStream simply builds the dStream architecture on the current MR. ScanTools software and all optional software packages currently installed on the host-computer will be updated to the latest versions.

SmartPath to dStream comprises:

- DirectDigital RF receive technology, which samples the MR signal directly in the RF coil on the patient.
- FlexStream workflow, which increases system versatility and throughput
- EasyExpand, which enables plug and play expansion of clinical capabilities without major upgrades

Philips' SmartPath to dStream significantly improves MR image clarity, speed and expandability.

- Clarity: By digitizing the signal directly on the patient, dStream captures image data where the signal is at its purest.
- Speed: Patient and coil handling have never been easier: flexible exam setup to meet each patient's unique situation, simplified coil changeover and optimal quality for any exam.
- Expandability: The number of channels is determined by the coil, rather than limited by the system. This makes the MRI system forward-compatible to easily access emerging applications like body and cardiac and new enhancements for established applications like neuro and musculoskeletal imaging.

dStream architecture

Unique digital broadband MR architecture capturing the purest MR signal combined with enhanced workflow and ease of use to provide increased SNR and greater efficiency in daily operations. In addition the number of channels is no longer determined by the MR system.

Nova Dual HP gradient system

After SmartPath to dStream, the system will be equipped with the exclusive Nova Dual High Performance (HP) gradient system, which enables users to choose between two amplitude/slew rate combinations to optimize critical applications. Nova Dual allows selection of either 33 mT/m peak amplitude combined with a slew rate of 180 mT/m/ms or - in studies that profit from high gradient amplitude, such as diffusion-weighted imaging and microscopy studies - a 66 mT/m peak amplitude. Both performance levels can be achieved over the entire 53 cm FOV with an excellent linearity. The gradient system design minimizes eddy currents and acoustic noise. The Nova Dual HP gradient system delivers the advanced performance levels required for new and demanding clinical applications, including high-resolution short TE/TR and EPI acquisitions.

- Maximum FOV is 53 cm
- Peak amplitude selectable between 33 mT/m, slew rate 180 mT/m/ms or a 66 mT/m peak amplitude. All specifications are on axis (x, y and z).
- Linearity of 1.4% over the entire 53 cm FOV with distortion correction.
- State-of-the-art water-cooled gradient amplifier technology combined with a non-resonant coil design, allows flexible generation of any type of gradient waveform 100 % duty cycle.

PowerSave

The new NovaDual gradient system features Philips' PowerSave technology. Key to achieving this is Smart power management with right choice of Gradient power amplifier technology that adapts energy consumption to the actual system status – system off mode, stand-by mode and scanning/measurement mode – thereby enabling significant savings in energy use. PowerSave can reduce energy consumption by up to 50 percent, thus dramatically cutting energy cost and sparing the environment. PowerSave is the result of Philips' continuous focus and drive to improve the sustainability of its products.

RF receive: DirectDigital and EasyExpand

DirectDigital: Unique Philips technology that samples the MR signal directly in the RF coil on the patient. The fiber-optic transmission of digital broadband data from the coil to the image reconstructor removes potential noise influences typical with analog pathways.

- Capturing the purest MR signal, enabling higher speed/resolution
- Increased dynamic range (max 187 dB)

DirectDigital technology additionally includes:

- Ultra-short TRs and TEs
- Real-time imaging control for clinical motion correction:
 - navigator-corrections required for free-breathing cardiac techniques
 - high-resolution diffusion (i.e., PhaseTrak) with profile updates within 1 ms.
- Real-time control of RF transmission, gradient switching, data acquisition and triggering.

EasyExpand: Inherent design of the dStream architecture, where channels are determined by the coils rather than the system. The MR system becomes channel independent, which means a removal of the number of channels as a system specification. This enables plug-and-play expansion of clinical capabilities.

- Expansion does not require major system upgrades, resulting in lower life cycle costs.

dS-SENSE

Next generation parallel imaging for the dStream (dS) architecture, which simplifies and speeds up scan setup and enables higher parallel imaging factors for more speed or resolution.

- Includes quick, fully integrated reference scans which are planned automatically.

RF transmit

- 18 kW High-performance solid-state RF power amplifier that affords the energy necessary to image even the largest patient.
- RF-SMART technology enables SAR to be effectively managed through balanced system design, and maximizes scanner performance in combination with the application of Philips-unique imaging capabilities such as SENSE, SPAIR, Flip Angle Sweep and RF amplitude control.

Standard RF receive coils

dS T/R System Body coil 1.5T

The integrated dS T/R System Body coil is a transmit/receive system coil which is typically used for RF excitation, but can also be used for imaging various (large) body parts.

- Solid-state quadrature Transmit/Receive technology for improved SAR control and a high signal-to-noise ratio
- DirectDigital sampling in the coil where the MR signal is at its purest

dS coil solutions

dStream (dS) coil solutions provide a full range of clinical solutions with two types of coils:

- Integrated coils combine to provide solutions for multiple applications
- Dedicated coils optimize imaging for a single application

dS coil solutions have been optimized for 3 important characteristics:

- Workflow and patient comfort
- Intrinsic signal-to-noise ratio (DirectDigital)
- Imaging coverage
- Parallel imaging performance

dS HeadNeckSpine Pack 1.5T

dS TotalSpine 1.5T

An integrated coil solution for total spine related imaging. It includes the FlexCoverage Posterior and the Base coil with 90 cm coverage, using 44 channels maximum.

Posterior coil, used routinely in 60% of all applications, is an integrated coil below the thin table top providing neck-to- toe coverage. This coil does not need to be carried, positioned, connected nor exchanged, thereby enhancing workflow. It is always there when you need it.

Coverage: 90 cm

Maximum nr. of channels: 44

Main applications: Total spine, C-Spine, T-Spine, L-Spine

Coil type: Integrated

DirectDigital sampling in the coil where the MR signal is at its purest, without loss in the RF chain, enabling:

- Enhanced SNR
- dS-SENSE enhanced parallel imaging performance

Single FlexConnect coil connection and cable for fast and easy setup. The Base coil can stay on the table for most examinations without exchanging coils.

dS HeadSpine 1.5T

An integrated coil solution for head and total neuro related imaging. It includes the Head coil. Combined with the FlexCoverage Posterior coil and Base it enables:

30 cm coverage, using 15 channels maximum (Head)

90 cm coverage, using 51 channels maximum (Total Neuro)

Coverage: 30 cm (Head) and 90 cm (Total Neuro)

Maximum nr. of channels: 15 (Head) and 51 (Total Neuro)

Main application: Head, Brain, Total Neuro, Total spine,

C-Spine, T-Spine, L-Spine

Coil type: Integrated

Lightweight coil(s)

DirectDigital sampling in the coil where the MR signal is at its purest, without loss in the RF chain, enabling:

- Enhanced SNR
- dS-SENSE enhanced parallel imaging performance
- dS-SENSE capable in AP, LR and FH directions

Cable-less connection of top coil

dS HeadNeckSpine 1.5T

An integrated coil solution for head, neck and total neuro related imaging. It includes the HeadNeck coil. Combined with the FlexCoverage Posterior coil and Base it enables:

45 cm coverage, using 20 channels maximum (Head-Neck)

90 cm coverage, using 52 channels maximum (Total Neuro)

Coverage: 45 cm (HeadNeck) and 90 cm (Total Neuro)

Maximum nr. of channels: 20 (HeadNeck) and 52 (Total Neuro)

Main applications: NeuroVascular, Head, Brain, Pediatric, Total Neuro, Total spine, C-Spine, T-Spine, L-Spine

Coil type: Integrated

Lightweight coil(s)

DirectDigital sampling in the coil for the purest MR signal without loss in the RF chain, enabling:

- Enhanced SNR
- dS-SENSE enhanced parallel imaging performance
- dS-SENSE capable in AP, LR and FH directions

Cable-less connection of top coil

dS Flex M 1.5T

An integrated coil solution for general-purpose imaging. It includes two medium-sized flexible general-purpose coils. Combined with the FlexCoverage Posterior coil they enable 15 cm coverage, with a maximum of 6 channels.

The shape and size of the flexible coil elements enable a wide variety of applications, including imaging of medium sized anatomies. The coil can be used to locally enhance resolution of images acquired over a larger FOV, for example in pediatric applications.

- Coverage: 15 cm
- Maximum nr. of channels: 6
- Main applications: Shoulder, Foot, Ankle, Knee, Pediatric
- Coil type: Integrated
- dS-SENSE enhanced parallel imaging performance

dS SmallExtr 8ch 1.5T

Semi-flexible coil designed for imaging of elbows, hands and small knees. The coil has an inner diameter of 20 cm to match the size of the small extremities. It has a flexible wrap-around design for easy positioning and good fit. A mattress that supports both patient and coil is provided to increase patient comfort and avoid motion.

- Coverage: 20 cm
- Maximum nr. of channels: 8
- Main applications: Elbow, Arm, Extremities
- Coil type: Dedicated
- dS-SENSE enhanced parallel imaging performance

dStream Interface

Allows the connection and digitization of the signal from traditional RF coils* at the table. The digital signal from the interface is transferred via an optical connection to the reconstructor.

- Connector interface designed for easy connection and automatic release of coil
- Connects traditional coils up to 16 channels

*Note: Achieva coils are not compatible with dStream interface

Workflow / throughput: FlexStream

FlexStream is hinged upon the unique FlexCoverage Posterior coil that provides neck-to-toe coverage without the need for any manual coil removal or patient repositioning. The FlexCoverage Posterior coil simply combines with other unique dS coils to enable imaging with fewer coils and reduce concerns for coil positioning and patient setup. The optional FlexTrak patient transport system enables easy patient preparation and more efficient use of the MR scanner. FlexTrak solutions can instantly convert your MR system from general purpose use to dedicated advanced clinical use while ensuring high throughput.

- dStream throughput improvement
- Easy coil handling through lightweight patient conforming coil design
- Large coverage coils for easier positioning
- Flexible combinations of coils
- Efficient coil usage – more applications with fewer coils
- Unique design allows up to 70% of routine applications without additional coil connections.
- FlexConnect easy to use, single-handed coil connections.

FlexCoverage Posterior coil

Posterior coil, used routinely in 60% of all applications, is an integrated coil below the thin table

top providing neck-to-toe coverage. This coil does not need to be carried, positioned, connected nor exchanged, thereby enhancing workflow. It is always there when you need it.

- Head-to-toe coverage up to 200 cm* in combination with the base coil

* *WholeBody Specialist required*

FlexConnect coil connection / connectors:

Single-handed coil connection for fast and easy plugging and unplugging of coils, and for auto-eject with FlexTrak undocking in emergency cases.

The small FlexConnect connectors use advanced fiber-optic connections for carrying digital broadband MR signals.

- Enhanced reliability by eliminating delicate RF pin connections.

FlexTrak table top

Ultra-thin table top that maximizes bore space. Includes coil connections directly on the table top for fast and easy setup.

- Ultra-thin design ensures minimal distance between patient and FlexCoverage Posterior coil for optimal SNR
- Ultra-strong design supports patients up to 250 kg (550 lbs)
- Easily removed for patient transport using the optional FlexTrak patient transport system

Workflow / throughput: SmartAssist

Next generation, easy-to-use SmartExam and ExamCards software that helps the user reduce the number of manual tasks.

- Simplifies workflow by making ExamCards more efficient
- Can reduce repetitive tasks by half
- Increases efficiency, reproducibility and consistency

ExamCards

A grouping of individual sequences and operations that define a clinical protocol. An ExamCard can include both the imaging sequences and any of the SmartAssist functionalities. ExamCards makes even the most complex exams simple.

- A set of Philips defined ExamCards is standard
- User-defined ExamCards can be created and stored
- Can be exported to memory stick or portable device
- Can be locked with a password to prevent unintended changes
- Can be shared among any of your scanners
- Philips Netforum provides an online community that allows ExamCards to be shared and downloaded
- Supports user-editable tips and processing/viewing/networking steps
- Supports single mouse-click scanner operation

SmartStart

One button action that automatically moves the table to isocenter and starts the ExamCard while the operator walks back to the console reducing the setup time.

SmartSelect coil and element selection

Automatically detects and selects the right coil and coil elements to maximize the SNR matching the area to be scanned.

- Simplifies patient positioning and coil placement
- No need for manual coil or element selection
- Optimal SNR
- Facilitates higher throughput

SmartExam planning (optional)

Assists the operator in planning the MR exam. SmartExam uses sophisticated algorithms to recognize the anatomy. Then, using previously run exams as input, SmartExam automatically positions slices on the target anatomy, and uses ExamCards to conduct the study, reducing operator input to as little as a single mouse click.

- Targeted for 100% reproducibility and consistency in outcome

SmartExam optional packages include:

- SmartExam Brain
- SmartExam Spine
- SmartExam Shoulder
- SmartExam Knee
- SmartExam Breast

SmartLink geometry linking

SmartLink (geolink) is a tool for simplifying the planning, viewing and processing of multi-sequence multi-station exams, treating multi-station exams as one volume.

- Allows a single table sweep for multi-sequence (e.g. T1, T2, STIR) multi-station exams. All sequences are run at each station before the table is moved to the next station minimizing the number of table movements for increased patient comfort.
- Provides the flexibility to perform one sequence at all stations before starting the next sequence.
- Labels and sorts images regardless of the order in which they are acquired for subsequent viewing and processing as a single volume.
- BolusTrak (fluoroscopic scans) can be interleaved at any point during a multi-station exam.

SmartLine processing

Smart, automated and intelligent processing of image data. SmartLine processing steps can be run simultaneously and in parallel with image acquisition. Defined in the ExamCard, the same processing settings are used every time for consistent results.

- Progress of each processing step is clearly displayed to the user alongside the scanning progress.

The following packages are included:

- **SmartLine** VolumeView Real-time MIP, MPR and 3D surface rendering (standard or user defined volumes of interest enable elimination of unwanted signals regions)
- **SmartLine** ImageAlgebra (including addition, subtraction, relative subtraction, cumulation, ratios, MTC, ASL calculation)
- **SmartLine** PicturePlus for user-defined image filtering (smoothing and/or edge enhancement)
- **SmartLine** T1 / T2 / rho map calculation

- **SmartLine** Delayed Reconstruction enables various retrospective image reconstructions from raw data (e.g. reconstruction of various flow directions from a 3D phase-contrast MRA dataset)

Scantools dependent options:

- **SmartLine** Diffusion registration
- **SmartLine** Diffusion (ADC, eADC, etc.)
- **SmartLine** IViewBold real-time fMRI analysis

Viewing, filming and export

The MR viewing environment supports fast and flexible viewing, processing and film generation

- Window width/level, zoom, pan, rotate, mirror
- Image annotation (text, arrows and lines)
- Simultaneous visualization of up to four independent series for comparison.
- Cine movie display in various formats
- Drag & drop functionality to enable the creation of films containing random image selections
- Single mouse click film generation of image series using a range of predefined formats
- Images and movies can be exported to Windows PC formats as visible on screen

Patient environment and patient handling

SmartPath to dStream was designed with the patient in mind, improved patient environment and patient handling features enhance patient comfort and facilitate exams.

Important features:

- Lightweight, patient-conforming coils
- Digital coil management workflow
- DirectDigital RF technology digitizes the signal in the RF coil on the patient
- SmartAssist efficiency enhancing software

Benefits include:

- More comfortable exams
- Decreased need for coil positioning
- Fewer retakes
- Faster exams

Patient Comfort

- Choice of feet-first or head-first imaging for most applications
- FlexCoverage Posterior coil: Never worry about the position of the patient to this coil. No cables, no connections. This invisible, patient-friendly coil is always there when you need it.
- Lightweight, conforming coils for enhanced patient comfort and operator handling
- Ambient Ring circular light to enhance the visual openness of the system.
- Adjustable fresh air supply in 5 increments
- Adjustable variable in-bore lighting in 3 increments

- In-bore microphone and ceiling-mounted loudspeakers support two-way patient-operator communication and music.
- Hand-held technologist call button.
- Patient headset with built-in two-way communication reduces acoustic noise by up to 25 dB.
- Look-out mirror with adjustable angulation

Patient support

- Patient support enables a maximum weight capacity of 250 kg (550 lbs)
- Patient table height can be quickly lowered, providing access for compromised or non-ambulatory patients.
- Detachable tabletop can be combined with one or more FlexTrak patient transport systems for efficient patient management and rapid egress. Supported by manual mode table release.
- Up to 200 cm* scan range
- Horizontal travel of 275 cm (9 ft 1 in.) with +/- 0.5 mm (0.02 inch) accuracy**
- Horizontal table speeds of up to 325 mm/s to enable fast, easy patient positioning and rapid multi-station examinations
- Ergonomically designed control units on both sides of the bore to increase operating flexibility.

** Magnet siting requirements needs to be confirmed to ensure full usage of horizontal table movement

WholeBody Specialist

The Whole Body Specialist package enables rapid, automated whole body imaging with an effective field of view of over 2.1 m (7 ft). With ExamCards, Whole Body Specialist delivers complete multi-station head-to-toe coverage in a single table motion, through the ability to combine all imaging sequences per station (requires ScanTools Pro). Whole Body Specialist supports whole body oncology imaging studies; whole body MR angiography studies and extends DWIBS to the whole body. Ingenia's large FOV allows the full coverage in a reduced number of stations.

Key features:

- Supports up to 20 stations.
- Scanalign feature to guarantee user defined overlap between stations.
- ExamCards automates the entire acquisition. Multiple sequences can be acquired at each station, reducing table movement and shortening total exam time
- MobiView automatically generates one seamless image from multi-station data. Data from each sequence are automatically combined and presented, regardless of the order in which data are acquired

All data created can be transferred via DICOM to PACS or other workstations and all results can be converted to Windows-compatible formats.

Physiology measurement and gating

Wireless physiological hardware to provide synchronization for sequence triggering and gating.

Wireless physiological signals can be observed on the operator's console monitor or on the optional Interventional Monitor.

- Wireless Physiology consisting of wireless Basic Triggering Unit (wBTU) and respiratory module hardware
- Physiological synchronization for sequence triggering and gating through
 - Wireless VCG
 - Wireless Respiratory
 - Wireless PPU (requires optional PPU Sensors)

Patient accessories

Comprehensive set of patient accessories, including

- Table mattress set
- Head/leg support
- Knee support
- Positioning wedges
- Small foam wedges
- Set of sandbags
- Set of patient fixation straps

PPU for wireless physiology

The PPU for wireless physiology package contains a peripheral pulse sensor with the following 4 different sizes: neonate, infant, pediatric and adult. This option is required to use the peripheral pulse as a means to do physiological synchronization for sequence triggering and gating. The sensor can be positioned on finger, toe or foot, and is compatible with the Ingenia, Multiva, HFO and Achieva platforms. This package is ONLY compatible with Ingenia, Achieva, Multiva, and/or Panorama systems with wireless physiology.

DVD-PC

Local media storage option intended for burning and reading DICOM data on medical grade DVD's. This option enables the operator to burn DVD's directly or prepare multiple DVD's for burning later.

- Includes DICOM viewer on every DVD created
- Create multiple DVD's for exchange with off-line stations
- Burn DVD's independently of other scanner functions.
- Dimensions (hwxwd): 10x34x38cm

Computer systems

Host Computer

- \geq 2.8 GHz Quad Core Intel processors, 64 bits
- \geq 8 GB host memory
- \geq 500 GB system disk
- \geq 250 GB main image database disk (Approx. \geq 300,000 images – 512 x 512 image resolution)
- \geq 23-inch LCD wide-screen format monitor enabling large overview

- LCD wide screen resolution: 1900 x 1200
- Windows XP OS 64 bits
- External storage via USB port
- DVD reader for software loading
- 10BaseT, 100BaseT or 1000BaseT connections.

Recon Computer

- Fast reconstruction of demanding imaging techniques (interactive real-time, dS-SENSE, high resolution and high coil receiver count).
- >= 6000 images per second (256 x 256 reconstructions)
- >= 13000 recons/sec (256 FFT, 100% FOV)
- >=3.6 GHz Quad Core Intel processor, 64 bits
- >= 32 GB reconstruction memory (RAM)
- Windows XP OS 64 bits

Connectivity / interoperability

The MR environment fits seamlessly into local network environments. Communication is performed via DICOM protocols. The system can be configured for safe storage of MR images and other patient data in departmental information systems and PACS. The MR workspace conforms to the new Enhanced (multi-frame) MR DICOM standard, which improves the performance of data transfer of large data sets and fully supports information associated with diffusion and spectroscopy.

The system can be configured (per node) to support standard DICOM MR image transfer or DICOM Enhanced MR Image Transfer. If a receiving node does not support DICOM Enhanced MR, standard DICOM MR Images will be transferred.

- DICOM Workflow Management:
 - DICOM Modality Worklist
 - DICOM Modality Performed Procedure Steps
 - DICOM Storage Commitment
- DICOM Send/Receive:
 - DICOM Enhanced MR:
 - Export / Import of DICOM Enhanced MR Images
 - Export / Import of DICOM MR Spectroscopy
 - Export / Import of DICOM Raw
 - DICOM MR:
 - Export / Import of DICOM MR Images
 - Export / Import of Philips Private MR Series Data
 - Export / Import of Philips Private MR Spectrum Data
 - Export / Import of Philips Private MR ExamCards Data
 - DICOM SC:
 - Export / Import of SC (color) Image Data
 - DICOM Grayscale Softcopy Presentation State:
 - Export / Import of Grayscale Softcopy Presentation State
- DICOM Query / Retrieve of Philips MR data, all the exported image types
- DICOM Print
 - Grayscale Softcopy Presentation State with preset window settings as on the console
 - Basic Grayscale Print

- DICOM Media
 - MR Studies on DVD (Read / Write)
- IHE Integration Profiles
 - Scheduled Workflow
 - Patient Information Reconciliation
 - Consistent Presentation of Images
 - Basic Security
 - Consistent Time

Full information on compliance with DICOM standards and available functionality is contained in Philips' DICOM Conformance Statement.

SmartPath to dStream is not compatible with the following systems: Mobile MR systems, PET-MR, HIFU, MR-OR and Interventional MR.

SmartPath to dStream does not support the following functionalities (if currently present, these functionalities will be lost after SmartPath to dStream): Multi Nuclei, MammoTrak.

Magnet Conversion 1.5T dS

The Magnet Conversion 1.5T dS prepares your 1.5T magnet for SmartPath to dStream. Your existing magnet's exterior will be adapted to accommodate new covers. Also new advanced magnet monitoring electronics will be installed for monitoring the magnet's helium level and other important magnet parameters.

dStream Education Package for Achieva or Ingenia:

Initial OnSite Education: Philips Education Specialists will provide twenty-eight (28) hours of education for up to four (4) students, as selected by customer. Students should attend all 28 hours. This course does not cover Cardiac or Spectroscopy. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Handover OnSite Education: Philips Education Specialists will provide twenty-eight (28) hours of education for up to four (4) students, as selected by customer. For optimal training results this session should be attended by the same technologist/students that completed the Initial Onsite Training. This course does not cover Cardiac or Spectroscopy. 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, including all inspections approved, all accessory equipment installed and functioning (injectors, hard copy units, film processors and physiologic monitors), and all supplies stocked. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

FollowUp OnSite Education: Philips Education Specialists will provide twenty-eight (28) hours of Follow-Up 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. Note: 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#8 31832-03112013

2	dS Torso 1.5T	1
	<p>An integrated coil solution for body and peripheral vascular related imaging. It includes the FlexCoverage Anterior coil. Combined with the FlexCoverage Posterior coil it enables 60 cm coverage, with a maximum of 32 channels.</p> <p>The flexible, lightweight easy-to-position FlexCoverage Anterior coil is designed to conform both in right-left and foot-head directions for almost any patient. This enables large coverage and comfortable strap-free operation.</p> <ul style="list-style-type: none">• Coverage: 60 cm• Maximum nr. of channels: 32• Main applications: Torso, Chest, Pelvis, Heart, Peripheral-vascular• Coil type: Integrated• Lightweight coil(s)• DirectDigital sampling in the coil where the MR signal is at its purest, without loss in the RF chain, enabling:<ul style="list-style-type: none">• Enhanced SNR• dS-SENSE enhanced parallel imaging performance• dS-SENSE capable in AP, LR and FH directions• Single FlexConnect coil connection and cable for fast and easy setup	
3	dS Knee 16ch 1.5T	1
	<p>Coil designed for ultra-high SNR imaging over an extended field of view of the knee and other extremities. Two overlapping rings of eight elements extend the coverage area and minimize the need for precise positioning. dS-SENSE enhanced parallel imaging can be selected in all directions. The dS Knee 16 ch has a split design for easy patient setup and an ergonomically ramped insert for patient comfort.</p> <ul style="list-style-type: none">• Coverage: 20 cm• Maximum nr. of channels: 16• Main applications: Knee, extremities• Coil type: Dedicated• dS-SENSE enhanced parallel imaging performance	
4	dS FootAnkle 8ch 1.5T	1

Ski-boot shaped coil for optimum coverage of the ankle and entire foot up to the toes. The coil design and element layout allow for either large FOV imaging of the whole foot or small FOV high resolution imaging for ankle joints. The coil is easy to set up and can be used with the patient's foot vertical or up to 15 degrees plantar flexed.

- Coverage: 30 cm
- Maximum nr. of channels: 8
- Main applications: Foot, Ankle, Toes
- Coil type: Dedicated
- dS-SENSE enhanced parallel imaging performance

5 | **dS Shoulder 8ch 1.5T** | **1**

Coil designed for high uniformity throughout the shoulder joint, with excellent penetration into the labrum. The coil consists of a base plate and an adjustable shoulder cup which can be raised and pivoted for comfortable positioning. Adjustable design for a comfortable fit for either left or right shoulder.

- Coverage: 12 cm LR
- Maximum nr. of channels: 8
- Main application: Shoulder
- Coil type: Dedicated
- DirectDigital sampling in the coil where the MR signal is at its purest, without loss in the RF chain, enabling:
 - Enhanced SNR
 - dS-SENSE enhanced parallel imaging performance
- Single FlexConnect coil connection for fast and easy setup

6 | **dS Endo coil 1.5T** | **1**

The dS Endo coil is a single element, disposable coil that connects to a reusable connection box. The coil is an endocavitary coil used to image the rectal wall and prostate – it offers high sensitivity and SNR needed for e.g. prostate studies. The coil can be combined with the FlexCoverage Posterior and Anterior coil to acquire a large FOV and high local SNR in a single image acquisition. The RF coil element is integrated in a non-permeable balloon, which is inflated post-insertion. A luer-lock syringe can be attached to a valve near the handgrip, enabling inflation and deflation of the balloon. The package is shipped with the reusable connection box and 5 disposable coil elements.

Features:

- Outside coil dimensions for storage purposes 100 x 400 x 300 mm
- Compatible with dStream based 1.5T platforms

7 | **FIBERTRAK SPECIALIST** | **1**

The FiberTrak Specialist package provides advanced imaging and processing methods for assessment of white matter fiber tracts, which conduct information impulses throughout the brain. All acquisition techniques are automatically executed by ExamCards.

This package features:

Diffusion Tensor Imaging (DTI) extends the functionality of Diffusion Weighted Imaging (DWI) to measure the directional dependence of the diffusion coefficient in tissues. DTI data enable the creation of Fractional Anisotropy (FA) maps and visualization of the white matter tracts using fiber tracking.

Features:

- Multi-directional DTI imaging sequences using the full range of available diffusion acquisition methods, and including multiple b-value sequences.
- Selectable number of diffusion directions (up to 32)
- Automatic calculation of Fractional Anisotropy (FA) maps available in ExamCards.

With fiber tracking, the DTI sequence can be processed to visualize white matter fiber tracts.

Key features:

- Advanced 3D visualization of (multiple) white matter fiber tracts in the brain with minimal mouse interactions including:
 - Overlays of anatomical and Bold Analysis datasets
 - 3D display movies of the entire white matter fiber structures
 - 2D cross sections of anatomical and Bold Analysis datasets
 - 2D color cross sections with fiber tracts
- Easy navigation and viewing
- Single-click fiber tracking, ROI fiber tracking, and multiple ROI fiber tracking
- Statistics on voxels fibers and ROIs

All data created can be transferred via DICOM to PACS or other workstations and all results can be converted to Windows-compatible formats.

8

ASL SPECIALIST

1

The ASL Specialist package enables acquisition of exogeneous perfusion dynamic maps without the administration of contrast agent. As the ideal delay time for optimal perfusion assessment depends on the individual vascular anatomy of a patient, multi-phase ASL displays perfusion information at different delay times, allowing to select an optimal time-point for diagnostic decision making.

This method applies slabs and pre-pulses to visualize multi-slice, single and multi-phase perfusion. An ASL Plug-In to Image Algebra allows for post processing.

- Single-phase ASL
- Multiple-phase ASL
- ASL post-processing Plug-In for Image Algebra

9

mDIXON Body Specialist

1

mDIXON is a technique that produces images with water signal, fat signal and images with water and fat signals in and out of phase from a single 3D sequence. mDIXON can be used for torso imaging with the SENSE XL Torso coil (for Achieva systems), SENSE Torso16 coil (for Multiva systems) or dS Torso coil/dS WholeBody coil (for Ingenia systems). The water only images may provide improved fat suppression over large fields of view when compared to more conventional spectral suppression fatsat techniques. mDIXON is designed with an unrestricted echo-time (TE) approach to provides more freedom in the optimization of scan times and SNR. For Multiva and Achieva systems the Recon Excel option is a prerequisite. For Multiva systems SENSE HeadSpine16 coil is a prerequisite.

Note - This option requires >= R3. Customers currently at R2.6 will be brought to the required software and hardware level. R3 includes: ExamCard locking, 3D Brain VIEW for Scantools Pro and Scantools Premium users.

10	FlexCaddy	1
<p>Coil storage cart which stores dStream coils and accessories to enhance workflow for a large range of clinical applications. Includes:</p> <ul style="list-style-type: none"> • IV pole • Storage for <ul style="list-style-type: none"> • 2x Anterior coils • 1x Head Top / other coil • 1x HeadNeck Top / other coil • 1x Base coil • Accessories 		
11	Vascular Accessories	1
<p>Comprehensive set of Vascular accessories, including:</p> <ul style="list-style-type: none"> • Arm Support to provide additional support for a patients arm when injections are required. The support easily slides under the patient and can be positioned on either side of table. • Anterior coil frame to create a distance between the coil and the patient thereby avoiding direct contact (e.g. for peripheral vascular disease, pediatric patients). • Feet Immobilizer to fixate the feet and lower legs in a comfortable and reproducible fashion. It is designed to reduce patient motion in peripheral vascular and whole body imaging. 		
12	Flex Holders	1
<p>Coil positioning aid for TMJ and other studies.</p>		
13	Full Travel Package for OffSite Education	2
<p>Includes one (1) participant's airfare from North American customer location to Cleveland, Ohio, with lodging, ground transportation, and meal expenses. Breakfast/dinner provided by the hotel, and lunch/breaks are catered by Philips. All other expenses will be the responsibility of the attendee. Details are provided during the scheduling process. Note: Cancellation/rescheduling policy strictly enforced.</p> <p>Education expires one (1) year from equipment installation date (or purchase date if sold separately).</p>		
14	MR Ess Add Offsite Educ 36h	1
<p>Philips will provide one (1) technologist, as selected by customer, with in-depth didactic, tutorial, and hands-on training covering basic functionality and work-flow of the magnetic resonance imaging system. This thirty-six (36) 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. 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, and trainee should have prior</p>		

knowledge of basic MR theory. CEU credits may be available for each participant that meets the guidelines provided by Philips.

Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292093 (MR Full Travel Pkg OffSite) is purchased with all OffSite courses.

Education expires one (1) year from equipment installation date (or purchase date if sold separately).

15 | **MR Add Adv OffSite Educ 28h** | **1**

Philips will provide one (1) technologist, with a series of lectures and hands-on experience introducing the advanced concepts and theory of MRI for Achieva, Intera and Panorama 1.0 systems. Philips recommends that the attendee of this course has previously attended the MR Essentials class. 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 course should be attended at least thirty days after OnSite handover training. CEU credits may be available for each participant that meets the guidelines provided by Philips.

Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292093 (MR Full Travel Pkg OffSite) is purchased with all OffSite courses.

Education expires one (1) year from equipment installation date (or purchase date if sold separately).

16 | **Customer Is Responsible For Chiller Needs** | **1**

17 | **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: 100313.000 Achieva 1.5T Systems
Serial Number: 12033
Manufacturer: PHILIPS HEALTHCARE

Trade-In authorization number: 1122

De-install Date: Not later than 180 days after receipt of Order

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.
-

OPTIONS

SELECTION OF ANY OPTION WILL INCREASE THE CONTRACT PRICE BY THE AMOUNT SHOWN IN THE PRICE COLUMN. OPTIONAL EQUIPMENT PRICING VALID ONLY IF PURCHASED IN CONJUNCTION WITH EQUIPMENT QUOTED.

Line #	Description	Qty
1	<p>Expansion to dS WholeBody 1.5T</p> <p>In combination with the dS Torso 1.5T coil solution this expansion provides an integrated coil solution for whole body and peripheral vascular related imaging. It includes an additional FlexCoverage Anterior coil. Combined with the FlexCoverage Posterior, HeadNeck and Base it enables 200 cm coverage, with a maximum of 108 channels.</p> <p>The flexible, lightweight easy-to-position FlexCoverage Anterior coil is designed to conform both in right-left and foot-head directions for almost any patient. This enables large coverage and comfortable strap-free operation.</p> <ul style="list-style-type: none"> • Coverage: 200 cm • Maximum nr. of channels: 108 • Main applications: Whole body, Peripheral-vascular, Torso, Chest, Pelvis, Heart • Coil type: Integrated • Lightweight coil(s) • DirectDigital sampling in the coil where the MR signal is at its purest, without loss in the RF chain, enabling: <ul style="list-style-type: none"> • Enhanced SNR • dS-SENSE enhanced parallel imaging performance • dS-SENSE capable in AP, LR and FH directions • Only 3 FlexConnect coil connections and cables for fast and easy setup 	1
2	<p>dS Wrist 8ch1.5T</p> <p>Coil that closely fits the left or right wrist for high SNR. This design provides the high SNR needed to acquire images with a small FOV. It has a one piece, ovoid, hinged design for easy patient set up. Good quality imaging can be obtained with the coil at the patient's side. The coil attaches to a rigid base plate for fixation to reduce patient motion artifacts.</p> <ul style="list-style-type: none"> • Coverage: 8 cm • Maximum nr. of channels: 8 • Main application: Wrist • Coil type: Dedicated • dS-SENSE enhanced parallel imaging performance 	1
3	<p>DS BREAST 7CH 1.5T</p> <p>A rigid, open-designed coil that can be used alone or in combination with Flextrak mammo. The dS Breast 7ch coil is designed for optimal coverage of the axilla region and outstanding performance. The dS Breast 7ch has an open design and will be delivered with compression plates that can be applied in either LR or FH direction. If applied mildly the compression plates will help to reduce motion of the breast therefore contributes to improved image quality. Mild compression in FH also reduces the imaging volume in FH direction which might help to shorten the scan time.</p> <ul style="list-style-type: none"> • Coverage: Bilateral • Maximum nr. of channels: 7 • Main application: Breast • Coil type: Dedicated 	1

OPTIONS

SELECTION OF ANY OPTION WILL INCREASE THE CONTRACT PRICE BY THE AMOUNT SHOWN IN THE PRICE COLUMN. OPTIONAL EQUIPMENT PRICING VALID ONLY IF PURCHASED IN CONJUNCTION WITH EQUIPMENT QUOTED.

Line #	Description	Qty
	<ul style="list-style-type: none">• αS-SENSE enhanced parallel imaging performance. SENSE can be applied in LR and FH direction for enhanced resolution or speed• Very comfortable coil with optimized patient comfort ramp• Includes immobilization plates (for both LR and FH direction) to reduce motion artifacts and accommodate a large range of patient sizes• The dS Breast 7ch coil is compatible with Breast Biopsy Kit (NMRB280).• Integrated LED light offering clear view during biopsy procedure	

4	MammoTrak Biopsy Kit 1.5T	1
----------	----------------------------------	----------

Biopsy kit compatible with 1.5T, allowing the physician to practice a breast biopsy procedure on a phantom before starting the procedure on patients. Next to that the biopsy kit contains a full array of approved and sterile needles, needle blocks and other sterile disposables.

Biopsy Kit includes:

- 1 Breast Biopsy Phantom
- 3 Grid M-L Immobilization plates
- 3 Grid CC Immobilization plates
- 3 Pillar M-L Immobilization plates
- 3 Pillar CC Immobilization plates
- 1 Post & Pillar assembly, M-L
- 1 Post & Pillar assembly, C-C
- 2 Coaxial Needles 12G 130mm
- 1 Wire Localization Needle 18G 100mm Single Hook
- 1 Semi-Automatic Biopsy Set 14G 130mm
- 1 Fully Automatic Biopsy Set 14G 115mm
- 1 ClipLoc Soft Tissue Marker 18G 130mm
- 3 12 G Needle Blocks
- 3 18 G Needle Blocks
- 3 12 G Needle Sleeves
- 3 18 G Needle Sleeves
- 3 Needle Hub Assemblies
- 1 Breast Blocker
- 1 Fiducial Sleeve
- 1 Fiducial Marker Block
- 4 Fiducial Assemblies

NOTE: This Breast Biopsy kit is compatible with the following 1.5T Breast coils:

- 7ch MammoTrak
- 7ch + 16ch MammoTrak
- 7ch MammoTrak coil

OPTIONS

SELECTION OF ANY OPTION WILL INCREASE THE CONTRACT PRICE BY THE AMOUNT SHOWN IN THE PRICE COLUMN. OPTIONAL EQUIPMENT PRICING VALID ONLY IF PURCHASED IN CONJUNCTION WITH EQUIPMENT QUOTED.

Line #	Description	Qty
	<ul style="list-style-type: none"> • 7ch dS Breast coil • 7ch FlexTrak Mammo • 7ch + 16ch FlexTrak Mammo • HA 7ch FlexTrak Mammo • HA 7ch + 16ch FlexTrak Mammo 	

5	SMARTEXAM BREAST	1
---	-------------------------	---

SmartExam Breast assists beyond the automatic planning of Breast ExamCards. This new technology uses a sophisticated image based shimming technique in which the contour of the breast and thorax wall is used to automatically adjust the shimming per patient. With SmartExam Breast consistent fat suppression and reproducible image quality can be achieved. Excellent quality is obtained independent of patient positioning or breast implants.

SmartExam Breast seamlessly integrates with ExamCards, enabling automatic planning, scanning and processing of complete patient studies with a single mouse-click.

SmartExam Breast features:

- Automated planning for unilateral or bilateral breast imaging
- Patient-adaptive shimming, including 2nd order shimming at 3.0T, for optimal fat suppression and image quality.
- Interactive f0 determination for manual shim setting
- Optimized SENSE reference scan with B0 shim map
- Compatible with all breast coils and MammoTrak
- Compatible with MultiTransmit at 3.0T

SmartExam provides:

- Assistance to obtain optimal image quality
- Reproducible, consistent clinical results independent of operator.
- Increased efficiency and throughput and easier staff training.

Note – This option requires R3. Customers currently at R2.6 will be brought to the required software and hardware level. R3 includes: ExamCard locking, 3D Brain VIEW for Scantools Pro and Scantools Premium users.

6	HA FlexTrak	1
---	--------------------	---

Dockable patient transport system for simplified patient preparation, handling and transportation from preparation room to the MR scanner, without repositioning the patient.

- HA: Height-adjustable (49cm min. support height) to facilitate easy patient transfer
- Lightweight, easy to maneuver FlexTrak dockable patient transport system docks and undocks quickly and easily with patient support and table top. Docking is possible from both sides.
- Patient and coils can be prepared outside the MR room. No need to remove coils or to reposition patients.

OPTIONS

SELECTION OF ANY OPTION WILL INCREASE THE CONTRACT PRICE BY THE AMOUNT SHOWN IN THE PRICE COLUMN. OPTIONAL EQUIPMENT PRICING VALID ONLY IF PURCHASED IN CONJUNCTION WITH EQUIPMENT QUOTED.

Line #	Description	Qty
	<ul style="list-style-type: none">• Integrated coil connections on table and FlexConnect connectors for efficient patient management and rapid evacuation.• Easy to use foot pedal locks wheel direction during transport or brakes the FlexTrak while standing still.• IV pole included• When the FlexTrak is positioned and locked against a wall, an adjustable side-rail can be used to prevent a patient from falling.• Optional second FlexTrak offers economical solution to allow improved throughput.• 250 kg / 550 lb capacity	
7	Table Top dS Upg	1
	<p>Ultra-thin table top that maximizes bore space. Includes coil connections directly on the table top for fast and easy setup.</p> <ul style="list-style-type: none">• Ultra-thin design ensures minimal distance between patient and FlexCoverage Posterior coil for optimal SNR• Ultra-strong design supports patients up to 250 kg (550 lbs)• Wide table for enhanced patient space and comfort• Easily removed for patient transport using the optional FlexTrak patient transport system	