

PICA SMART

whole body MRI system

we see, we care

TIME MEDICAL SYSTEMS





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PICA SMART Whole Body MRI System

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Mission

Time Medical Group (TM) pursues global scientific, technological and clinical excellence to develop the world's most innovative Magnetic Resonance Imaging (MRI), Digital Radiography (DR), and Computed Tomography (CT) systems to meet the needs of the global healthcare community.

Using TM's proprietary High-Temperature Superconducting (HTS) technology, the TM's MRI products becomes the world's most advanced MRI systems that provide:

- Better image quality
- Faster scans
- More energy saving (as a Green MRI)
- Low cost solution for installation and maintenance

TM continues to break new ground with innovative technology, and market-ready MRI systems for the 21st century.

PICA SMART

w h o l e b o d y M R I s y s t e m



TIME MEDICAL Systems



May 2007: Columbia University (New York, USA) grants TIME MEDICAL Systems the exclusive right to develop and commercialize HTS Technology for its new line of MRI Scanners.



June 2010: US Patent Office issues patent to TIME MEDICAL Systems for the world's first HTS MRI Scanner.



July 2010: Frost & Sullivan awards TIME MEDICAL Systems the coveted "Innovation of the Year" for its patented **HTS Technology**.



May 2011: The Coalition for Imaging in Biomedical Research (CIBR) welcomes TIME MEDICAL Systems as its newest member and facilitates an HTS Technology demonstration for the NIH Director in Washington, DC.



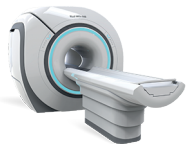
Aug 2011: FDA 510(k) clearance for PICA's 33mT/m gradient upgrade.
Sept 2011: FDA 510(k) clearance for PICA's HTS RF Coil Technology.
Aug 2011: TIME MEDICAL received the CE certification for PICA.



Dec 2013: TIME MEDICAL participated in RSNA 2013 in Chicago, IL where it introduced the concept of a Dedicated Neonatal MRI System – the NEONA.



Sep 2014: TIME MEDICAL Systems' new factory established in Anhui, which develops and produces DR products.



Dec 2014: TIME MEDICAL participated in RSNA 2014 in Chicago, IL where it introduced the Innovation MRI System – the MICA.

Features & Benefits



PICA SMART

whole body MRI system

we see, we care



Strong Gradients - at 22 mT/m & Slew Rate of 55 T/m/s, PICA SMART has very strong gradient strength among all other low field MRI systems.



Wider Range of Clinical Applications - Neuro, Body, MSK, MRA, Spine, etc



PRODIVA drives user-friendly clinical workflow during patient set-up, scanning and data management.



High throughput - Each scan requires only about 20 minutes, PICA SMART can provide service to more patients.



Small footprint - PICA SMART only requires a small shield room of 4 x 4.5 m

Product Specifications

Magnet System

- Type: Permanent, active shims
- Material: Neodymium Ferrite Boron (NdFeB)
- Field Strength: 0.3 Tesla
- Opening: 400 mm
- Fringe Field: 5 Gauss line 2.3 m axial x 2.3 m radial.
- Size with chassis: 1720 x 1420 x 1474 mm (L x W x H)
- Field Stability: < 0.2 ppm/hr
- Magnet Weight: 12,000 kg / 26455 lbs

Gradient System

- Amplitude: 22 mT/m
- Rise Time: 0.4 ms
- Slew Rate: 55 T/m/s

RF System

- Frequency: 12.7 MHz \pm 200 kHz
- RF Power: 6000 W peak rms, 600 W average
- Image BW: 4 kHz - 100 kHz
- Preamp Noise Figure < 0.5 dB
- Pre-amplifier integrated in all receiving coils
- Automatic receiving coil recognition

RF Receiver Coils

- Quad Head Coil
- Quad Neck Coil
- Quad Shoulder Coil*
- Quad Wrist Coil*
- Quad Body / Spine Coil (S/M/L/XL*)
- Quad Knee Coil
- Quad Foot/Ankle Coil*

*Optional

System / Poser Supply Cabinets

- Cooling: Air cooled with internal fans
- Cooling Thermal Loading: 2.8 kW - 5.58 kW
- Line Voltage: 380 Vac 3-phase, neutral \pm 10%
- AC power requirements: 38A / 25kVA
- Dimensions (LWH): 910 x 610 x 1735 mm / 670 x 820 x 970 mm
- Unit weight: 426 kg (939 lbs) 390 kg (860 lbs)

Patient Table

- Size: 2360 x 820 x 660 mm (L x W x H)
- IN/OUT movement - 1500 mm
- LEFT/RIGHT movement - \pm 1500 mm
- Loading capacity - 150kg / 330 lbs

Computer System

- Host Computer: Dell™ Windows based PC
- OS: Microsoft Windows
- Imaging Software: Prodiva MRI Platform with Patient Flow Technology
- Data Archive: DVD RW 4.7 GB
- Display: 24" HD LCD Monitor
- Data Transfer & Handling (HIS/RIS): DICOM 3.0
- Printing Support: DICOM Print, All Windows Printer & PDF

Image Reconstruction

- Multithreaded reconstruction
- 2D > 1000 images/s, 256 x 256
- 3D > 200 planes/s, 256 x 256 x 64

Pulse Sequences

- SE 2D & 3D
- GRE 2D & 3D
- FLASH 2D & 3D
- FSE 2D
- FSE 3D / HASTE
- FLAIR 2D
- Fast-FLAIR 2D
- STIR 2D
- IR-FSE 2D (T2 STIR, PD-SRIR)
- MRA-TOF 2D & 3D
- MRV-TOF 2D
- 2PT DIXON SE 2D*
- 3PT DIXION GRE 2D*
- DWI RFSE 2D*

*Optional

Imaging Parameters

- Min / Max Phase Matrix: 64 / 512
- Min / Max Frequency Matrix: 64 / 512
- Reconstruction Matrix: 1024*
- Bandwidth: 4 kHz - 100 kHz
- Rectangular FOV (increment in % in full FOV): 0.1%

*Optional

Image Visualization

Features: OpenGL® based visualization with auto Window/Level, pan, zoom, multiple image display, ROI, annotate, measurements, multiplayer reformat, real-time MIP, CINE, multiple viewport.

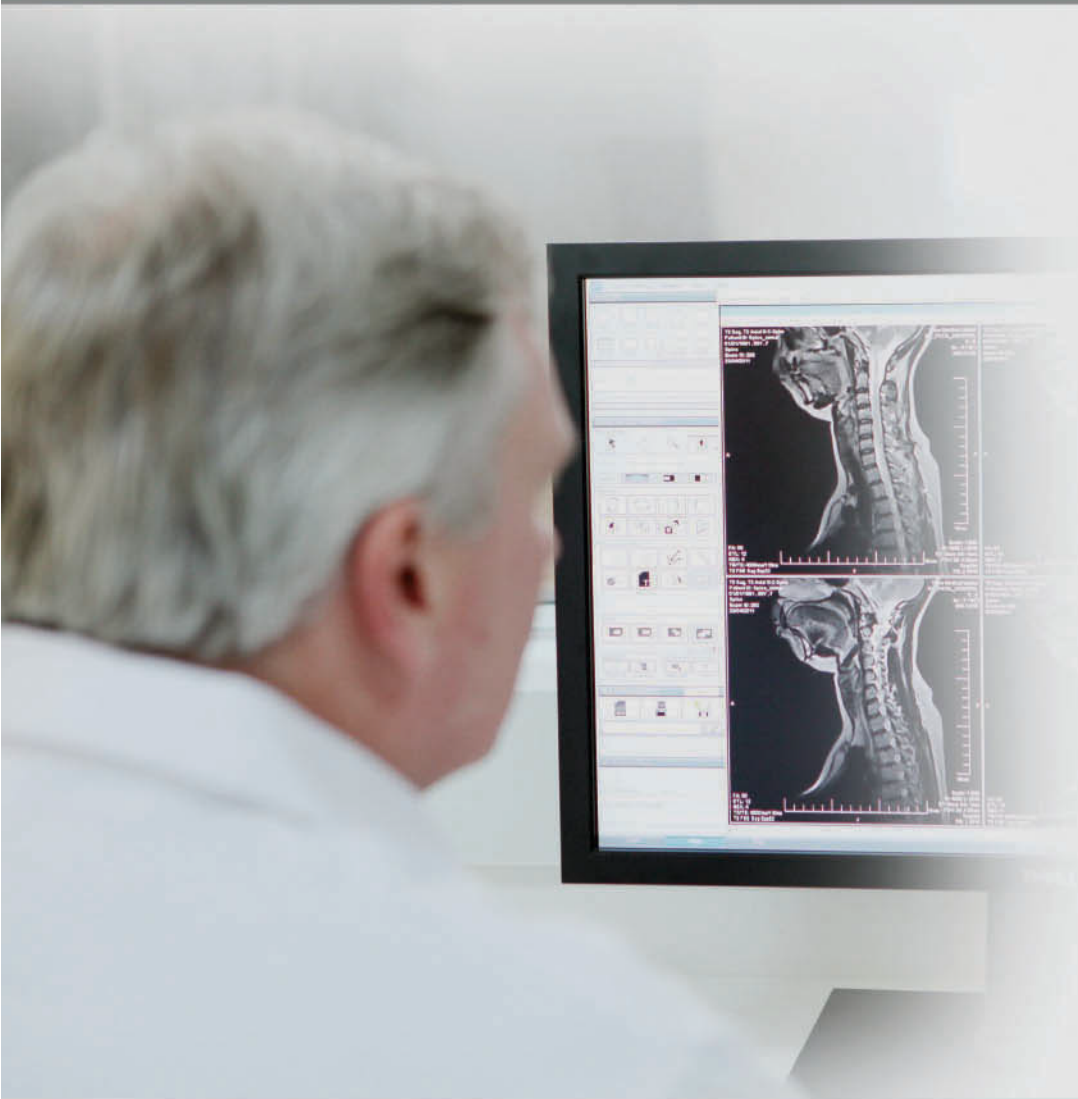
OpenGL® is a registered trademark of Silicon Graphic, Inc. in the United States and other countries worldwide.

Site Planning

Specification	Magnet Room	Equipment Room	Control Room
Recommended room size (inside dimensions)*	4 x 5 m (13.1 x 16.4 ft)	3 x 3 m (9.8 x 9.8 ft)	3x 4 m (9.8 x 13.1 ft)
Minimum ceiling height	3 m (9.8 ft)	2.8 m (9.2 ft)	no requirement
Floor requirements	antisatic, level	antisatic	antisatic
Total Floor Loading	15kPa 313.28lbs / sqft	-	-
Floor Leveling	5 mm / 3 m	-	-
RF shielding	90 dB attenuation over 10 - 100 MHz	not required	not required
Magnetic field shielding	depends on site	not required	not required
Power outlets	3 x 110 Vac or 220 Vac	3 x 110 Vac or 220 Vac 380 Vac 3-phase, neutral \pm 10%	at least 6 x 110 Vac or 220 Vac
Air conditioning	15 kW	3 kW	3 kW
Humidity	40%-70% without condensation	40%-70% without condensation	40%-70% without condensation
Network outlets	No requirement	1 (directly connected to Control Room)	1 (directly connected to Equipment Room)



Graphical User Interface

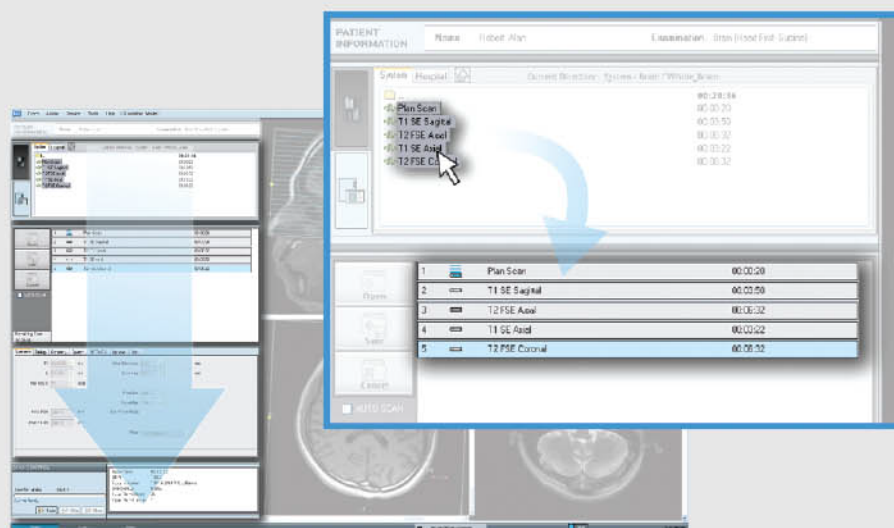


PRODIVA

The comprehensive and user-friendly GUI with embedded clinical workflows.



Efficient workflow from start to finish



Built-in optimized scan protocols with simple drag-and-drop workflow to initiate scanning.



MR images can be sent to laser cameras, DICOM servers, DVD-ROMs, Blu-ray discs, flash drives and can be read on tablets.



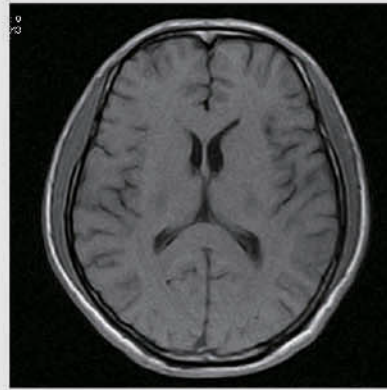
Neuro & MSK Imaging

The Neuro Suite provides high resolution protocols for better image quality as well as short scan time protocols for patients that are not cooperative but still with good image quality.

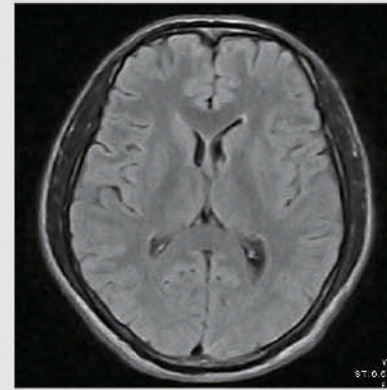
The Ortho Suite provides a wide variety of optimized protocols for extremities imaging.



T2 FSE 512 matrix



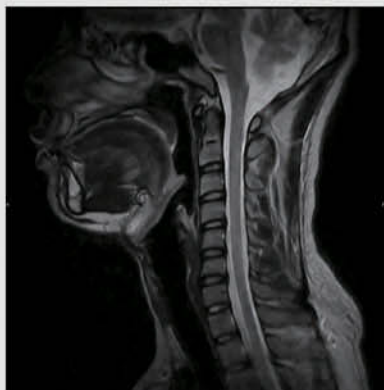
T1 SE



T2 Flair



Carotids 2D MRA



T2 FSE



T1 SE



T2 FSE

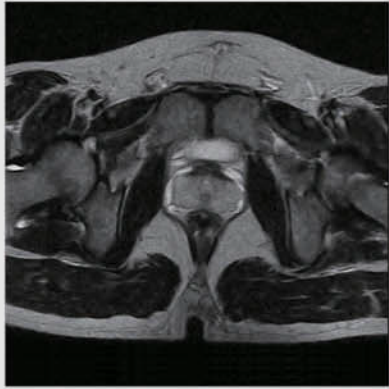


T1 SE

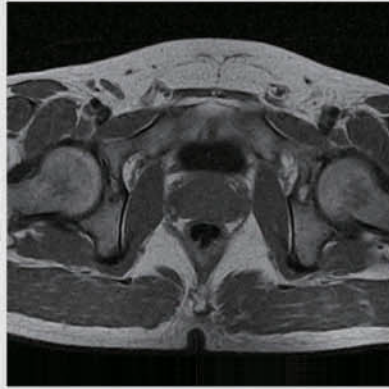


Body Imaging

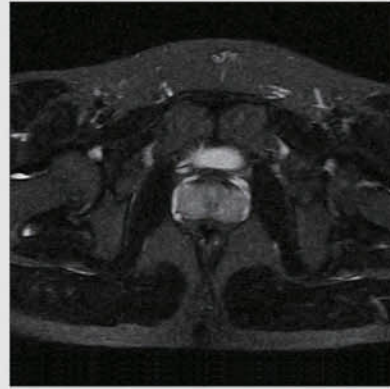
The Body Suite is specialized for clinical body examinations.



T2 FSE Prostate



T1 SE Prostate



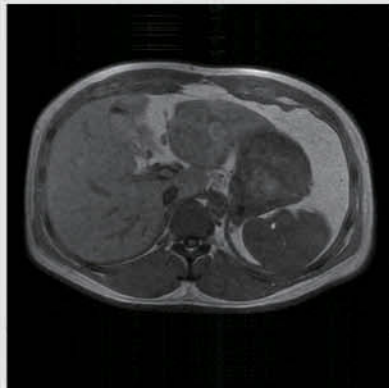
T2 FSE Fatsat Prostate



T1 GRE Abdomen



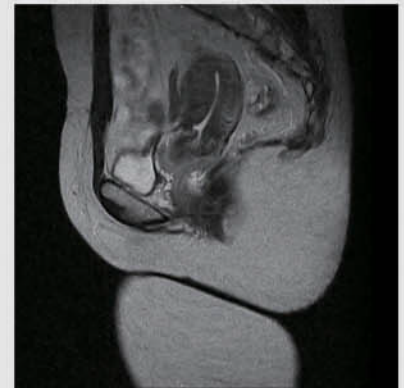
T2 FSE RG Abdomen



T1 GRE Abdomen



T1 SE Female Pelvis



T2 FSE Female Pelvis

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