



Animal Conscious Technology™

Technology Designed with the Veterinary Patient in Mind.

ACT-Avant-Garde™ Magnet Design

provides superior field homogeneity, larger fields-of-view and unprecedented patient access.

ACT-Audition™ V-Block Bed

Allows for optimal patient positioning for superior spinal cord imaging.

ACT-One™ Standard Imaging Package

provides a platform to perform the most widely used imaging protocols for the finest quality clinical MRI.

ACT-Two™ Advanced Imaging Package

provides a platform to perform more advanced imaging protocols for enhanced clinical MRI.

The Emerald Access™ veterinary MRI system utilizes our novel ACT-Avant-Garde™ magnet design providing superior field homogeneity, larger fields-of-view and unprecedented patient access. The result is a significantly smaller & lighter magnet with a wide usable gap. Our ACT-Audition™ V-Block bed allows for patients to be positioned within the magnet on their backs during scanning providing optimal animal orientation for spinal cord imaging, particularly if traction is required. Additionally, the field orientation of the ACT-Avant-Garde™ magnet allows for RF coil designs that have significantly better performance over conventional designs. The large ellipsoidal homogeneous field of view allows for exceptional coverage of the spinal cord. Our user-friendly Windows® based Scan Control Software includes optimized protocols for each anatomical site, and allows maximum flexibility in customizing clinical protocols and post image processing. The wide range of 2D and 3D sequences and imaging techniques, including over-sampling, fast imaging, fat and water suppression and high resolution imaging (up to 512 x 512 matrix), guarantee superior image quality. The Emerald Access™ is 100% digital, network ready and DICOM® 3.0 compatible for remote reading and easy image archiving.



Advanced Veterinary Technologies

Pioneers in Animal-Conscious Technology™

New Windsor, New York - 877-4-AVTMRI (877-428-8674) - www.avtmri.com

Magnet:

Field Strength: 0.35 (\pm 0.01)T
Design: ACT-Avant-Garde™ Open Access
Material: Permanent R-Fe-B Series
Patient Gap: 300 (\pm 5)mm
Homogeneity: 5ppm (Vrms) Over an Ellipsoidal Volume
350mm (Z), 200mm (X & Y)
Shimming: Passive & Digital
Stray Field (5 Gauss): 1.5m from Magnet Center

Gradient:

Amplitude & Slew Rate: 20mT/m & 40mT/m/ms
Linearity: Better than 5%
Actively Shielded & Water Cooled

Console & Electronics:

Digital Receiver Sampling Rate: 40M/s (14 bits)
Digital Gradient Control: 16 bits with Digital Pre-Emphasis
Digital Transmitter Control: 16 bits (arbitrary waveforms)
Imaging matrices: 32 X 32 to 512 X 512
Max/Min Field-of-View: 350mm/90mm
Reconstruction Time: < 0.1s (256x256 matrix)
Solid-State RF Power Amplifier
High Power Gradient Amplifiers
Center Frequency: 15.3MHz \pm 0.25MHz
All Electronics Integrated in One Cabinet

Computer system:

Advanced Pentium CPU Running Windows®XP
Memory (RAM) / Hard Disk: 1G / 120G
Ethernet: Standard TC/IP (network ready)
Monitor: 21" TFT
CD-ROM

Table:

Design: ACT-Audition™ V-Block
Maximum Load: 200Kg
Laser Guidance (optional)

Scan Control Software:

Pilot Scanning for Precise Image Slice Position
Select Imaging Sequences
Setup and Save Scan Parameters and New Protocols
Auto Adjustment of Resonance Frequency and
Receiver & Transmitter Gains
Real-Time Scan Process Monitoring

Imaging Processing/Display Software:

Display Matrix: 1024x1280
Multi-Window Display
Display Window & Leveling
Image Zoom, Rotate, Annotation & Angle Measurement
Region of Interest (ROI) Drawing
Enhanced Image Filtering
Background Noise Reduction
Image Parameter Display
DICOM® 3.0 Interface
MIP & MPR of 3D images

RF Coils:

The combination of low noise pre-amplifiers together with ACT™ design yields improved signal-to-noise performance while decreasing the RF power requirements for all transmit/receive coils.

Standard Coil Set Includes:

Head, Body and Spine Coils

Small Animal Coil Set (optional) Includes:

Standard Coil Set Plus

Small Head, Body and Spine Coils

Large Animal Coil Set (optional) Includes:

Standard Coil Set Plus

Large Head, Body and Spine Coils

Specialty Coils Available Upon Request

ACT-One™ Standard Imaging Package:

The ACT-One™ Standard Imaging Package provides a platform to perform the most widely used imaging protocols for the finest quality clinical MRI.

Spin Echo: Scout, T1-Weighted, Proton Density-Weighted
Fast Spin-Echo: T2-Weighted, Proton Density-Weighted
Gradient-Echo: Scout, 2D Rephase, 2D Dephase, 2D Fast
Rephase, 2D Fast Dephase

FLAIR & STIR

Fat Suppression

Water Suppression

Movement & Flow Compensation

Multi-Slice / Multi-Angle Imaging

Multi-Slice / multi-Echo Imaging

Variable Imaging Plane Pre-Saturation

ACT-Two™ Advanced Imaging Package (optional):

The ACT-Two™ Advanced Imaging Package provides a platform to perform more advanced imaging protocols for enhanced clinical MRI.

3D Spin Echo & Fast Spin Echo

3D Fast Rephase & Dephase Gradient Echo

2D & 3D TOF & PC MR Angiography

3D MIP & MPR

Steady-State Fast Spin Echo (SSFSE)

Magnetization Transfer Contrast (MTC)

Diffusion-Weighted Imaging (DWI)

Site Requirements:

Minimum Space Requirements: 22.5m² (250ft²)

Minimum Ceiling Height: 2.4m (7ft 10in)

Gross System Weight: 7500kg

RF Shielding: 3m X 3m (9' 10" X 9' 10"), 700kg

Temperature: 20-26 °C (\pm 3 °C / hr)

Maximum Power Requirements: 5kW

Voltage: 100/110/200/220/230/240 V

Frequency: 50/60 Hz

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