

The Echostar Comfort Wide-Bore 1.5T MRI

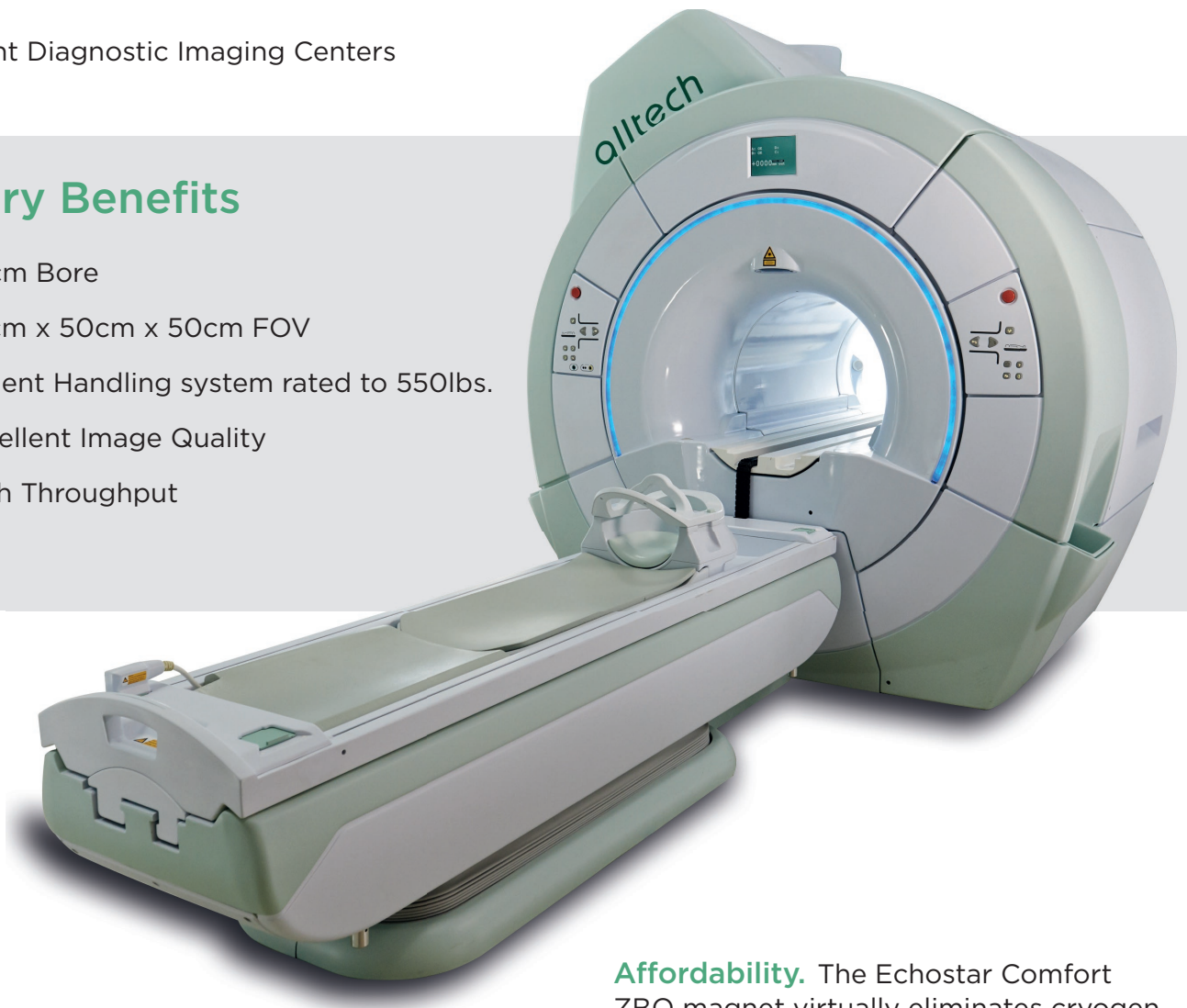
alltech
Alltech Medical Systems America, Inc.

Primary Markets

Hospitals
Outpatient Diagnostic Imaging Centers

Primary Benefits

- 71 cm Bore
- 50cm x 50cm x 50cm FOV
- Patient Handling system rated to 550lbs.
- Excellent Image Quality
- High Throughput



Affordability. The Echostar Comfort ZBO magnet virtually eliminates cryogen boil-off, resulting in a recommended 10-year refill interval.

The high performance 71cm wide-bore MRI value proposition

Designed for high throughput and minimal downtime, the Echostar Comfort is excellent for facilities looking to replace an aging MRI with a more efficient and cost-effective wide-bore machine or for anyone seeking a high quality MRI, designed around patient comfort while delivering superb image quality.

Alltech Medical Systems (AMSA) engineers average more than 20 years in MRI design and during those years have been awarded 87 MRI patents. At AMSA, our focus is on the design, manufacture, and service of the latest MRI technology.

Echostar Comfort 1.5T MRI System

SUMMARY PRODUCT SPECIFICATION SHEET

MAGNET SYSTEM

Type	Superconducting
Main memory	1.5 Tesla
Shim method	Passive and 3-channel active
Shielding	Active magnetic
Patient aperture	710 mm
Fringe field (5 Gauss line)	3.78 m x 2.75 m (axial x radial)
External dimensions (bare)	1740 mm x 2080 mm x 2415 mm (L x W x H)
Weight	< 5500 kg (80% cryogen fill + cryocooler)
Temporal field stability (drift rate)	≤ 0.1 ppm/hour
Spatial homogeneity (VRMS)	0.5 ppm at 45cm DSV
Cryogen type	Liquid helium
Liquid helium boil off rate	0.0 L per hour

SURFACE COIL

Body coil	Quadrature transmit, 2 channel receive
Head coil	Eight element, phased array, receive only
Spine coil	Sixteen element, phased array, receive only
Knee coil	Six element, phased array, receive only
Shoulder coil	Three element, phased array, receive only
Neck coil	Single element, receive only. Used in conjunction with four elements of head coil.
Wrist coil	Four element, phased array, receive only
Small torso coil	Four element, phased array, receive only
Medium torso coil	Eight element, phased array, receive only
Large torso coil	Twelve element, phased array, receive only
Small Flex (flexible) coil	Four element, phased array, receive only
Large Flex (flexible) coil	Four element, phased array, receive only
Coil connection points	Four positions on patient table

PATIENT COMFORT SYSTEM

Patient pads	Table Pad – Head End
Patient illumination	Indirect LED white
Patient ventilation	Fresh air blower, adjustable flow rate
Patient communication	Two-way patient-operator intercom with integrated stereo sound system Hand-held patient alarm system

PATIENT TABLE / POSITIONING SYSTEM

Table type	Fixed
Maximum patient weight	250 kg (550 lbs)
Table motion controls	Keypads located on front facade, both sides of table
Table top dimensions	560-935 mm
Vertical range	2600 mm x 500 mm (L x W)
Vertical speed	15 mm/second
Horizontal travel distance	2350 mm
Horizontal speed	179 mm/second
Horizontal positioning accuracy	± 0.5 mm
Patient positioning features	Laser marker for alignment in axial and sagittal reference planes

GRADIENT SYSTEM

Peak field strength	33 mT/m
Maximum slew rate	132 mT/m/msec
Rise time	0.25 msec
Shielding	Active

RF TRANSMIT/RECEIVE SYSTEM

Resonance frequency	63.75 MHz ± 100 kHz
Peak envelope power	18 kW
Peak transmit B1	24 µT
Number of RF receiver channels	16
RF preamplifier	Integral to each receive coil element
Preamplifier gain	26 dB ± 1 dB
Noise figure	< 0.5 dB

COMPUTER SYSTEM

Host computer CPU	Intel® Xeon® Quad processor
Main memory	≥ 24 GB
Storage devices	≥ 500 GB hard drive (application software / image database) DVD-RW for image archival
Display monitor	24" LCD, 1920 x 1200 resolution
Image reconstruction CPU	Intel® Xeon® 8-core processor (two per system)
Image reconstruction memory	≥ 64 GB
Base operating system	Microsoft® Windows® 7 Professional 64-bit
Application software	EchoStar graphical user interface
Operator's console functions	Patient registration, scan setup, scan control, image review, image post-processing, filming, archive, system startup/shutdown
Image reconstruction	1250 images per second
Film interface	DICOM 3.0 Print
Network image interface	DICOM 3.0 Storage (as Service Class User)
Information system interfaces	DICOM 3.0 Modality Worklist (as Service Class User) DICOM 3.0 Performed Procedure Step (as Service Class User)

CLINICAL PROTOCOL PACKAGE

Type	T1/T2/PD Spin Echo (SE) T1/T2/PD 2D Fast Spin-Echo (ETL 1-128) T1/T2/PD 3D Fast Spin-Echo (ETL 1-512) T1/T2* 2D Spoiled Gradient-Echo T1/T2* 3D Spoiled Gradient-Echo TOF 3D Spoiled Gradient Echo DW EPI 2D Magnetization Transfer Contrast (MTC) TONE Ramped RF pulse Inversion recovery (IR) Walking pre-saturation User Defined static pre-saturation
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