

**E-SCAN** xQ  
DEDICATED MRI



The Open E-MRI

**ESAOTE**  
THE IMAGE OF INNOVATION™



# Open up to Extremity MRI

After having changed the world of musculoskeletal MR imaging in 1992 with the introduction of Artoscan, the first dedicated MRI, Esaote reached a new target, merging the advantages of dedicated and open MRI to create in the 1998 a new high quality and cost/effective system, the E-scan, that was the result of a long term development program, in close collaboration with major medical research institutes and clinical sites worldwide.

E-Scan XQ is the result of the Esaote's continuous commitment to further improvement. With E-scan XQ, Esaote reinforces its international leadership position in the field of dedicated MRI providing a system with high throughput, outstanding image quality, flexibility, cost-effectiveness and patient comfort.

The patented magnet, the ergonomic design of patient table, the digital platform and the Windows® user's interface make Escan XQ another unique product by Esaote.



*The Ideal Solution for Extremity Imaging*

*Open Design for Maximum Patient Comfort*

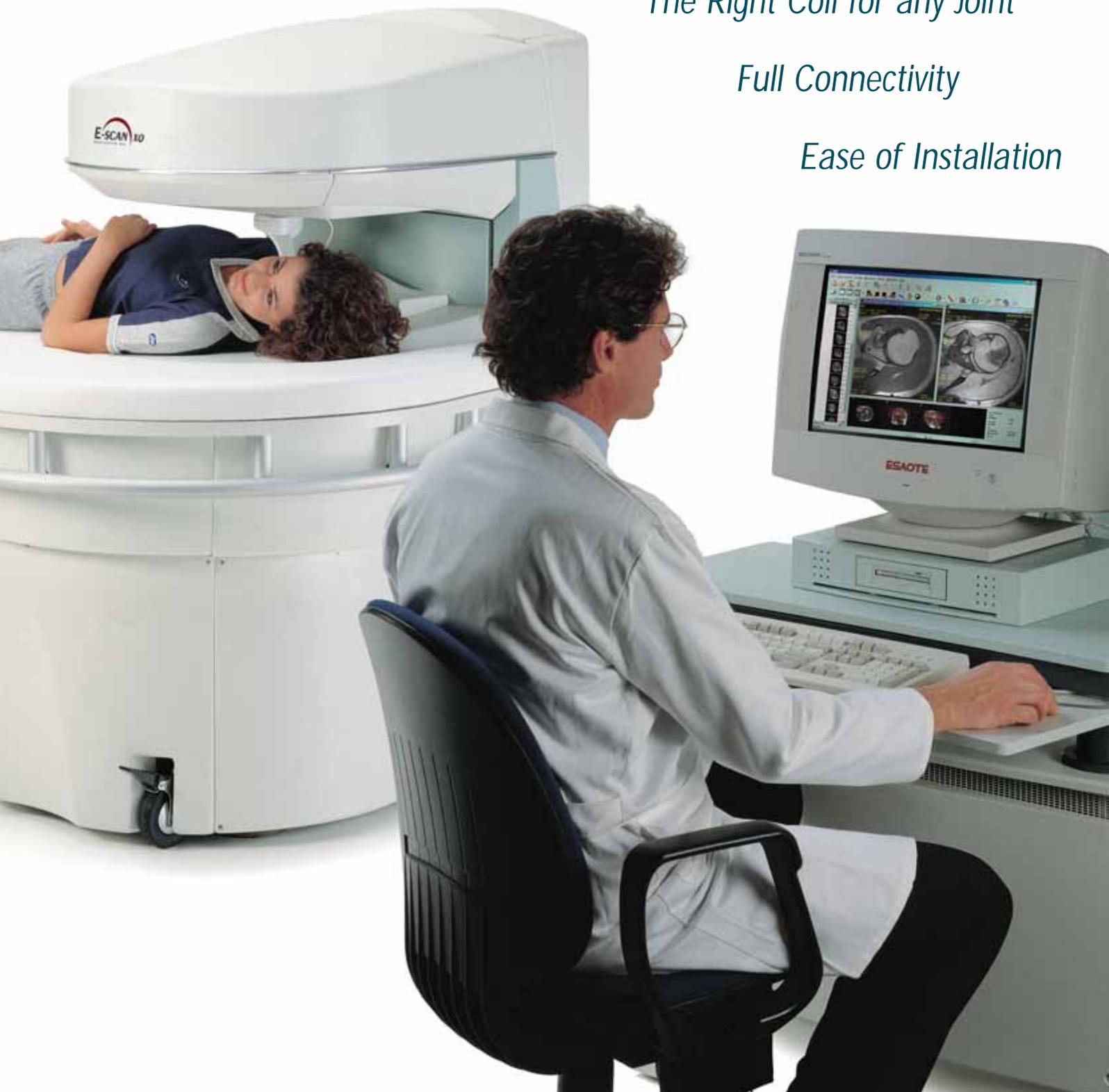
*Superb Image quality*

*Ease of Use*

*The Right Coil for any Joint*

*Full Connectivity*

*Ease of Installation*





# Superb Image Quality

Thanks to Esaote's long term experience in Dedicated Extremity MRI, and the powerful software and hardware architecture of the E-Scan XQ, the system guarantees the high image quality required nowadays in diagnostic MRI.

E-scan XQ offers a complete range of acquisition techniques that completely meet your needs on musculoskeletal applications including Turbo Spin Echo, STIR and 3D CE, which is sensitive for cartilage visualization.

The E-scan XQ user interface is fully multitasking and provides advanced image post processing capabilities such as a real time multi-planar reformatting.



*Shoulder coronal image*

*Turbo Spin Echo*

*TR=1370 ms*

*TE=50 ms*

*Thickness=4,5 mm*

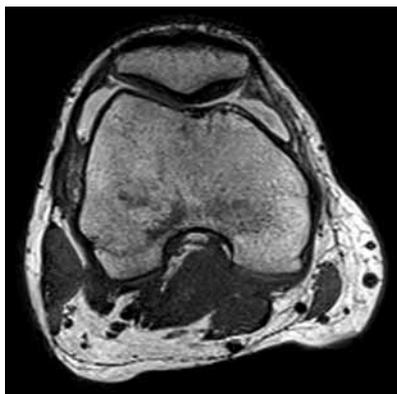
*Knee transverse image*

*3D Contrast Enhanced*

*TR=34 ms*

*TE=30 ms*

*Thickness=2.2 mm*



*Elbow sagittal image*

*Gradient Echo*

*TR=540 ms*

*TE=20 ms*

*Thickness=4 mm*

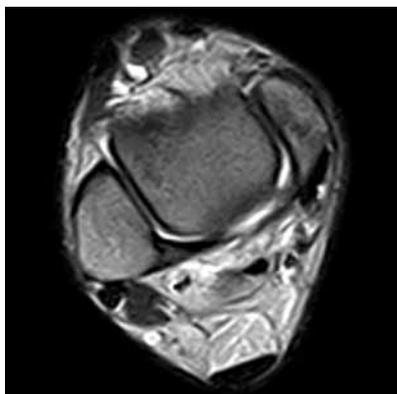
*Ankle transverse image*

*Turbo Multi Echo, Second Echo*

*TR=3080 ms*

*TE=90 ms*

*Thickness=5 mm*



*Wrist coronal image*

*Spin Echo T1*

*TR=540 ms*

*TE=24 ms*

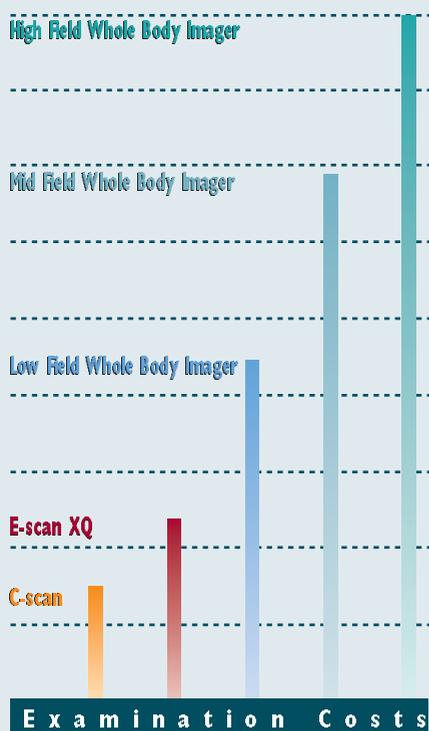
*Thickness=3.5 mm*



# The Importance of E-MRI

*The request for MRI limb and joint studies is increasing constantly, specifically in the areas of trauma, sports medicine and rheumatology. E-scan XQ eliminates the need of using expensive whole body systems to perform these types of studies and is therefore the ideal solution for practices with a high workload of musculoskeletal applications. Merging the dedicated technology and the open design, E-scan XQ provides optimal musculoskeletal scanning capabilities.*

## Cost Effectiveness



*The main characteristics for a dedicated extremity MRI scanner are optimized performances at a cost effective value due to its easy siting, minimal running costs and limited initial investment. E-scan XQ has a maintenance-free permanent magnet, therefore no cryogenics or additional cooling systems are required and power consumption is very low (1 Kw) to assure low operating costs.*

*With a reduced overall investment, E-scan XQ performs very high quality joint examinations at a much more competitive cost than standard whole body MRI systems.*

*Ask for your customized break-even analysis; you will be impressed by its profitability!*



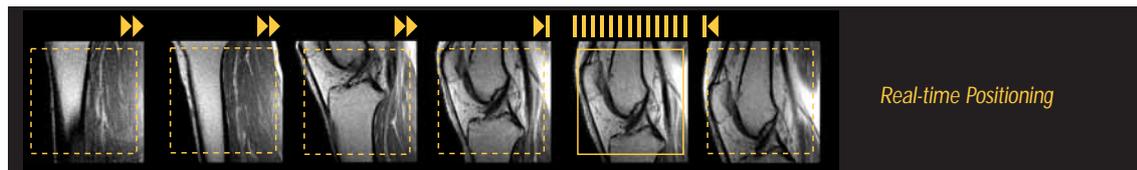
# Ease of Use

Simple to use and learn, E-Scan XQ user interface is based on Windows® and enables intuitive workflow management.

The imaging sequences are pre-programmed and in a few days of training, the technician can successfully operate the E-Scan XQ.

## Real Time Positioning

Patient positioning is extremely fast by using the real time positioning that continuously visualizes the joint location (MRI fluoroscopy); next a localizer (scout) scan is performed contemporarily in the three orthogonal directions.

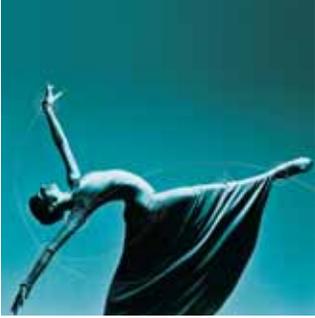


## Examination

As a result of its long experience in dedicated MRI, Esaote provides a wide range of preprogrammed protocols that are optimized for extremity MRI and tested at research sites.

E-scan XQ offers the possibility to modify all the parameters according to specific clinical needs, allowing MRI users to create and store customized protocols.





# Patient Comfort



The design of E-scan XQ has been optimized to reduce anxiety and eliminate all the claustrophobic effects often experienced in conventional, whole body MRI scanners, enhancing patient comfort and accommodating even the largest patients, up to 200 Kg (440 Lb.).

The open design also allows the technician or family members to be in the scan room in close contact with the patient during examination.



Patented System by ESAOTE



*shoulder coil "a"*



*multipurpose flexible coil*





# The Right Coil for any Joint

The multipurpose flexible coil (optional), thanks to its shapeable characteristic and soft material suits particularly well for patients with painful shoulder, moreover allows hip examination for patients that fit the system's gantry.



*shoulder coil "a"*



E-scan XQ includes a complete set of receiving coils specially designed for the joints, which guarantees a very high sensitivity and patient friendliness.

The standard set includes.

A knee coil a wrist/hand coil and an ankle/foot coil which are all Dual Phased Array.

2 shoulder coils: the large shoulder coil (a) can be used for all shoulders, while the normal size shoulder coil (b) provides a better quality for small shoulders.

*shoulder coil "b"*



*knee coil*



*wrist/hand coil*



*ankle/foot coil*



# Full Connectivity

E-Scan XQ is fully DICOM® and offers smart solutions for connectivity and teleradiology.

## DICOM®

E-Scan XQ features the Standard DICOM® classes :

Storage – send/receive transmission of images to other modalities (workstations, PACS), moreover enabling the “Autosend” (also called “Auto-push”) function, E-Scan XQ will automatically send all the images to the destination of choice without the need of operator interaction.

Media Exchange: to archiving images on a removable media (MOD or Cdrom), in DicomDir modality.

Print management: enable the use of DICOM® printers.

Modality Worklist: Escan XQ receives patients’ list of the day directly from the HIS/RIS, for an optimized integration within a hospital network .

## ESA-VIEW

ESA VIEW is a software program by Esaote that transforms a normal PC in a DICOM® workstation.

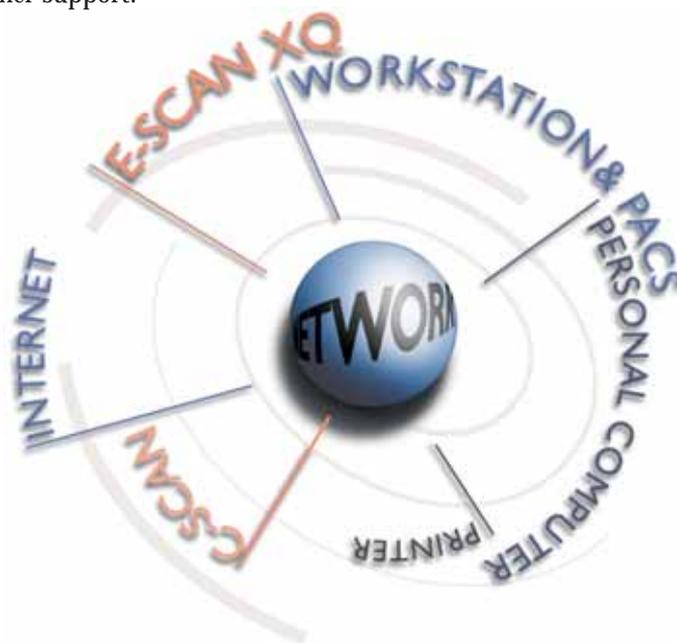
This software package can be used in the clinic and in any remote location.

With ESA VIEW you are always on-line.

## Service on Line.

The E-scan XQ is supported by Esaote’s comprehensive MRI service departments.

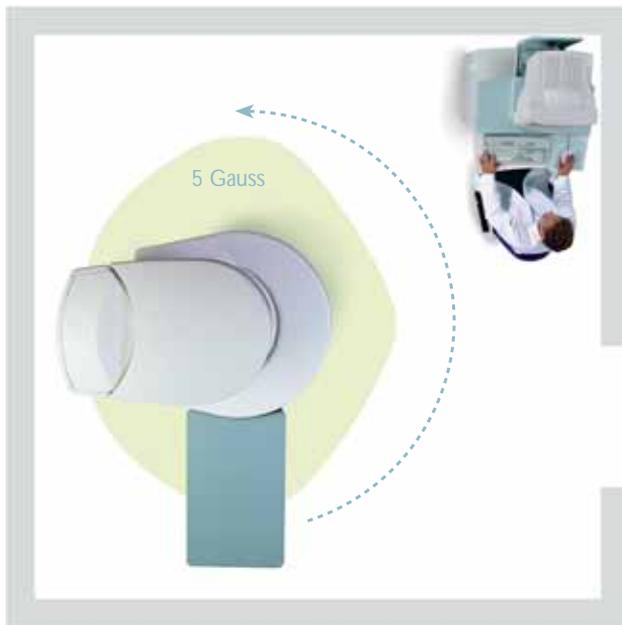
The remote service program Aras Win, specially developed for the Esaote MRI systems, enables service technicians to directly connect to any Esaote MRI unit for immediate check-up and troubleshooting. Aras Win also enables real time backup a more efficient customer support.







# Ease of Installation



E-scan XQ, the first open dedicated system, has been developed as in "office MRI", which means that it can be easily installed in any hospital or private practice. The minimum space requirements are 18 sqm; normally no magnetic shielding is necessary and a specially developed modular RF shielding is available, avoiding costly and time consuming construction works.

Thanks to its very low power consumption (1 kW) the scanner can be connected to a standard power outlet. E-scan XQ is ideal for installation in small or space limited practices.

## *Dedicated RF Shielding Cage*

E-scan XQ is provided with a specially designed and easy to install dedicated RF cage. Thanks to its innovative design, which makes use of existing illumination and air-conditioning, it can be installed in a standard room (4 X 4,5m minimum)



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**XQ**

## The Esaote Group

The Esaote Group is a leading international corporation developing, manufacturing and marketing non-invasive imaging and non-imaging diagnostic equipment. Headquartered in Italy, its subsidiaries are located in the USA, Germany, France, Holland and China with a global distribution in over 50 countries. The three main product lines of the Group are ultrasound equipment, magnetic resonance dedicated systems and non-imaging diagnostic instrumentation for cardiology. Another major activity of the Group is the supply of turnkey hospital systems.

## Esaote Quality

Esaote S.p.A. is a ISO 9001 and EN 46001 certified company and all products are marked CE. Esaote's high quality standards are maintained during all phases of the process, from product development to manufacturing, from pre-sales client support to post-sales service and application assistance.

## E-scan XQ, a Unique System with a Unique Design

The high quality of Esaote's E-scan XQ is also reflected in its award winning industrial design.

In effect, the E-scan XQ dedicated MRI has won the most prestigious design award in Europe, the Italian "Compasso d'oro" or golden dividers, a 3 yearly award with a history of almost 50 years.



Next to Esaote, the 2001 "Compasso d'oro" has been awarded to such companies like Ferrari (sports cars) and Alessi (the home supplies company).