


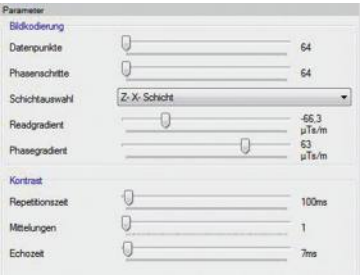
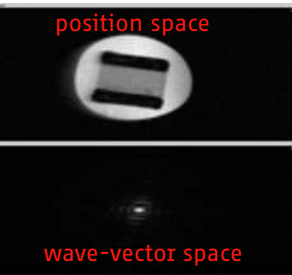
Step D Inserting the sample

- Content of the sample set: water (5 mm, 10 mm), oil (5 mm, 10 mm), structural sample (10 mm), empty test tube (10 mm).
- Insert the sample into the sample chamber.
- The sample can be replaced even during a running measurement. → **real-time scans**
- The empty test tube can be used to examine any other samples (the relevant sample space is marked).



Step E Setting the parameters

- Select an experiment, e.g. from the basic course, by clicking into the **experiments area (1)**.
- Press the button . The **results area (4)** shows the recorded signal. The associated sequence is displayed in the **sequence area (3)**.
- Vary the parameters in real-time in the **parameters area (2)**.



Technical Specifications

Control unit (drive-m)	
PC connector	USB-B
Imaging unit connector	RJ 45
Transmitter/receiver unit connector	BNC
Power supply	12 V DC 2 A
Power supply unit (external)	100-240 VAC, 50/60 Hz, 2A
Dimensions (length x width x height)	27 cm x 9.5 cm x 14 cm
Weight	2.3 kg

Magnet (magnet 22 MHz)	
Field strength	500mT
Field homogeneity	< 100 ppm
Sample diameter	up to 10 mm
Imaging unit connector	RJ 45
Transmitter/receiver unit connector	BNC
Dimensions (length x width x height)	27 cm x 25 cm x 14 cm
Weight	17.5 kg

Additional Information

Information about

- software operation
- operation of the unit
- specific settings
- experiments
- theoretical background
- accessories (e.g. sound box)

can be found in our operating instructions, software manual, help function in the "measure MRT" software, detailed experiment descriptions as well as at www.phywe.com.



Compact MRT – Quick Start Guide

Magnetic Resonance (MR) – Experiments



Quick start

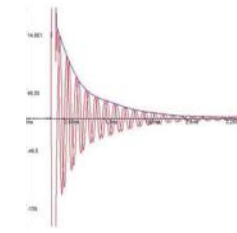


Nuclear Spins

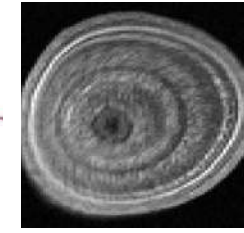
Relaxation Times

Spatial Encoding

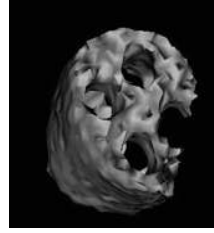
Magnetic Resonance Tomography (MRT)



FID signal (free induction decay)



MR scan of a wooden branch



Spin echo 3D "phantom" sample

XR 4.0 expert unit – Device overview



- | | |
|--|-------------------------------------|
| 1 Magnet „magnet 22 MHz“ | 6 RJ 45 And BNC cable |
| 2 Control unit „drive-m“ | 7 Status-LED |
| 3 Sample chamber | 8 Sample set |
| 4 Gradient connectors
(imaging unit) | 9 Measurement computer
(USB 2.0) |
| 5 HF connectors
(transmitter/receiver unit) | 10 Power supply unit
(DC 12V 2A) |

Preparation – Connectors



- Place the unit on a stable and flat surface (do not use any metallic surfaces).
- Keep a sufficient safety distance (> 1 m) with regard to technical equipment, storage media, and metallic objects.
- Connect the power supply unit to the back of the control unit (POWER set to off).
- Connect the control unit and the magnet by way of the RJ45 and BNC cables.
- The “sound box” option can be additionally integrated between the control unit and magnet.
- Connect the measurement computer via the USB cable to the control unit.

Step B Installing the software



- Log in to your computer as the administrator.
- Place the “measure” DVD into the DVD drive. The installation window will be displayed automatically.
- Select “measure MRT” and install the software.
- Follow the instructions and confirm the installation.
- The system is now ready. Start the “measure MRT” software.

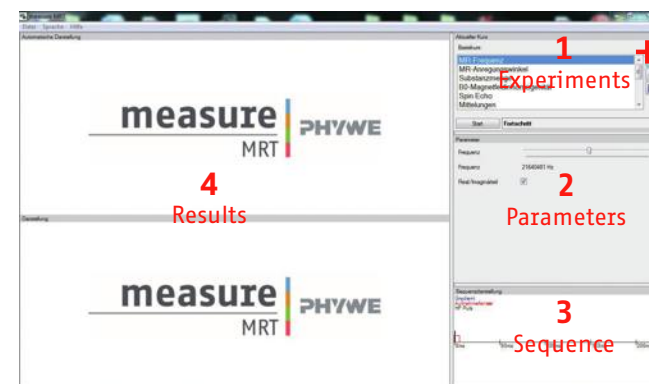


Step A Switching the unit on

- Switch the control unit on by actuating the POWER switch at its back.
- The operating system of the measurement computer will now recognise the control unit. Install the device driver and the “measure MRT” software.



Step C Using the software



- The “measure MRT” software is divided into **4 partial areas** (can be arranged as desired).
- You can select courses by clicking the “+” symbol. Select the basic course, for example.