



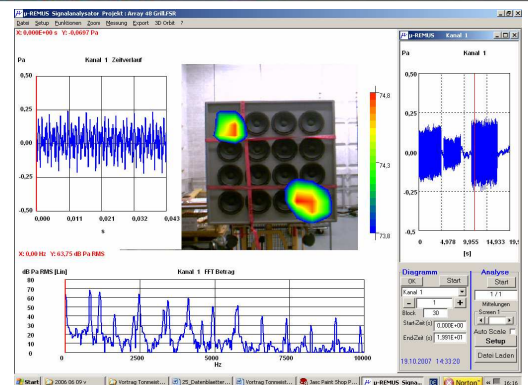
BEAMFORMING

Technical data sheet nr 116A-a

Objectives :

The beamforming is a fast analysis technique to locate the sound sources, to identify the top frequencies and to quantize the effect of a modification made on a structure. It can be used in many cases such as :

- **Engine radiation**
- **Wind turbine noise**
- **Pass-by noise**
- **Factory noise**
- **Etc...**

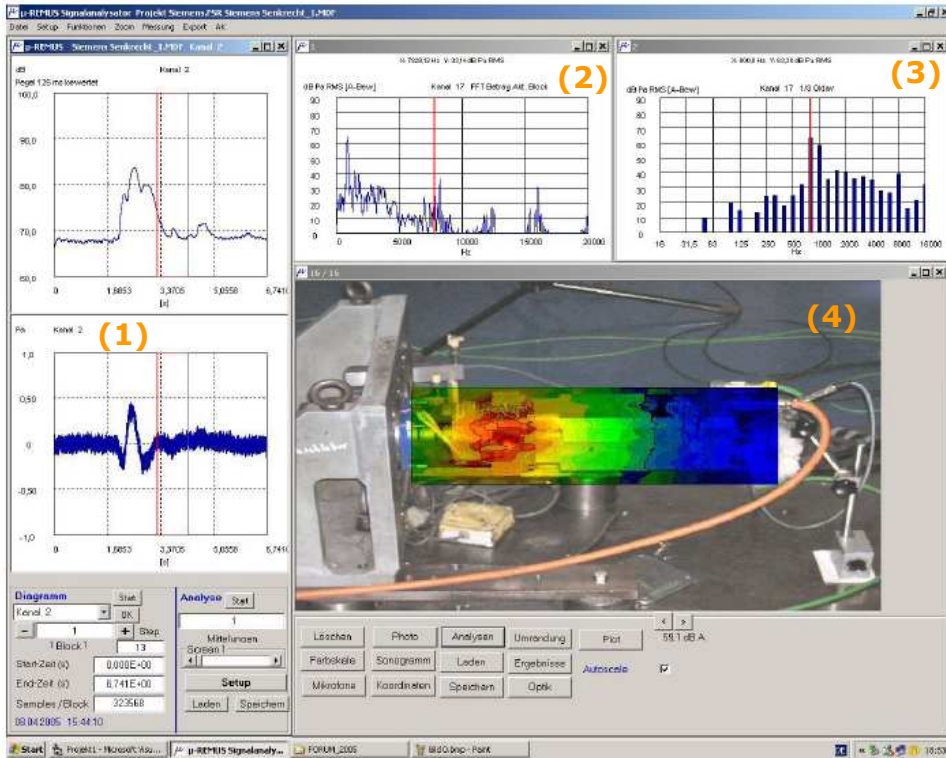


Pass-by noise

FUNCTIONALITIES :

- Quantity of microphones : 16 to more than 64
- Antenna dimensions : 100cm to more than 4m
- Antenna shape : circular, square, three or five-rayed star according to the need.
- Frequency analysis range : from 100Hz to 10KHz
- Measurement distance : near field from 1 to 2m up to more than 50m
- Object photo : digital image taken with a camera located at the center of the antenna.

METHODOLOGICAL APPROACH



EXAMPLES MOTO REDUCER NOISE

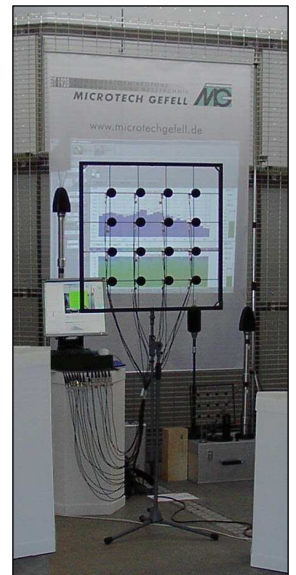
The red area on the noise map shows a hole in the envelope from which comes the maximum noise.

- (1) Time domain
- (2) Frequency domain
- (3) One-third octave
- (4) Noise mapping

STEPS

CHOICE OF THE ANTENNA

- The minimum and maximum analysis frequencies will determine the type of antenna to be used (antenna size and distance between microphones)



MEASUREMENT DISTANCE

- The distance will depend on the spatial resolution searched between the sources.

ANALYSIS TYPE

- Stationary
- Non-stationary

APPLICATIONS

- Automotive industry
- Aeronautics industry
- Railways industry
- Building industry
- Industrial sector

