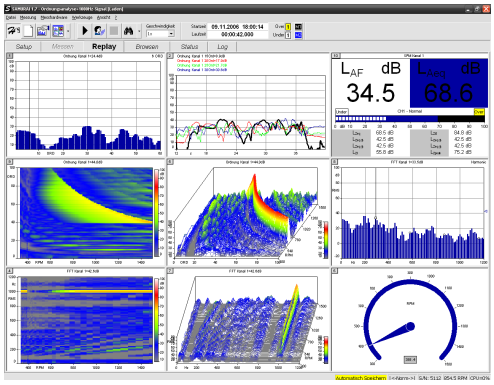
SAMURAI option: ORDER TRACKING



Field of Application:

Order Analysis is an established technique for the investigation of vibration events and noise emissions in relation to rotating machines or equipment. In contrast to the FFT, not the level at a given frequency (FFT spectrum) but instead the level at a multiple or fraction of the basic rotational speed (order spectrum) is of interest here. For example, this technique can be used to locate gearbox damage.

Description:

This option calculates order spectra based upon FFT analysis of the time signal together with the rotational speed information. The HARMONIE family of devices (e.g. the Soundbook) offers two tachometer channels for this purpose.

Technical Data

Features	• Real-time calculation of the order spectrum • 10 to 400 order lines; resolution 1, 1/2, 1/4, 1/8, 1/10 • Display of order spectra in spectrum graphs as well as in sonograms and waterfall diagrams (against time or rotational speed); progressive display of a selected order (against time or rotational speed) in history graph • Use of two tachometer references • In parallel the standard analyses in SAMURAI are available (sound level meter, 1/3 octave, FFT, rotational speed) • Export to Excel, TXT, UFF and NWWin

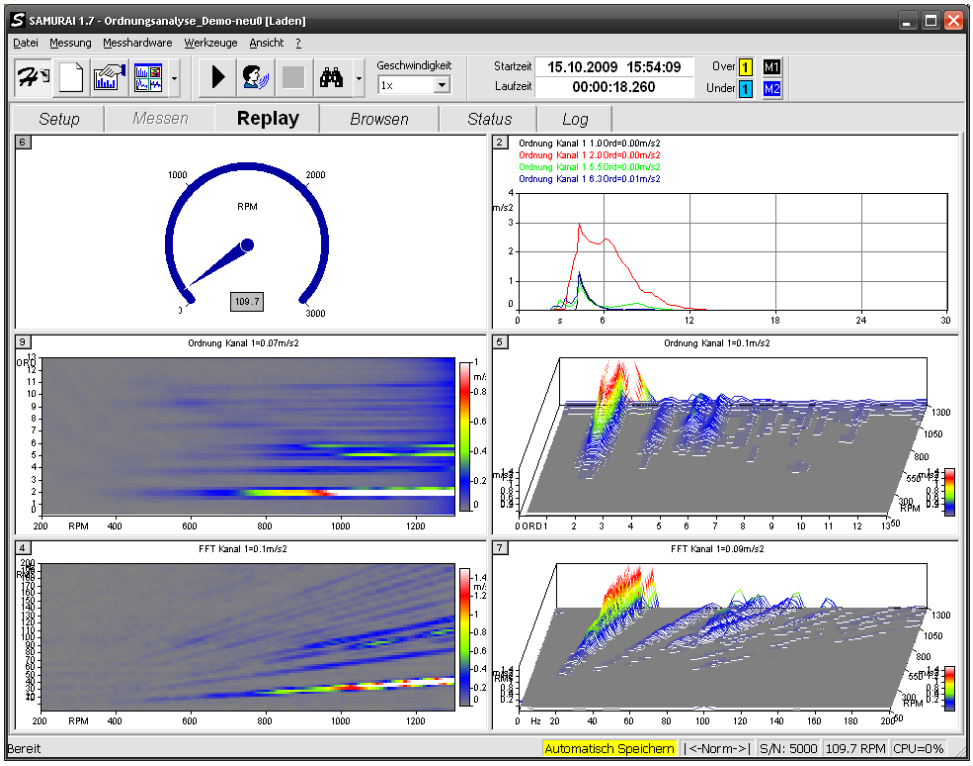


Figure 1: Motor run-up: tachometer, history graph with orders, sonogram of orders, waterfall diagram of orders, sonogram of FFT, waterfall diagram of FFT