Software for RIONOTE Multifunction Measurement System

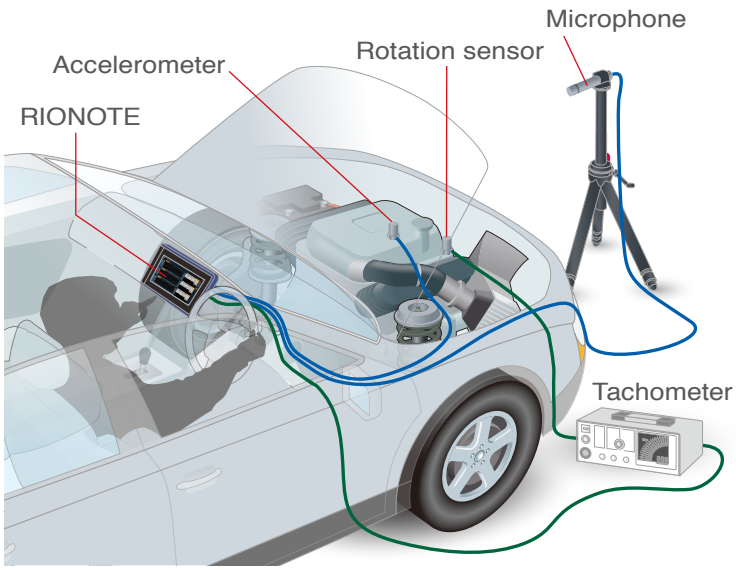
Order Tracking Program

CAT-SAA1-ORDTRK

(This software is a product of Catec Inc.)

What is order tracking?

Rotational machinery such as a combustion engine or an electric motor may become the source of considerable noise and vibrations when mounted for example in a vehicle. This is due to the phenomenon of resonance occurring at certain rotation frequencies.
The RIONOTE Multifunction Measurement System can simultaneously record rotational speed (rpm) data along with sound and vibration waveform data and perform automatic order tracking analysis based on these data. This analysis makes it possible to assess the sound or vibration state corresponding to the change in rotational speed, in order to determine the causes of resonance. Because the recorded waveform data are saved, it is also possible to change the frequency resolution or other parameters later and perform multiple analysis runs for comparative evaluation.



Display examples for vibration order tracking

Application examples

- **Drive train noise and vibration analysis for automobiles and motorcycles**
- **Vibration analysis of large electric machinery**
- **Turbine blade vibration analysis**
- **Vibration and noise analysis of power transmission shafts and gears**

RPM - Level (Simultaneous display of multiple orders)

RPM - Level (Enlarged view)

System configuration example

Multifunction Measurement System	SA-A1FTB2/SA-A1FTB4
Order Tracking Program	CAT-SAA1-ORDTRK
Piezoelectric Accelerometer	PV-91C/PV-91CH/PV-97I
1/2 inch Electret Condenser Microphone	UC-59
Preamplifier	NH-22
BNC-BNC Coaxial Cable	EC-90
BNC Adapter	VP-52A

Specifications

Number of channels	SA-A1B4: 3 channels*, SA-A1B2: 1 channel* *Because one channel is required for tacho signal input
Tacho signal	TTL level pulse, DC signal
Max. rotational speed (with analysis frequency 20 kHz)	10 000 rpm (at 60 p/r) 600 000 rpm (at 1 p/r)
Order setting	Settings up to one decimal point are supported
Order width	Settable (depending on number of FFT sampling points)

Display		
	Graph	Horizontal axis: rpm, Vertical axis: amplitude
	Simultaneous overlay display	Up to 4 orders (including overall)
	Data interpolation	Moving average, Weighted moving average
	Display data save formats	CSV, PNG

Distributed by:

RION CO., LTD.
http://rion-sv.com/

3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan
Tel: +81-42-359-7888 Fax: +81-42-359-7442

This leaflet is printed with environmentally friendly UV ink on recycled paper.

1603-0 1603.P.D