RION

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.
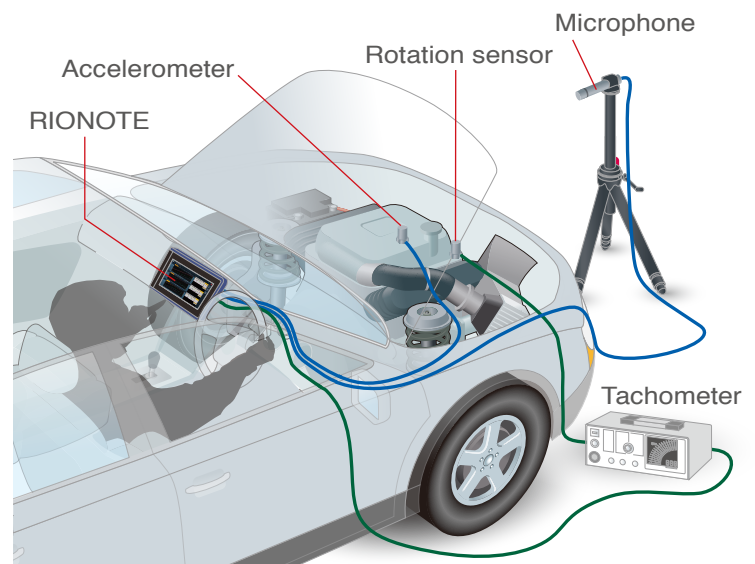
Display examples for vibration order tracking

RPM - Level (Simultaneous display of multiple orders)

RPM - Level (Enlarged view)

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**

System configuration example

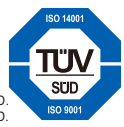|	
● Multifunction Measurement System	SA-A1FTB2/SA-A1FTB4
● Order Tracking Program	CAT-SAA1-ORDTRK
● Piezoelectric Accelerometer	PV-91C/PV-91CH/PV-97I
● 1/2 inch Electret Condenser Microphone	UC-59
● Preamplifier	NH-22A
● BNC-BNC Coaxial Cable	EC-90
● BNC Adapter	VP-52A

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	10 000 rpm (at 60 p/r)
(with analysis frequency 20 kHz)	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

✳ Windows is a trademark of Microsoft Corporation.   ✳ Specifications subject to change without notice.

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