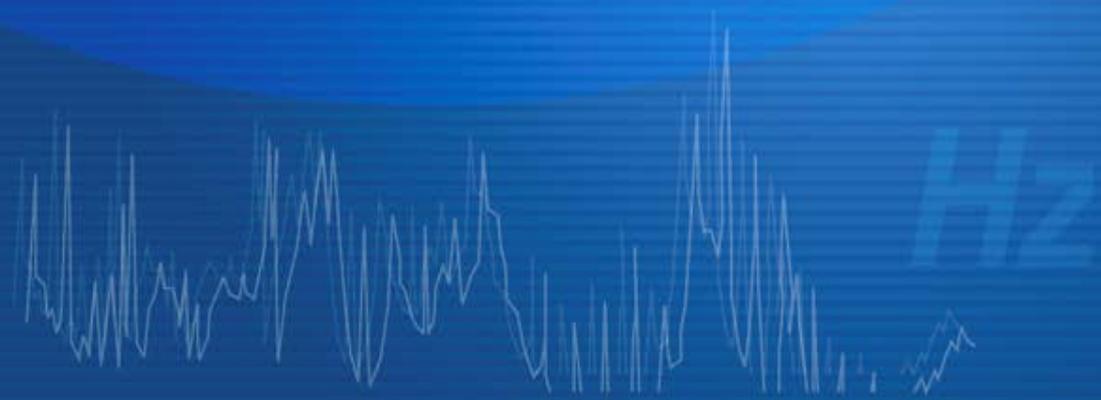


ONOSOKKI



Time Tracking Operation CF-4500



Time tracking measures amplitude variations along a time axis.

The measurement of variation in a specific frequency is called “frequency time tracking” while the measurement of variation in a specific order is called “order time tracking.”

In rotation tracking analysis, when rotation speed increase/reduction is unstable, time tracking can be used in place of rotation tracking. In this case, the X axis represents time. In addition, shape comparator can be used based on the results of time tracking.

Note: To use time tracking, the CF-0451 tracking function (optional) needs to be set.

1. Setting time tracking

1. When constant current sensors are used, set CCLD to ON.
2. Set the voltage sensitivity, frequency range and EU.
3. When order time tracking is performed, input the rotation pulse in the EXT SAMP (external pulse input) field on the rear panel.
4. Enter the tracking mode by pressing the soft keys in the following sequence:
MAIN → TRACKING → ON.

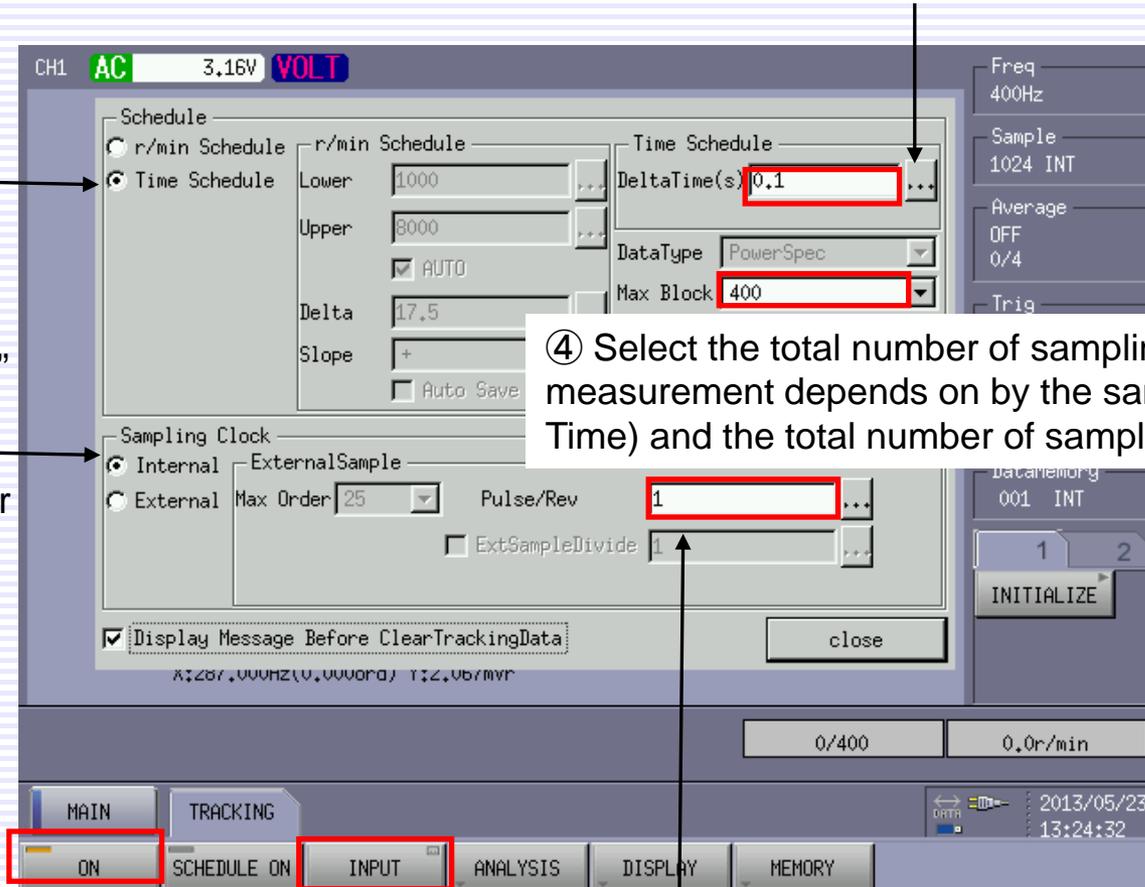
5. Open the setup screen by pressing the INPUT soft key.

③ Select data sampling intervals. (The shortest intervals available are 0.1 s.)

① Select "Time Schedule".

② Select "Internal" for frequency time tracking. Select "External" for order time tracking.

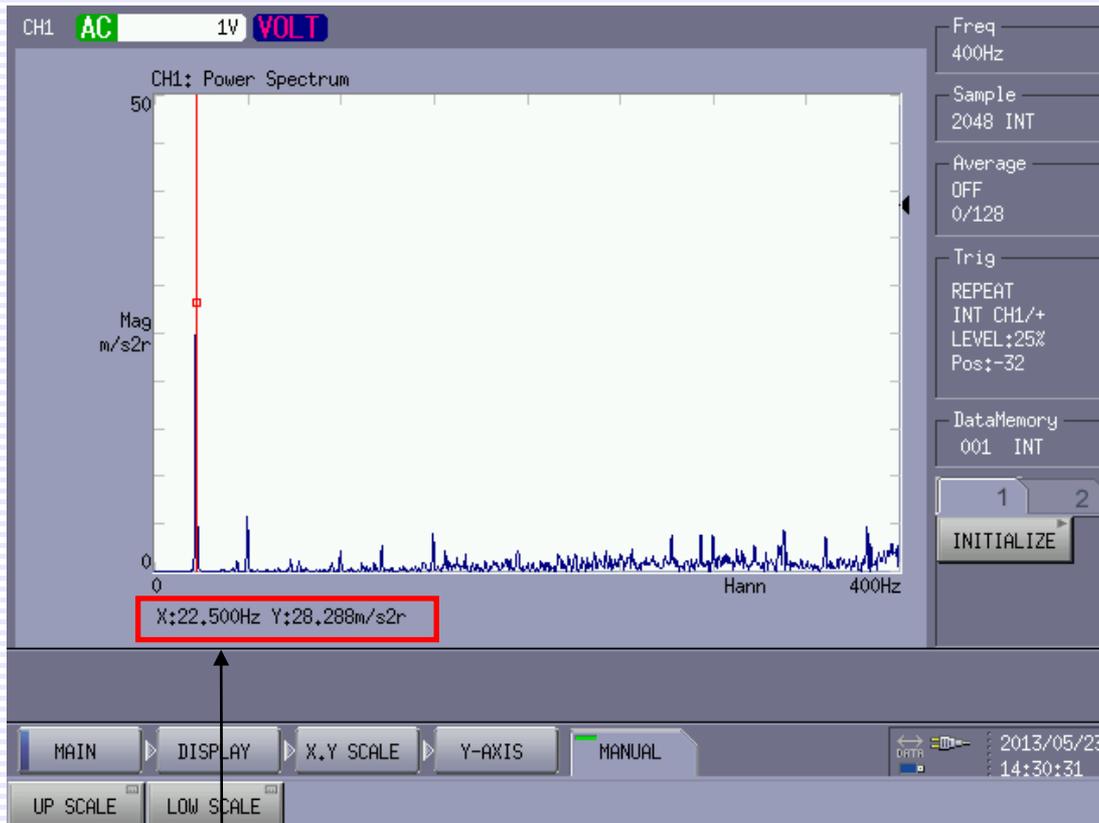
④ Select the total number of samplings. The duration of measurement depends on by the sampling intervals (Delta Time) and the total number of samplings.



⑤ When order time tracking is performed, select the pulse per revolution for the rotation pulse that has been entered in the EXT SAMP field.

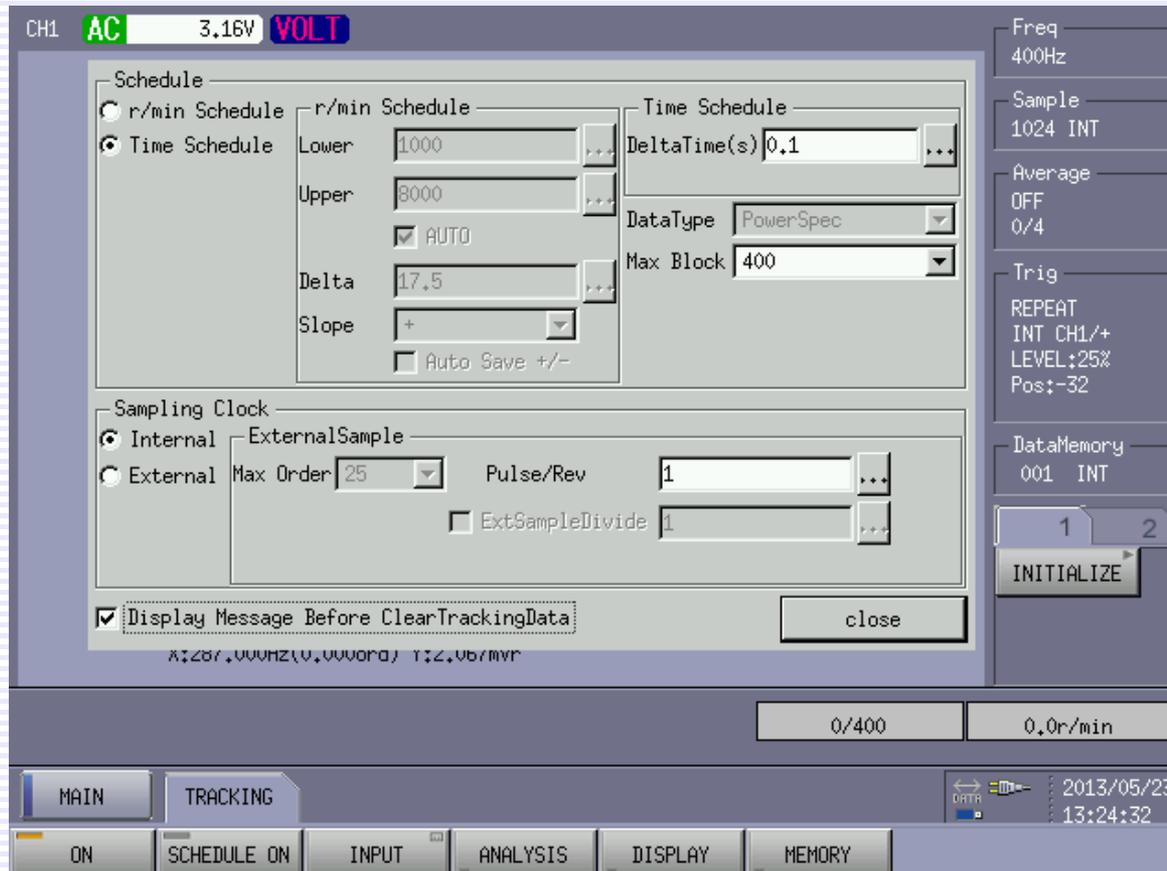
6. Analyze the signal for time tracking analysis.

In this user guidance, frequency time tracking is explained. The power spectrum in the diagram below represents vibration generated by a rotating machine. The following is power spectrum of the vibration generated from a rotating machine. Time tracking analysis of the amplitude variation of rotation frequency generated from the rotating shaft is performed.



The amplitude at the 22.5 Hz search frequency represents rotation frequency. Search frequency is not always 22.5 Hz as the rotation speed varies slightly. This needs to be considered when plotting frequency tracking data.

2. Execution of Time tracking



Set "SCHEDULE" to ON and press the START key on the panel. (In the example above, measurement lasts 40 seconds.)

3. Setting time tracking data display

Press the soft keys in the following sequence:
TRACKING → ANALYSIS → ORDER ANALYSIS

⑤ When tracing the peak value from among multiple lines, specify how many times larger the size is than the resolution. In the case of 22 Hz, 5 lines, 400 Hz frequency range and resolution of 800 (0.5 Hz), the peak of 20–24 Hz will be plotted.

③ Enter the frequency to trace. To open the entry field, press the button with three dots to the right of the text box.

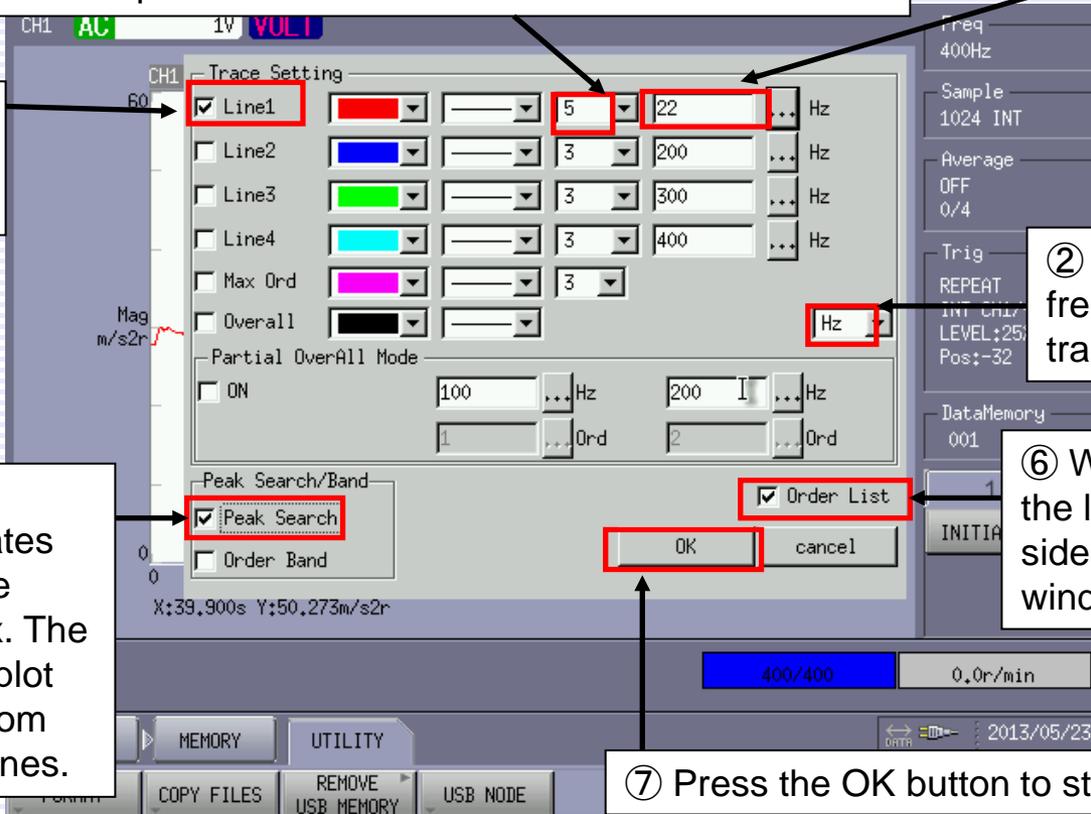
① Select an option for tracing.

② Select “Hz” to trace frequency. Select “Ord” to trace order.

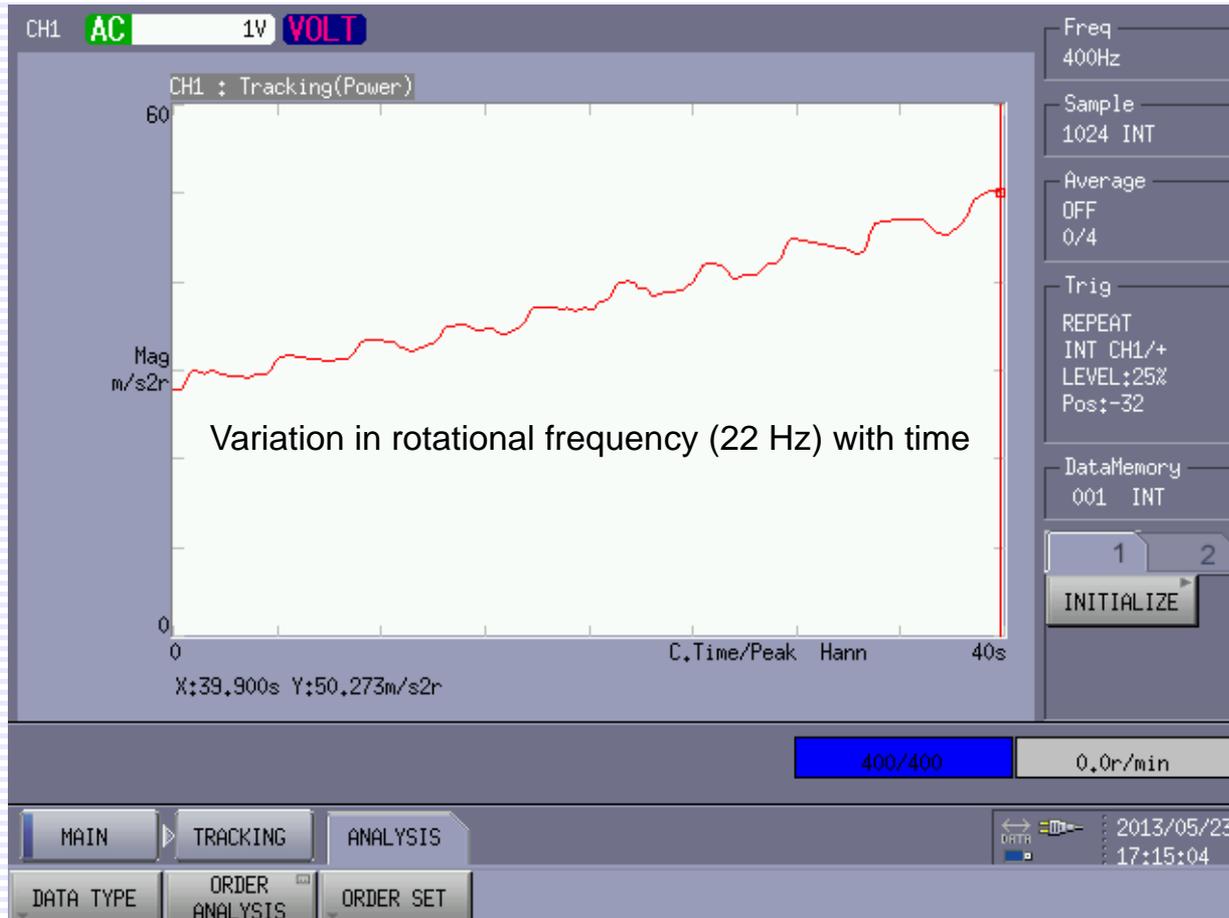
④ If the trace frequency fluctuates slightly, check the Peak Search box. The system will then plot the peak value from among multiple lines.

⑥ When this box is checked, the list is shown on the right side of the screen. (The main window becomes smaller.)

⑦ Press the OK button to start plotting.



4. Displaying the results of analysis (frequency time tracking)

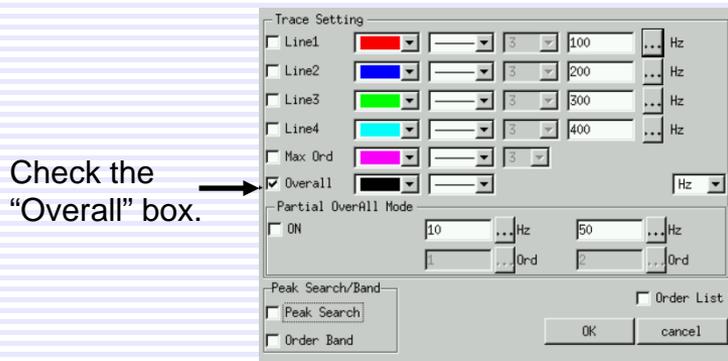


Data can be saved by pressing the STORE key.

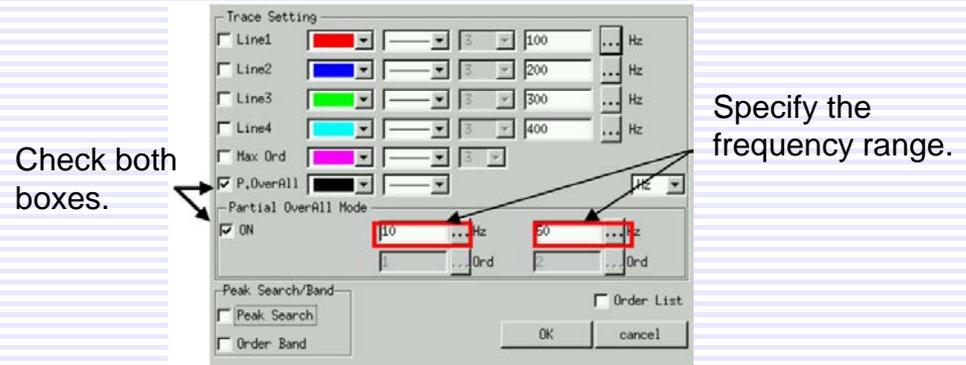
The X axis represents time.

5. Displaying the results of analysis (overall and partial overall)

Frequency time tracking offers two types of plotting: Overall and Partial overall. Overall is plotting the total power spectrum of the selected frequency range, and Partial overall is plotting the total power spectrum of the specified frequency range. Note that it is not possible to perform both types of plotting at the same time.



Overall time tracking up to 400 Hz



Partial overall time tracking of 10–50 Hz

