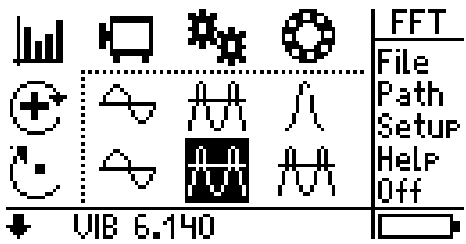
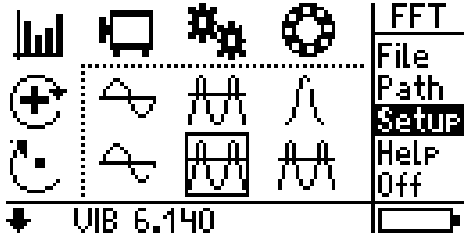
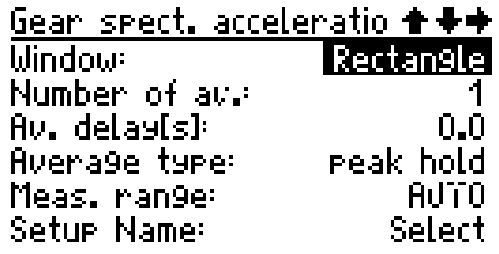
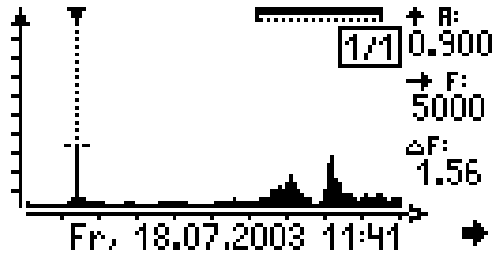


Resonant Test

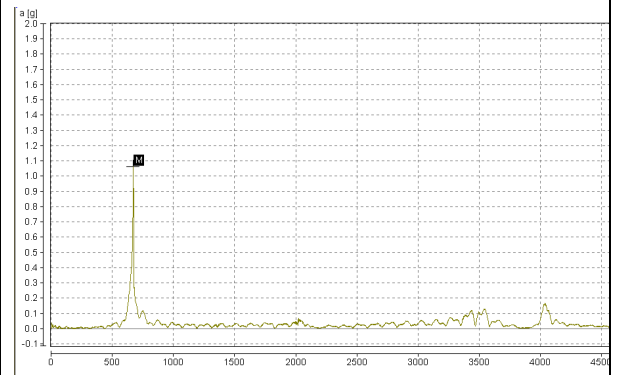
Setup in the VIBSCANNER®

Objective: To capture a Resonant Spectrum using the VIBSCANNER for a Bump Test.

Method 1: Capture the resonance with Free Run in the spectrum measurement.

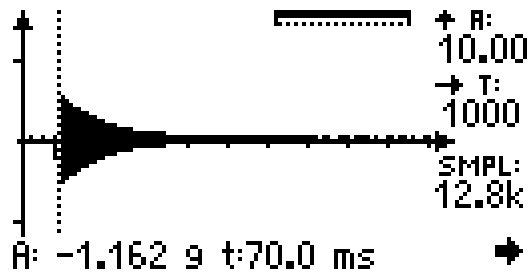
<p>Choose a spectrum type. For example, I chose an acceleration spectrum that has a 5 kHz Fmax and 3200 lines of resolution.</p>	 <p>The screenshot shows a menu with icons for various functions. The 'FFT' option is selected, and the 'Setup' option is highlighted with a black background. Other options include File, Path, Help, and Off. The status bar at the bottom shows 'VIB 6.140'.</p>
<p>Change the setup.</p>	 <p>The screenshot is identical to the previous one, but now the 'Setup' option is highlighted with a black background, indicating it has been selected.</p>
<p>Toggle down to and change the following:</p> <p>Window: Rectangle (uniform) Number of av.: change to 1. Av. Delay[s]: 0.0 Average type: peak hold</p> <p>and Save</p>	 <p>The screenshot shows the setup screen for the 'Gear spect. acceleration' measurement. The 'Window' is set to 'Rectangle', 'Number of av.' is 1, 'Av. delay[s]' is 0.0, 'Average type' is 'peak hold', 'Meas. range' is 'AUTO', and 'Setup Name' is 'Select'. Arrows indicate that these values can be adjusted.</p>
<p>Start the measurement and excite you structure with gentle taps from your modal hammer, then store the data. Modal Hammers have different tips to excite frequencies in different frequency bandwidths. The softer the tip the lower the frequency. Transfer data to the OMNITREND® software for documentation.</p>	 <p>The screenshot shows a spectrum plot with a prominent peak. The peak is labeled with '1/1' and '0.900'. The frequency range is set to '5000' Hz, and the resolution is '1.56' Hz. The date and time are 'Fr, 18.07.2003 11:41'.</p>

Load the spectrum into OMNITREND with the "Upload multimode to PC" function. The resonance in this spectrum is 672 Hz (40320 cpm).

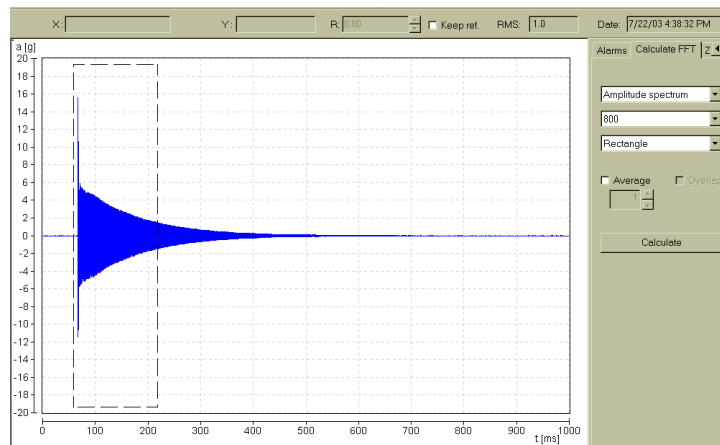


Method 2: Time waveform can be used as an alternative method. In OMNITREND the spectrum can be calculated (use Rectangular Window) with no averages. Time waveform allows you to catch the maximum vibration level. The Impact can be recorded in VIBSCANNER time waveform module. Here you can see a time waveform based impact. In order to get the right amplitude range with the VSC, one has to hit the machine with the hammer while the VSC is auto ranging. Then complete the FFT processing in OMNITREND.

VIBSCANNER display:

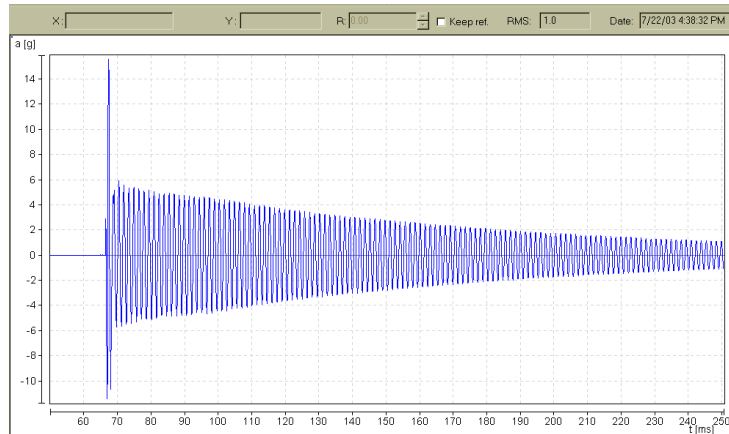


The Time Waveform is transferred to OMNITREND via "Upload multimode to PC" function. The FFT function should be configured to power spectrum, 800 lines minimum, and rectangle window.

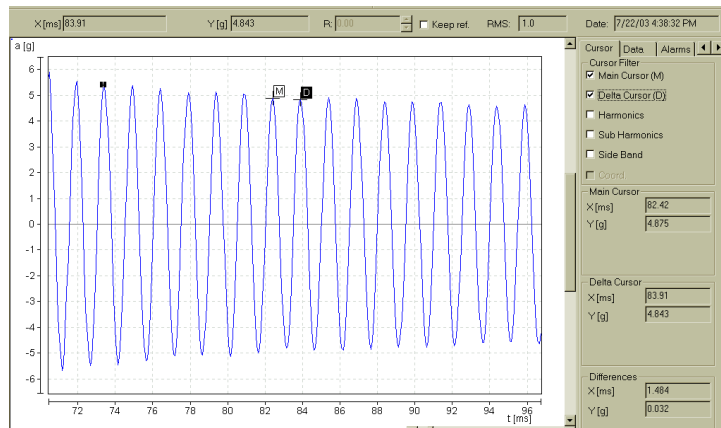


7/28/03

Zoomed In:

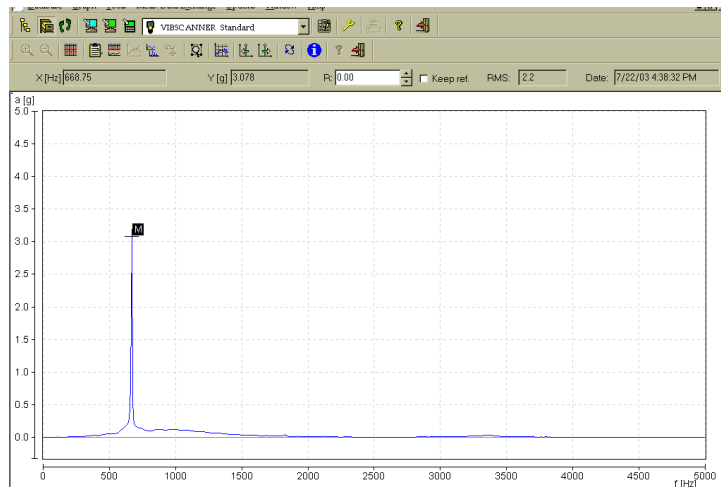


Calculated the frequency: $F = 1/T = 1/0.001484 = 674$ Hz.



Press the FFT Icon in the tool bar:

This is the FFT:



7/28/03