KINEMETRICS

Figure 1 - Signal to Noise Ratio Plot

PSD

Power Spectral Density Program

PSD is a Windows application for seismological data processing. The quality of acquired data can be easily evaluated in the field, and the software allows event (.EVT) files of various versions (up through 1.50) to be read and processed to determine the following:

• Power spectral density
• Signal to noise ratio
• Coherence between two channels
• Transfer function between two channels

The PSD's main dialog has a simple organization and with the program's on line help, its features are easily accessible. All results can be graphically represented using all linear/logarithmic combinations for the axes.

Options include:
• Selection of channels of interest
• Clip limits of the processed data
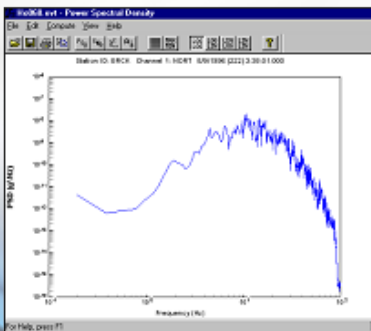• Display the data plots as LogLog, LogLin, LinLog, or LinLin

FEATURES

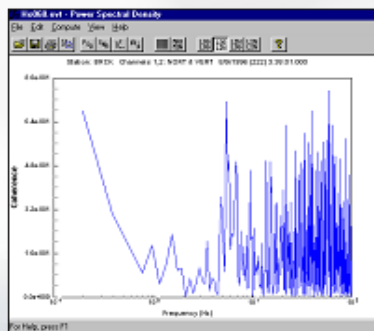The **PSD** software package was created to help users of the Altus-type instruments (K2, Etna, Mt. Whitney) perform frequency analysis of the signals recorded with these instruments. The software accepts an EVT file as the input file and performs the following functions:

Signal/Noise Ratio is computed using the first 1024 points of the signal as the noise and 1024 points starting from the trigger point as the signal.

Power Spectral Density is computed using the one-sided autospectral density function. The user sets parameters such as corner filter, filter order and overlapping window.

Coherence Function (ordinary) for two signals is computed allowing the user to select the two signals, the corner frequency for the filter and the overlapping window.

Transfer Function is computed using an algorithm related to the coherence function. The gain and phase are computed, giving the user the option of defining the corner frequency for the filter and overlapping window.

Figure 2 – Power Spectral Density

Figure 3 - Coherence Dialog
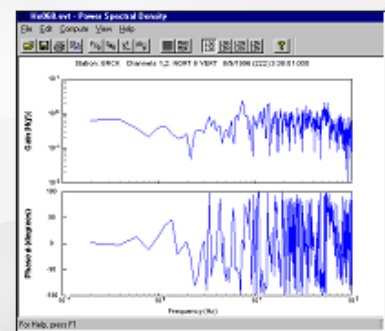
Figure 3 - Transfer Function Plot