Subject: Re: Dynamic Spectrum
Posted by russell.grew on Tue, 03 Jun 2008 00:20:53 GMT
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You might want to have a read of

Welch, 'The Use of Fast Fourier Transform for the Estimation of Power Spectra: A Method Based on Time Averaging Over Short, Modified Periodograms', IEEE Trans. Audio & Electroacoust., Volume AU-15, p. 70-73.

It's probably the simplest implementation of what you are trying to do. It provides for overlapping FFT's and discusses windowing and their compensation. Also theres a book by Hayes, 'Statistical Digital Signal Processing and Modeling' that has a good chapter on power spectrum estimation.

To get your y-axis correct you need to know the data sample rate and hence evaluate the Nyquist frequency. For instance if your data is sampled twice per second, you can only plot up to 1 Hz. The kHz data in the link you gave obviously requires large sample rates. You need to choose your FFT length to give an appropriate frequency resolution to see what you are looking for in the data (if you have a 100 point FFT over data with a 1 Hz Nyquist and drop the imaginary half of the FFT, you are left with 1/50 = 0.02 Hz frequency resolution).

Fun times.

Russell.