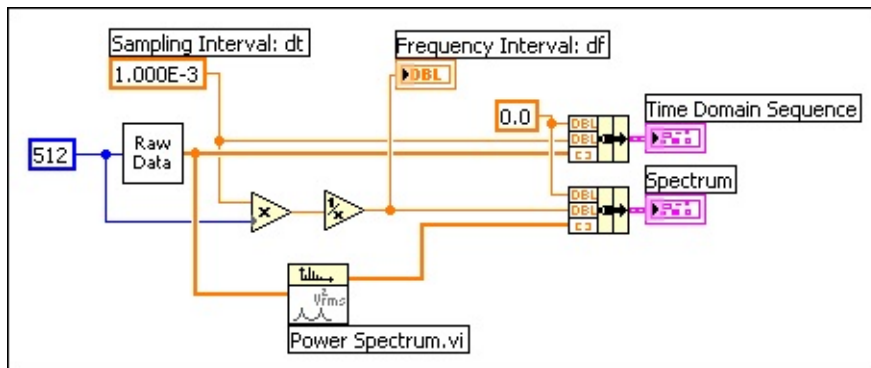# Displaying Frequency Information from Transforms

The discrete implementation of the <u>Fourier transform</u> maps a digital signal into its Fourier series coefficients, or harmonics. Unfortunately, neither a time nor a frequency stamp is directly associated with the FFT operation. Therefore, you must specify the sampling interval Δt.

Because an acquired array of samples represents a progression of equally spaced samples in time, you can determine the corresponding frequency in hertz. The following equation gives the sampling frequency f_s for Δt.

$$f_s = 1/\Delta t \text{ (A)}$$

The following block diagram belongs to a VI that properly displays frequency information given the sampling interval 1.000E – 3 and returns the value for the frequency interval Δf.

The following front panel shows the display and Δf that the VI with the previous block diagram returns.

Frequency Interval: df

1.95313
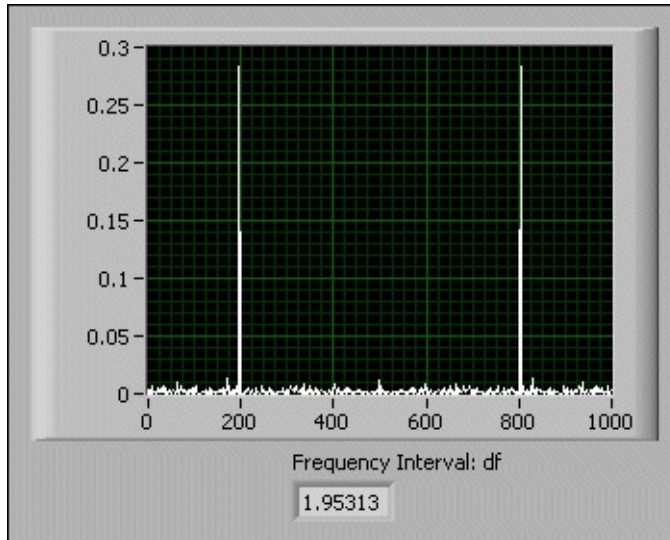
Two other common ways of presenting frequency information are displaying the DC component in the center and displaying one-sided spectrums.