

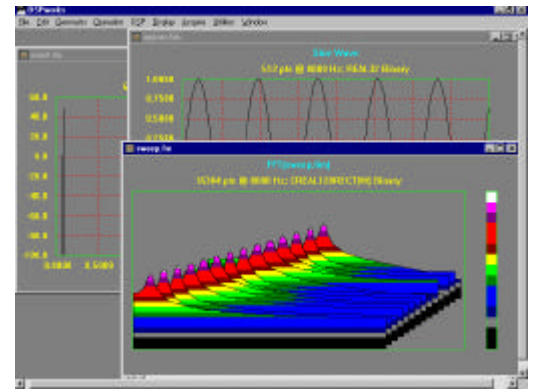
## DSPworks

DSPworks is an **easy to use** signal processing package for Microsoft's **Windows 9x and NT**.

It provides an extensive **library of DSP operations** and functions for **signal generation**, capture and replay to supported hardware.

A particular strength is in **digital filtering**: DSPworks takes specified digital filters and allows them to be applied to generated or recorded signals. This is especially important in **testing IIR filters**, where the filter response in practice depends on the signals which are encountered and cannot be completely determined theoretically at the time of designing the filter.

DSPworks also provides for special operations such as signal clipping, scaling, and **quantization**: all vital in real practical analysis of DSP algorithms.

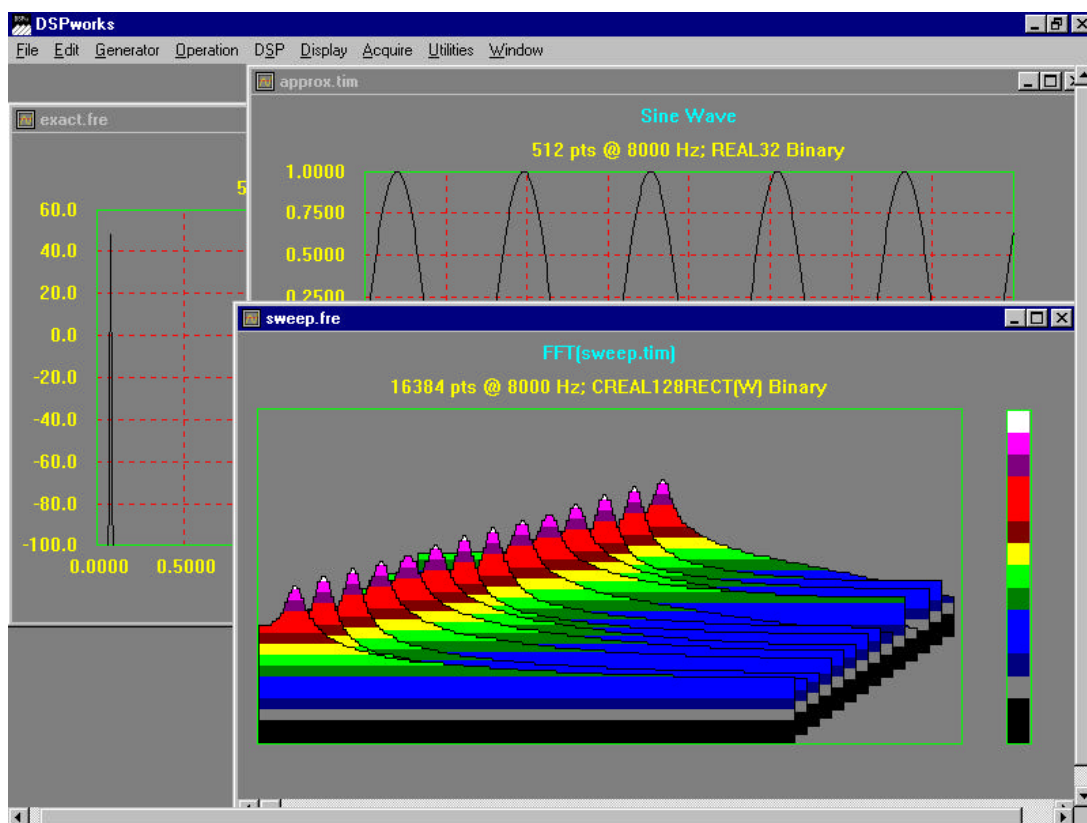


### Features:

- **signal generation**
- **signal recording** from supported hardware
- **FIR and IIR digital filtering**
- **FFT analysis**
- **convolution and correlation**
- **LPC speech analysis**
- **2 and 3D signal and FFT display**
- **signal quantization**
- **arithmetic operations between signals**
- **non linear operations**

Details and demo software are also available on line:

<http://www.mds.com/software/dspworks.htm>



# DSPworks data sheet

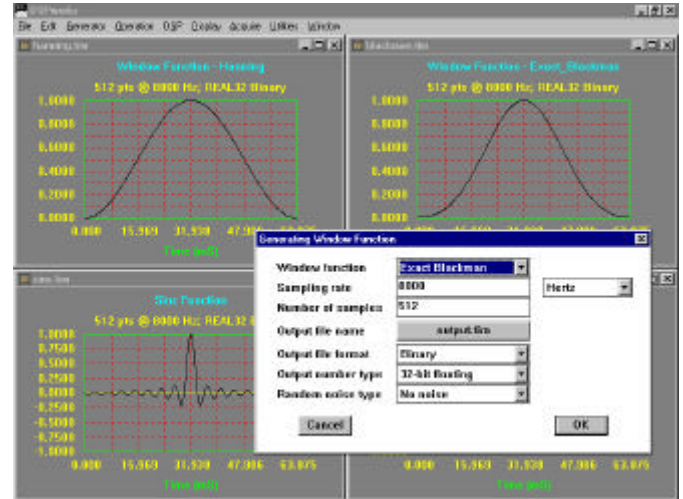
## Signal generation

DSPworks supports an extensive set of **signal generators** including sine, square and triangle waves: but also less commonly available functions such as window functions, unit step and unit sample, sinc, exponential and **noise functions**.

Noise, with specified distribution, can be added to any signal. Signals can be generated as **32 bit floating point** or as **16 bit fractional fixed point** values.

Signal length is limited only by available disk space.

Signals can also be recorded from, and replayed to, supported DSP hardware.

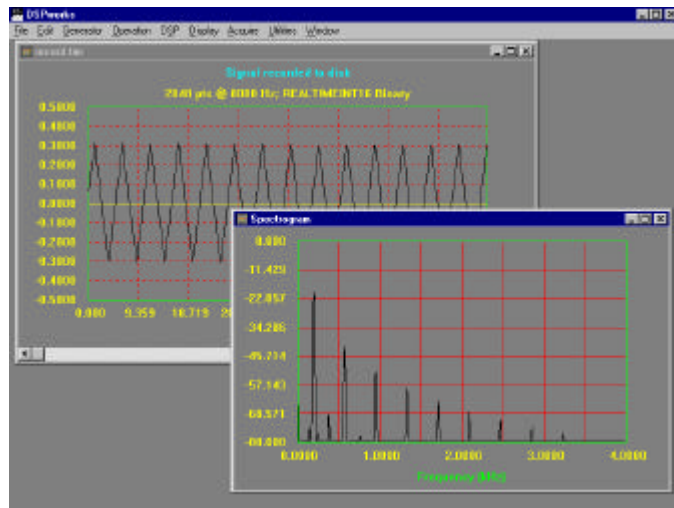


## DSP functions

DSPworks has a wide range of **DSP and arithmetic functions** which can be applied to, or between, signals.

Standard DSP functions include **FFT analysis**, **convolution** and **correlation**: but other operations such as signal **decimation** and **interpolation** support sample rate conversion and multirate filtering.

Signal **filtering** is an important part of DSPworks: it takes filters designed by the sister program QEDesign, and applies them to synthesized or recorded signals. With supported DSP hardware, filters can be run on specific DSP chips for complete simulation of practical systems.



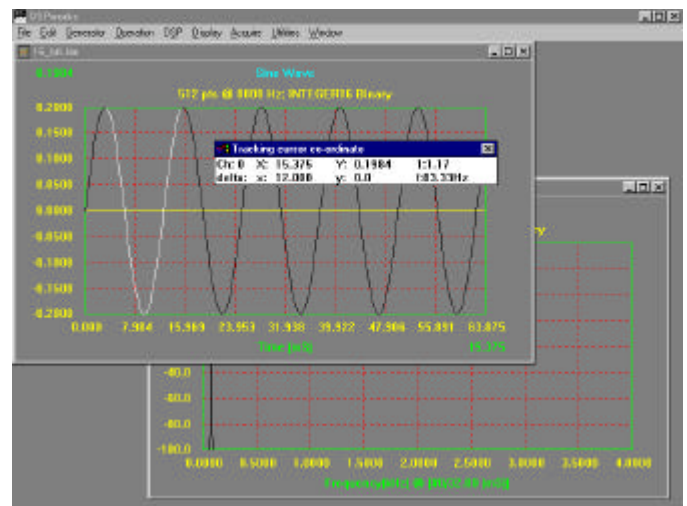
## Display and measurement

DSPworks has a full complement of display and **measurement** options.

Spectral plots include 2D 'spectrogram' and 3D 'waterfall' options.

Using the mouse, signals can be measured accurately: the measurement window shows current cursor coordinates as well as derived values such as difference from last position and signal frequency.

With supported DSP hardware, signals can be shown in **real time** as oscilloscope or spectrum analyzer plots



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