

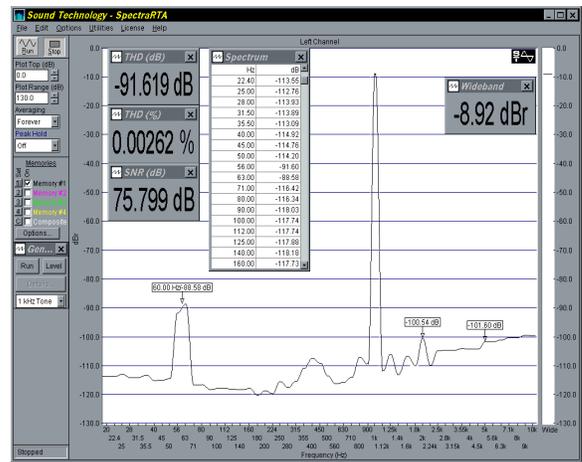
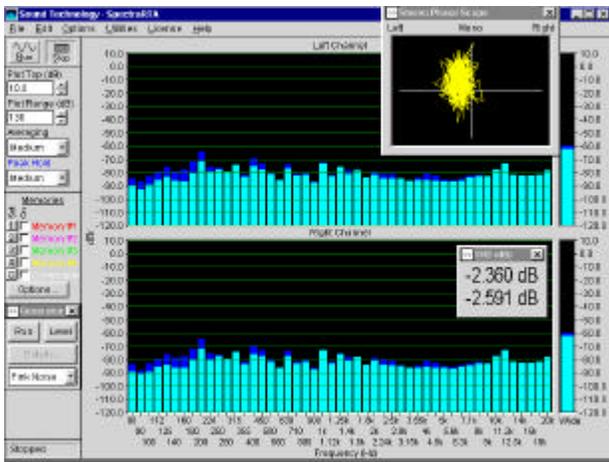


## THE WORLDS BEST PC-BASED REAL-TIME ANALYZER/SOUND MONITOR

Professional Cinema & Live Sound, Noise & Sound Monitoring, Speaker & Room Acoustics, Audio & Home Theater, Sound Optimization & Acoustic Measurements

**SOUND TECHNOLOGY REVEALS SPECTRUM** A spin-off from our popular RTA4000 PC-based instrument, SpectraRTA is highly regarded by industry as a robust integrated PC-based monitoring and analysis solution for the new millenium. If you are suffering from "Performance Anxiety", our world class software utilizes 32-bit floating-point precision; designed from the audio perspective, it's easy to use. The high-speed Windows-based digital engine is flexible and scalable to accomodate a wide array of applications & budget. The modular architecture allows powerful audio & acoustic analysis tools to be added any time you are ready to enhance and expand your investment.

**SAVE TIME & MONEY** SpectraRTA saves time and money with no training required to learn a new GUI. It also utilizes your existing Windows sound system eliminating the need for expensive proprietary DSP-based hardware. Our revolutionary software takes full advantage of the rapidly advancing computer technology and delivers fast, reliable real-time signal analysis and processing power. Upgrade your computer - Desktop, Workstation or Laptop, Video or RAM and Spectra will immediately take advantage of your powerful new computing system resources.

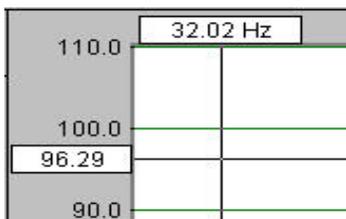


Selectable line/bar plots of the frequency spectrum with real-time markers and custom labels. The horizontal axis shows frequency in Hertz (Hz). The vertical axis shows the amplitude of each Spectra/Octave band in dB. SpectraRTA utilizes standard ISO center frequencies and bandwidths.

The level bars located along the right side of the plot displays an autoranged analog bar display of Average vs Peak "Wideband" signal level or Total Power complete with high precision digital readout of AC Volts, Power, THD, IMD, SNR, Delay.

The mouse can be used to zero-in and measure the frequency and amplitude information directly off the plot (cursor measurements). In addition, the <Edit><Copy> menu item will place the current spectral data on the clipboard in tabular format. Paste the data into any spreadsheet/text file.

### Cursor Measurements



**Left Mouse Button:** Pressing the left mouse button anywhere within the plot region will display horizontal and vertical measurement boxes containing the values of the X and Y positions pointed to.

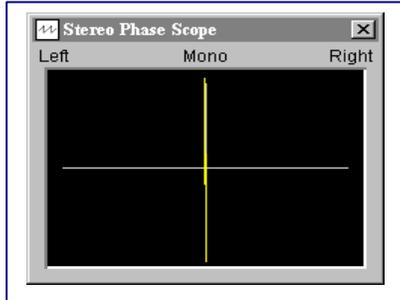
**Control Key + Left Mouse button:** Holding down the Control Key and clicking the left mouse button anywhere within the plot region and dragging will display horizontal and vertical measurement boxes containing the differential values of the X and Y positions relative to the starting point. This is very useful for measuring the difference between two points on the plot.

**Right Mouse Button:** Click within the plot region to activate a popup action menu containing additional editing and processing options...

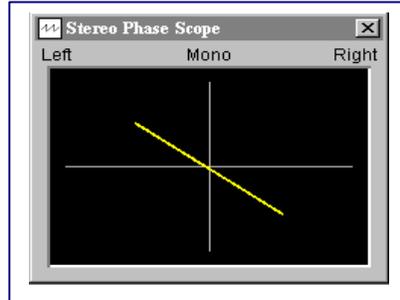
- ⦿ Copy - copies the selected spectrum values (spectrum, peak, memory) to the clipboard in tab delimited text format
- ⦿ Set Marker # - activates and sets marker # at the frequency of the mouse click point.
- ⦿ Clear Marker # - disables marker #.
- ⦿ Clear Spectrum - clears the current spectrum. This is useful if you wish to view/print memories without the main spectrum trace.
- ⦿ View Spectrum Table - displays a scrollable real-time table containing the current spectrum values.

## Stereo Image Scope

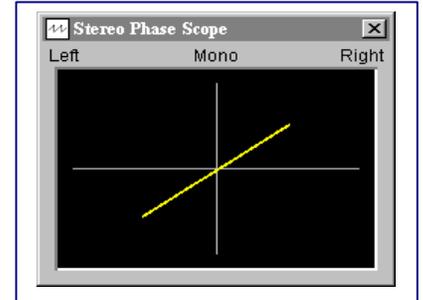
These advanced utility displays allow you to evaluate the stereo imaging of the two input channels. This is a very useful tool for audio test, recording, broadcasting, cinema & live sound applications. Use this scope when adjusting the L/R pan control and optimize the placement of the various signal sources (i.e. instruments/vocals/sound track) in the stereo sound field or as a missing channel detector.



Verify Mono compatibility  
L/R Signals Panned Center



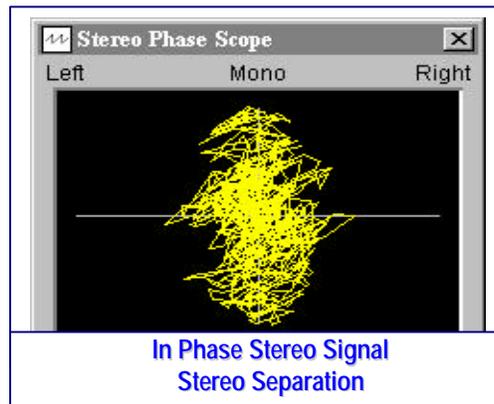
Loss of Right Channel  
L/R Signals Panned Left



Loss of Left Channel  
L/R Signals Panned Right

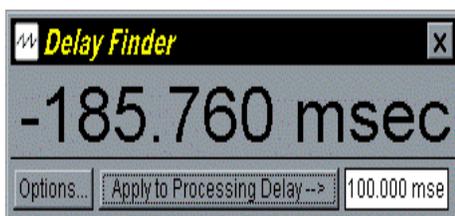
## Stereo Phase Scope

This is the popular X/Y scope display for monitoring in phase, out of phase and stereo separation.



In Phase Stereo Signal  
Stereo Separation

## Delay Finder



The delay finder utility computes the delay between the left and right channels. Delay can be displayed in milliseconds, feet or meters. Pressing the button labeled "Apply to Processing Delay" will then use this computed delay value as the new cross channel processing delay.

You can also measure the actual speed of sound. Notes: Program material (such as music) can be used instead of white or pink noise; however noise sources provide more accuracy.

## Signal Generator

The signal generator utility operates in conjunction with the playback (D/A) channel of any Windows compatible sound card to produce a variety of test signals including: Pink, White, Noise Burst, Tone Burst, 1K Ref Tone, Multitones, Frequency Sweep, Level Sweep, IMD, User Defined.



### Generator Output Level...

Clicking on the "Level" button on the signal generator will allow you setup and control the generator output level.

When a single tone is generated, the output level is as specified. When two tones are generated, the level will drop by 6dB so that clipping will not occur when the tones are in phase.

## Settings

The Settings dialog box contains the following selections:



### Processing Modes:

- RTA mode...
- Left channel only
- Right channel only
- Both Left and Right: split stereo display.
- Left + Right: (L+R)

### Transfer Function/Room Response mode...

- Left - Right: (L-R)
- Right - Left: (R-L)

The Transfer Function/Room Response mode is a very powerful feature which allows you to make frequency response measurements on an audio system using any arbitrary input signal such as music, white noise, etc.

Octave Scaling: Specifies the octave scaling bandwidths. 1/1, 1/3, 1/6 up to 1/24 fractional octave-bands are available.

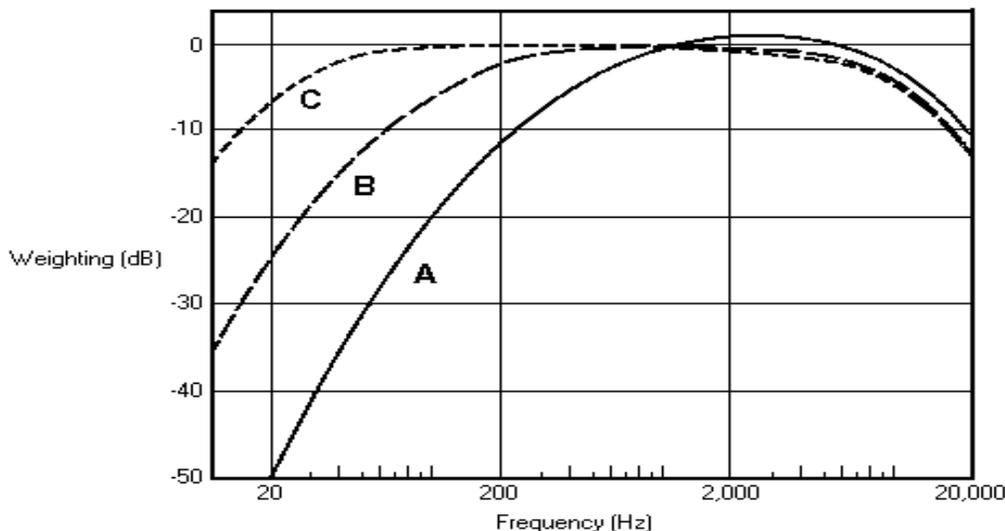
Frequency Span: Controls the upper and lower frequency range of the analyzer.

### Cross Channel Delay...

This feature allows you to delay one channel with respect to another to compensate for any delay. The Delay Finder Utility can be used to measure the actual delay.

## Standard Frequency Weighting

### Standard Frequency Weighting Functions



ANSI standard A, B and C weighting curves can be applied to the spectral data.

Flat is equivalent to no weighting at all.

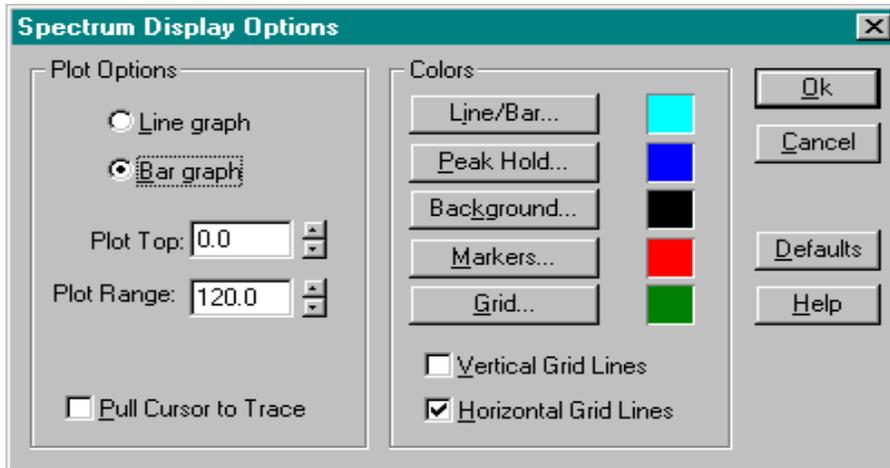
Weighting functions emphasize frequencies in the 500 to 10,000 Hz range, which is the area of greatest sensitivity to the human ear. Separate Weighting options are available for the spectrum and wideband level.

## Microphone Compensation / Custom Weighting

Selecting a microphone compensation file allows you to correct the measurement for errors introduced when using a microphone which is not perfectly "flat". Because microphone compensation files are interchangeable with Memory files, this feature can be used for a wide variety of purposes such as custom weighting and comparisons.

## Spectrum Display Options

User customizable displays and selectable Plot features...



**Line/Bar graph:** The analyzer defaults to using a bar graph; however a smoothed line graph selection is available as well and is useful for spectral noise analysis or when printing plots with multiple memories enabled.

**Plot Top/Range:** The Plot Top and Range values determine the amplitude axis scale values. "Plot Top" is the value at the upper edge of the plot. The lower edge of the plot is always equal to the "Plot Top" value minus the "Plot Range" value. These controls are also located on the toolbox.

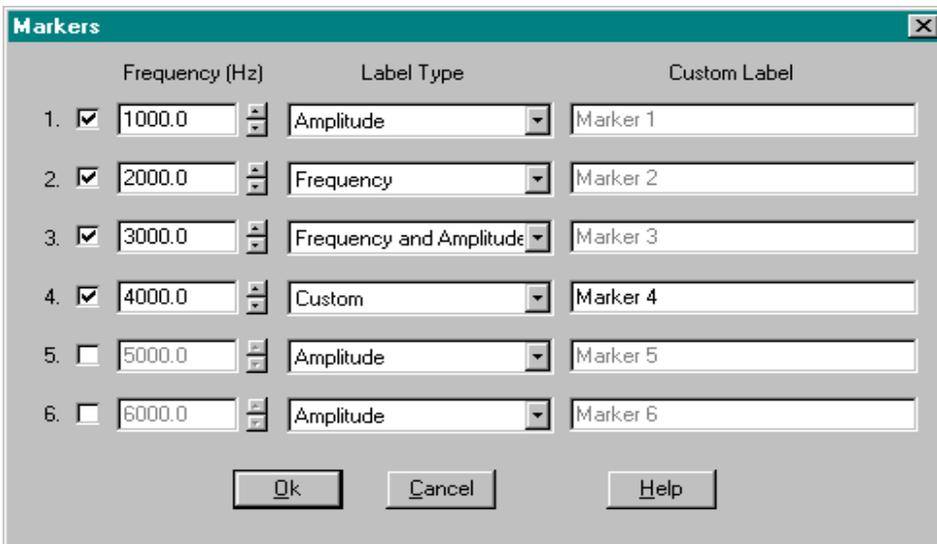
**Pull Cursor to Trace:** If this feature is enabled, the measurement cursor will automatically "pull" the mouse vertically to the spectrum trace.

**Colors:** The color of each plot feature can be changed. Only solid colors can be selected. The "Default" button will restore the initial colors settings. Note that the colors for the memory traces are set using the <Options><Memories> Dialog box.

**Grid Lines:** You can enable vertical and horizontal grid lines as needed. The analyzer defaults to displaying only horizontal grid lines. When vertical grid lines are enabled, the labels will be placed on the grid lines, otherwise each individual band will be labeled with its center frequency.

## Markers

Real-Time Frequency, Amplitude and Custom Markers to highlight specific points of interest.



The selected frequencies are marked with an arrow and a box containing any specified labels. If custom labeling is selected, you may enter up to 30 characters of text.

Markers can also be set graphically by clicking the right mouse button in the spectrum plot. This will bring up the Right Click Action Menu. Choosing one of the "Set Marker #" commands will set the marker frequency corresponding to the mouse click position. The "Clear Marker #" option will simply hide the specified marker; they can be reactivated at anytime.