

## **Tools Menu**

This menu contains tools for manipulating Keyboard windows.

## **Tuner**

This is one of the most important Panels in the application. The Tuning Panel is used to tune a key or change its representation. Controls in the Tuning Panel are applied to the last key played.

In the center is a **Tuning Slider**. The unit of change for the slider is selected and displayed with the "pop-up" list below it. The value of the key during tuning is shown in the panel's display, in the box above the slider. The Representation used for this display is chosen with the "pop-up" list below it. One can, for example, use the slider to tune a key in frequency, while viewing the result in cents. Tuning may also be achieved by entering values in the display field by hand.

You can change the representation of a Key or an entire window by choosing the desired representation style in the pop-up list below the display, and choosing **Set** for a single Key, or **All** for the window.

The **Selection** box contains buttons that effect the Selection of the current keyboard. Multiple keys may be selected at one time. This is useful for listening to chords, or examining relationships within a subset of a tuning. With multiple keys selected, the **Compare** button will show their relationship in the chosen representation. **Play** will play the chord described by the selection. **Reference** will make the last Key played the Reference Key for the window.

## Calculator

This Panel is a handy tool for performing ratio arithmetic.

## Transposition Matrix

This displays a modal panel for selecting two Keyboards to form a Transposition Matrix. A Transposition Matrix is formed by selecting two keyboards as axes, yielding a matrix of ratios that are products of the two keyboards ( $\text{cell } ij = \text{cell } i0 * \text{cell } 0j$ ). This forms a set consisting of each keyboard transposed by each step of the other. After choosing **Transposition Matrix...**, click on any two Keyboards that you want to multiply. After you've selected your Keyboards, choose **OK** in the Transposition Matrix Panel.

## **Text Window**

Since Keyboards and Matrices are saved to files in an object format, there is the need to have access to the tuning information in ascii for copying to documents or inclusion in scores. This Text Window provides this tuning information in a variety of ascii formats. The desired format(s) may be chosen with a button panel and the right of the scrolling text view.

## **Reinit DSP**

Reinitialize the DSP, Stopping, reallocating, and starting keyboard and score instruments.