Hackeramp
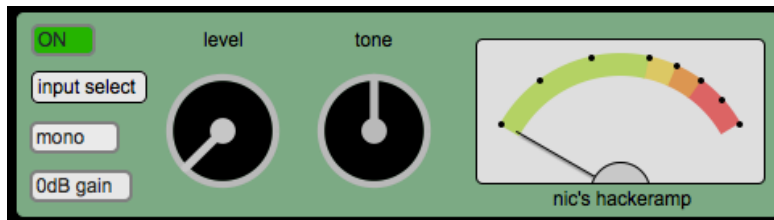**Nicolas Collins**
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The *Hackeramp* patch is a stupid but handy Maxplay application that turns your laptop into a simple amplifier for testing contact microphones, coil pickups, bent toys, homemade circuits, or any other audio device with an output jack. It provides enough gain for low-level microphones, and can be monitored over the computer's built-in speakers, through headphones, or through external speakers connected to the laptop's output. The on-screen controls centralize, and make easily accessible, audio adjustments that would otherwise entail messing around in system preferences.
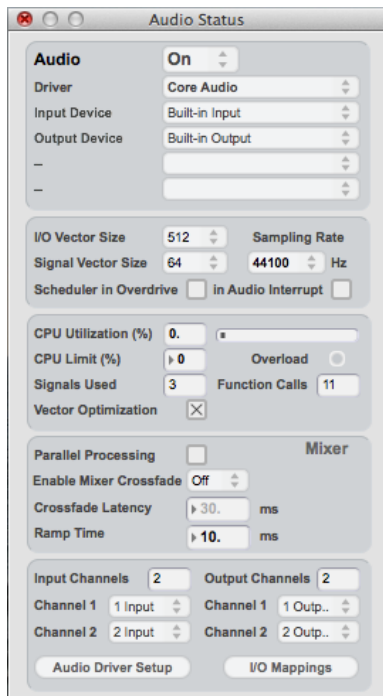
The program runs on any Macintosh or Windows computer (no Linux version yet – sorry.) If the computer does not have an audio input jack you will need to connect an audio interface of some kind.

Double click "hackeramp.app" and the following window should appear on your screen:

- At the top left is the **ON/OFF** toggle. The program boots in an "ON" state. Click the button to disable or re-enable the app.
- The **input select** button opens and closes a control panel for configuring audio I/O on your computer. Use this panel to select between the computer's built-in microphone and the line input jack, for example (see "Input Select Control Panel" below).
- The **mono/stereo** toggle selects between mono and stereo input sources. In **mono** mode only the tip (Left channel) of the input jack is amplified, and it is sent to both the Left and Right outputs of the computer. In **stereo** mode the tip (Left input) is amplified through to the Left output, and the ring (Right input) is amplified to the Right output.
- The **gain** pull-down menu sets the amount of input boost provided by the amplifier. Use **0dB** for line-level signals, such as iPods, CD players, most hacked toys and homemade circuits. Use **20dB** for "hot" microphones (such as contact mikes) or weak circuits. Use **40dB** for low-level microphones, such as electrets, coils, and guitar pickups.
- The **level** control adjusts the volume of the signal passing through the amplifier. This one knob controls both channels when in **stereo** mode. Clicking the "level" legend reduces the volume to full off.

- Turning the **tone** control counterclockwise boosts the bass and rolls off the treble. Turning it clockwise boosts the treble and rolls off the bass. Clicking the "tone" legend flattens the equalization.
- The **meter** indicates signal level. Clicking the semicircle immediately above the "nic's hackeramp" legend toggles on and off a menu bar if you want to drag the window to another location on your desktop.

Input Select Control Panel

When using the computer's *built-in audio* select **Core Audio** in the **Driver** menu, and **Built-in Input** in the **Input Device** menu.

If have connected an *external audio interface* it should appear in the **Driver** menu. (You must connect the interface to your computer before running the hackeramp app.)

You may have to turn the hackeramp **OFF** and **ON** again after changing Audio Status in this panel.

The rest of the panel is of little relevance for this application.