Simultaneous play of multiple microtuned instruments in Kontakt 2.2. In this screenshot, the ensemble is tuned to the Blackwood 9 scale and playing in the just minor 7th (14th step above tonic) of the Harrison 16 scale – an interval that doesn't exist in the Blackwood 9 scale.

The Microtuner holds up to 10 scales, which can be selected by playing notes on a designated channel via the S2K_Note2cc VST, or by sequencing midi cc events.

Scales are calculated from a centerpoint midi start note and pitch (in cents relative to Kontakt's global reference Hz setting), and can be shifted up or down in whole scale increments (+ or – 4 whole scales using the 'shift' knob).  Tuning data (scale number relative to centerpoint, scale degree, pitch in cents, and 12 ET sample note) can optionally be displayed in real-time.

Tuning resolution is 1,200,000 cents per octave.  Microtuning does not restrict the polyphony of Kontakt which can range to hundreds of voices per ensemble.  Tuning data can be passed to compatible downstream scripts.

The options menu and submenus primarily support scale and modulation settings and change controls.  The message box to the right of the screen can be toggled between real-time note data and a description of the current menu or sub-menu item.

All settings persist with the current  project when Kontakt is run as a VSTI in a host, or when the current state of the instrument is saved in stand-alone mode.  All settings are defaulted for typical use.

The Microtuner is skinnable, and can be displayed in a compact performance view.  Skins can be made from any 635 x 201 pixel image saved as a .tga in Kontakt's preset folder, and selected from the Instrument Options editor.

The key menu features a dropdown list of tunings in the Microtuner for selection of a modulation interval source. It defaults to the active tuning, but any tuning can be associated to any other tuning as a modulation source. Modulation pairings persist and are recalled as tunings are selected for play.
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The start note box is used to manually set the current centerpoint for a scale, and to display the active centerpoint in real-time when cc modulation events are received. Dec_degree and inc_degree buttons step through the current scale. Depending on transpose menu settings, midi start note and pitch settings change in tandem (default), by pitch only, or by start note only as these buttons are clicked. Transpose settings also apply to midi controlled key change behavior.

The 'steps from' submenu controls whether modulation increments or decrements are applied to a home centerpoint, or to the current centerpoint, the choices being 'home' or 'last cc'  So, for example, the result of sending a value of 5 on the modulate up channel can mean either modulate up 5 scale degrees from the home key, or 5 degrees up from the current key.  For tunings with steps of different sizes (typical of ratio-based tunings), modulation from the current  centerpoint tends to accumulate or net step size differences over a series of key changes, while modulation from a home centerpoint maintains stable interval relationships over successive key changes.

The Microtuner ignores repeating cc event values on these channels, so modulation instructions can be sent in a continuous stream if desired.

The home centerpoint can be keyed in or copied from the last played note.

Scale and key change can be controlled in the Microtuner by midi cc messages. Midi cc events can be entered directly in a sequencer for instrument-level manipulation within an ensemble, or 'broadcast' to via the S2K_Note2cc VST to multiple channels by playing notes on a reserved midi note channel.

This slide shows settings for the midi cc and starting note for key changes by means of a midi note channel. Key changes are made by playing notes above or below the starting note where note intervals correspond to scale degrees of the modulation tuning. For example if the modulation scale is the Harrison 16 scale, playing midi note 68 changes the centerpoint of the current tuning to the $8^{th}$ step of Harrison 16 which is 17/12, the $2^{nd}$ septendecimal tritone. This new centerpoint can be broadcast on up to 10 midi channels per instance of the Note2cc VST for instant key change of a multitimbral ensemble.

The S2K_Note2cc VST is inserted in a VST host between a midi source (keyboard, sequencer, etc.) and Kontakt 2. The Channel In setting reserves a midi channel for midi notes that will be rebroadcast as midi ccs to the Microtuner. The cc Out setting specifies the cc that carries scale or key change messages. The Channel Out buttons control which midi channels receive the control messages.

The VST has a midi thru path which can be switched on or off, so multiple instances of the VST can be opened in parallel, while only one instance transmits the source midi stream. For example, one instance could be set to channel 15 for scale changes, one instance could be on channel 16 for output to channels 1 -10, and a third instance could also be on channel 16 for output to channels 11-14 (or 1-10 on another midi port).

From the 'sample groups' menu option, a dropdown selection of all sample groups within the instrument is shown. If a group is selected for release handling, it's samples are microtuned and played when notes are released. To use this feature, the release group should be selected on Kontakt's Group Menu and the 'Release Trigger' button on the Group Editor should be deselected, since triggering is being placed under the script's control.

Lower down on the screen, low note and high note can be chosen to set a range for key switches, and a button toggles whether key switching is enabled. If enabled, playing key switch notes sets the active sample group, such as damped vs. sustain, etc.. If disabled, the key switch notes are included in the normal playing range.

The 'pitch bend' menu option shows a screen to set pitchbend range in scale degrees. When the microbend button is selected, the bending cent values up and down for each scale degree of the active scale are loaded. For non-equal division scales, a bend of a given number of scale degrees may correspond to a different interval for each step of the scale. Bends are applied proportionately to the maximum scale step bend settings based on the bend interval applicable to a note. A drop down menu provides the following options:

a) bend all – The pitch bend wheel bends all playing notes (up to polyphony of 20 voices).

b) bend last - Only the last note played is bent.

c) set wheel max up/dn – Use to calibrate the microtuner to the pitchbend range of a particular keyboard. Select the up or down option, then make the maximum bend on the pitchwheel. The microtuner will adjust maximum range from the standard 8191, -8191 wheel range to handle small differences due to mechanical issues with the wheel (misalignment, etc.).

When the microbend button is deselected, normal pitchbend is restored and a uniform bend is applied to all notes.