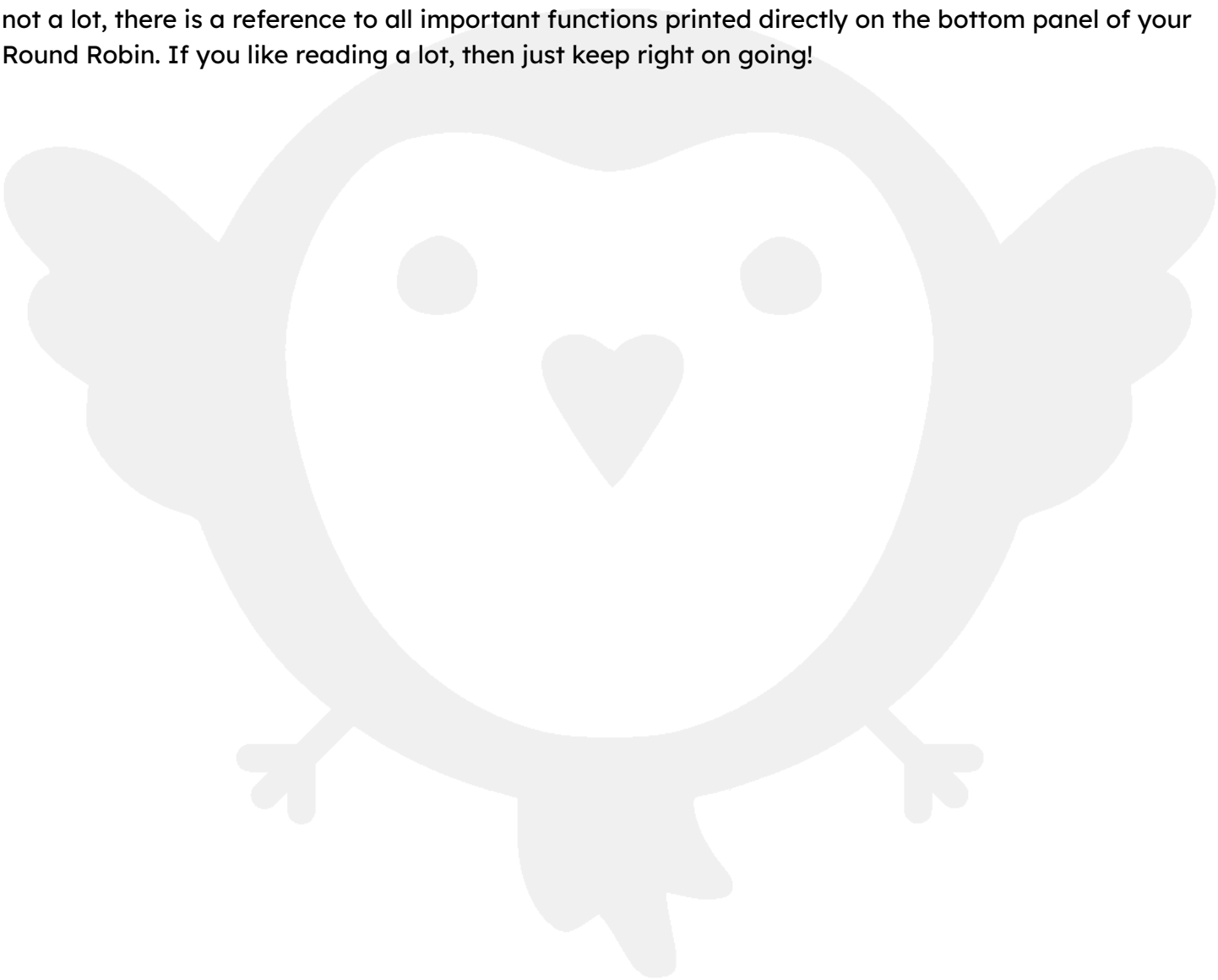
Welcome

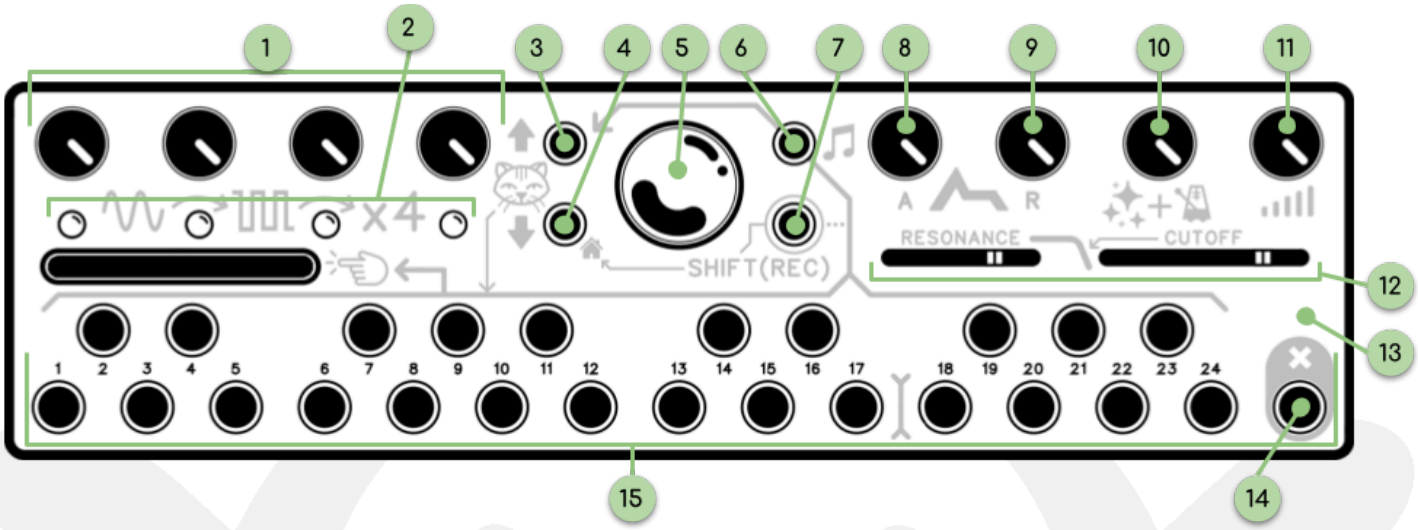
Thanks for buying a Round Robin!

Here's the pre-user guide user guide:

This guide is a bunch of details and explanation. You'll be able to figure out all the things you can do by just turning the Round Robin on and playing around. We encourage that. If you like reading, but not a lot, there is a reference to all important functions printed directly on the bottom panel of your Round Robin. If you like reading a lot, then just keep right on going!



Panels



1. Voice knob: Change the waveform for the associated Voice.
2. Voice LED: Illuminates to indicate Voice is playing.
3. Octave Up button: Shift keyboard notes up 12 semitones.
4. Octave Down button: Shift keyboard notes down 12 semitones.
5. Display: Conveys relevant information, depending on the current Screen.
6. Mode button: Cycle the active Mode.
7. Shift button: Various functions depending on context.
8. Attack knob: Adjust attack time of amplitude envelope.
9. Release knob: Adjust release time of amplitude envelope.
10. Encoder: Various functions depending on context.
11. Volume knob: Set the audio output level.
12. Filter Sliders
13. Sync LED: Blinks to indicate current tempo.
14. Clear Key: Operates as a normal keyboard key, but also performs certain actions in combination with other buttons.
15. Keys: Plays notes. Also used in combination with other buttons. Whenever we say “Key”, we’re referring to these numbered buttons.

1. MIDI Input: You put the MIDI in here.
2. USB-C: Powers the unit, provides MIDI output, and allows for firmware updates.
3. Power Switch: Revolutionary feature. Experiment with it and see what happens!
4. Audio Output: Quarter Inch (6.35mm) TS connection. The sound comes out of here.

Quick Start

The Round Robin is ready to play as soon as it powers up. That's as easy you might expect:

1. Insert 3 AA batteries in the battery compartment (bottom panel) or connect USB-C (real panel) plug to any standard USB power supply.
2. Switch on the Power switch (rear panel).
3. Connect ¼" Audio Output (rear panel) to any standard line or instrument level input which you can monitor.
4. Ensure that the Volume knob is turned up.
5. Play!

Chances are that you'll have a lot of fun and figure things out by just turning knobs and pressing buttons. If that's how you like to explore, then you're all set. If you want the details, read on…

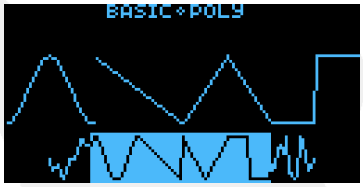
Display

The OLED Display shows all sorts of useful information. The active Instrument and Mode are always displayed at the top. On some screens, the Waveform Selector is shown on the bottom. When the Waveform Selector is visible, turning the Encoder will move the active waveform(s) left or right, changing the basis for all the Voices.

What other information is shown depends on what Screen is active. To cycle the active Screen, press the Encoder or press and hold the encoder while turning to go in either direction.

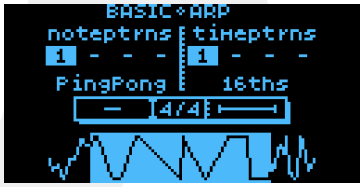
Home Screen

The home screen displays what we call the “One Bit Oscilloscope”. When a Voice is playing, the waveform for that Voice is displayed in one of four columns across the middle of the screen. You can hold a Key and adjust the Voice knob for the playing Voice and see the resulting waveform.



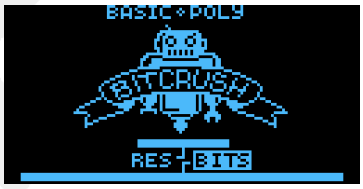
ARP Screen

The ARP screen has a lot of information about the arpeggiator. For details, see the Arpeggiator section.



Effects Screens

The Effects screens who the name of the effect and two parameters on the bottom. Turn the Encoder to adjust the highlighted parameter. Press the Shift button to cycle between highlighted parameters. Effects are always active, even when their screen isn’t displayed.



Unison Screen

The Unison screen will say “UNISON” if the mono behavior is unison (See Mono Unison section), otherwise it will say “UNISOFF” if in normal mono behavior. The spread and and interval parameters of Unison behavior are adjustable here, in the same way as the Effects screens.

Voices

The Round Robin has 4 voices. Each voice plays a particular waveform when it is triggered. Voices are triggered in a “round robin” order from left to right, when Keys are pressed on the keyboard. When a voice is playing, it’s respective Voice LED illuminates. Rotating a Voice Knob changes the waveform for the respective voice in different ways depending on which Instrument is active and which waveforms are selected.

A Voice can be manually detuned by holding the Encoder and turning the Voice’s knob. Shift + Clear Key resets all voice detunings.

Instruments

Mode + Octave Up

The active Instrument affects how voices are triggered and how waveforms are selected for the Voices. The default Instrument is BASIC.

BASIC

The waveform selector chooses 4 adjacent base waveforms. Rotating a Voice knob mutates that Voice’s waveform in variations between these 4 waveforms. Fully counter-clockwise represents the left-most waveform in the selector, and fully clockwise represents the right-most.

ORGAN

The waveform selector chooses a single base waveform. Rotating a Voice knob mutates that Voice’s waveform in variations of even harmonics (1x, 2x, 4x, 6x) of the selected waveform.

EERIE

The waveform selector chooses a single base waveform. Rotating a Voice knob mutates that Voice’s waveform in variations of odd harmonics (1x, 3x, 5x, 7x) of the selected waveform.

ALLIN

The waveform selector chooses a single base waveform. Rotating a Voice knob selects among the next 13 waveforms in the list, starting with the selected base waveform.

Modes

Mode

The active Mode affects what happens when Keys are pressed.

POLY

Pressing a key plays the next Voice. Multiple keys can be pressed to play multiple Voices at once. If all Voices are already playing, the “oldest” Voice is taken over. So even though there are 4 Voices available to play at once, holding down Keys beyond a fourth will always play that note.

ARP

Holding down Keys will play notes repeatedly and automatically until Keys are released. The syncopation and order of the notes played is determined by the current Timing Pattern and the Note Pattern, respectively. *See Arpeggiator.*

MONO

Pressing a Key plays the next Voice. Only one note can play at a time. If more than one Key is held, the most recently pressed Key is the note that will be played on a single Voice. If that Key is released while others are still held, the previous most recent Key’s note will be played on the next Voice. Only a single voice is ever played once. This is the basic (and default) Mono mode, and we call it UNISOFF. That word makes more sense when you realize that the other Mono mode is called UNISON. *See Mono Unison.*

Arpeggiator

The arpeggiator has a lot more going on than a typical arpeggiator. By default, it will just play 16th notes at the current tempo when keys are held down. The order and timing of notes can be altered in many ways, though!

Tempo

Mode + Encoder Turn

By default, the Round Robin will sync to its internal clock source. To toggle between this behavior and syncing to external MIDI clock do Mode + Encoder Press. See MIDI section for an explanation of the other modes.

Note Patterns

Octave Down + 1-17

Note Patterns change the way notes are arranged in the arpeggiator. For example, if you hold down C4, G4, and B4, the arpeggiator could play C4, E4, G4 repeatedly, or G4, E4, C4, or C4, E4, C4, G4, and so on. See Reference for full definitions.

Timing Patterns

Octave Up + 1-24

Timing Patterns change the rhythm that the arpeggiator plays notes in. The default is 16th notes, but other length notes, and even patterns with differing note lengths are available. See Reference for full definitions.

Octave Variations

Octave Down + 18-24

By default, the arpeggiator arranges notes only in their own octave. Octave Variations add the same notes at different octave. For example, if C4 and G4 are held, the first Octave Variation would also include C5 and G5. See Reference for full definitions.

Octave Behavior

Shift + Octave Up

The Octave Behavior defines how Octave Variations incorporate notes form other octaves. Note octave behavior alternates on every note, and Pattern octave behavior alternates on the entire pattern.

Pattern Sequencing

Timing and Note Patterns can be sequenced. When an Octave button is held, a line will appear under the pattern that will be changed when a Key is pressed. Pressing a key (Without releasing the OCtave button) will change that pattern and the line will move to the next slot. After the Octave button is released, the next time it is pressed, the process will begin again on the first slot. In this way, up to four Timing or Note Patterns can be entered. The patterns will play in order. The currently playing pattern is always highlighted on the ARP Screen.

Mono Unison

Shift + 1-24

Mono Unison behavior uses more than one voice to play single notes. Each Mono Unison behavior determines the amount of voices to use and which voices to use upon each note trigger. They all operate in a round robin fashion. See Reference for full definitions.

Shift + 1 is UNISOFF. All the rest are UNISON. When switching the Mono Unison behavior in MONO mode, the screen will switch to the UNISON Screen. When switching Mono Unison behavior in ARP mode, the screen will momentarily display the MONOUNISON Screen, then go back to the screen you were already on. Mono Unison behavior parameters can be adjusted from the UNISON Screen like any other effect:

Spread

Detune unison voices from each other. The higher the value, the more detuned.

Interval

By default (Interval 0), if Unison calls for multiple voices on a note trigger, it will play the exact same note. The other interval modes apply intervals when a second, third, or fourth voice is called for. The first 2 will add octaves, and the rest will add non-octaves. See Reference for full definitions.

Key Holds

Keys can be “held” so that Voice or the arpeggiator continue playing after the Key is physically released. There are two methods for achieving this: Toggling the “hold mode”and with a “momentary hold”.

Hold Mode

Shift + Mode

Pressing Shift + Mode while no Keys are physically held will toggle Hold Mode. This method of holding is similar to simulating actually physically holding Keys down. When Hold Mode is active:

- Bars appear on top of the screen and there is a white background in some other screens.
- In MONO or POLY modes, notes will continue to drone when a key is released.
- In POLY mode, voices will all release every time the first Key is pressed and no other Keys are held down. This allows you to build up a chord, let it drone, then enter a new chord later.
- In ARP mode, the arpeggiator will constantly play. Pressing Key(s) will put those notes in the arpeggiator.
- In ARP mode, the notes in the arpeggiator are reset every time the first Key is pressed and no other Keys are held down.
- When switching into ARP mode with Voices droning, The Voices will stop droning and the arpeggiator will begin playing on those notes.
- When switching into MONO mode, the most recently held note will drone. When you press another note, that note will play instead. When that note is released, the held note will begin playing again.

Momentary Hold

Key(s) + Shift + Mode

Pressing Shift + Mode while Key(s) are already physically held down will enable Momentary Hold on the playing Voices / held Keys.

To clear all momentarily held Voices / Keys, press Shift + Mode.

When Voices or Keys are momentarily held:

- In POLY mode, Voices that were playing when Shift + Mode was pressed will continue to drone. Pressing and releasing Keys after that will play and release Voices as usual, using Voices that aren't momentarily held. So you can play along with some droning notes.
- In ARP mode, momentarily held notes will be locked into the arpeggiator. Pressing and releasing Keys after that will add and remove notes from the arpeggiator as usual, mixing them with the momentarily held notes.
- In MONO mode, the last momentarily held Voice will continue to drone. Pressing a Key after that will mute the momentarily held note, but the momentarily held note will play again when all Keys are physically released.
- When switching modes, momentarily held notes will continue to drone. Even when switching into ARP mode, notes will continue to drone. This allows you to play the arpeggiator with droning notes.

Effects

Audio effects are globally active, regardless of any other settings. They are controlled by their respective Screens. To navigate to different screens, press the Encoder, or press and turn the Encoder. The parameters for an effect are displayed on the bottom of its Screen. Turn the Encoder to adjust the highlighted parameter. Press Shift (Without any other button) to move the highlighter to another parameter.

Scales

The notes that each Key is mapped to can be changed by setting a Scale. The default Scale (1) is the chromatic scale where all the keys correspond to the standard notes like a normal keyboard. Switching the scale will show the Scale Screen, which gives information about how notes are mapped in the selected scale. The other scales are described below.

Microtonal Scale (2)

Mode + Key (2)

Notes are mapped the same as the chromatic scale. Holding a Key and pressing Octave Up will detune that note (across all octaves) up one quartertone. Holding the same Key and pressing Octave Up again will further detune the note by a quartertone. Using the Octave Down button instead, will detune the note downward. Symbols appear near the detuned notes on the Scale Screen to indicate which notes are detuned.

Scale Modes (3-23)

Mode + Key (3-23)

White keys are mapped to a 7-tone heptatonic scale. The lower octave black keys are mapped to the 1st, 3rd, 4th, 5th, and 7th tones, down one octave. Upper black keys are mapped in the same way but up one octave.

Reverse Scale (24)

Mode + Key (24)

This one is whacky. The keys are mapped in reverse. Down is up and up is down. The root note is shifted so that if you flip the Round Robin around, you basically have a normal keyboard, but with the black keys underneath the white keys.

Root Note

Key + Mode

You can shift the root note of any scale by first holding the key of the note you want to be root, then pressing Mode. This allows you to set the keyboard up to play in (for example) F# Locrian mode. The shifted notes will be shown on the Scale Screen.

Knob Recording

Shift + Move Knob

When a knob is moved while Shift is held, the movement is recorded until shift is released. Once Shift is released, the knob movement is looped. This works with the Voice, Cutoff, and Resonance knobs, as well as the Touch Strip and the Encoder (When it would affect the Waveform Scroller).

To undo the last recorded knob movement, press Shift + Clear Key (25). Pressing the combination again will undo the next most recent knob recording, etc.

Waveform Autoscroll

Shift + Encoder Turn

The Waveform Autoscroller behaves slightly different than recorded knob movements. Instead of recording the rotation of the Encoder, holding Shift and turning the Encoder will activate an LFO modulation of the Waveform Scroller. Turning clockwise will increase the speed and turning counterclockwise will decrease the speed. The speed is related to the tempo. Press Mode + Clear Key (25) will turn of the Waveform Autoscroller.

Touch Strip

The Touch Strip is assigned to pitch bend by default. It can by assigned to another parameter instead. To change the Touch Strip assignment, hold Mode and tap on the left or right side of the Touch Strip. The new assignment will be briefly displayed on the screen.

Assigning the Touch Strip to a parameter does not override the default method for setting the parameter's value. Instead, upon touching the Touch Strip, the middle physical center will map to the current value of the parameter it is assigned to. The right side will be 100% of the parameter, and the left side will be 0%. In this way, you can get a more precise control of a parameter depending on where the value is when you use the touch the Touch Strip.

In addition to any parameter of any effect (Including cutoff and resonance), there are some special assignments available in the list:

Pitch Bend: Bend the pitch of all playing Voices up or down. +/- 2 semitones.

Pitch Rend: Bend the pitch of all playing Voices up or down. +/- about 24 semitones (It's a lot).

Pitch Quantized: Shift the pitch of playing Voices, quantized to semitones. +/- 12 semitones.

Waveform Scroller: The touch strip will move the selected waveform in the Waveform Scroller.

All Voices: Adjust all Voice knobs at once, relative to each knob's current position.

Saving & Loading Patches

Encoder Press + Key

You can save or load a patch by holding Encoder and pressing the numbered Key for the slot you want to save to or load from. When the combo is pressed, you will see a disk icon and - if a patch is already saved in that slot - a folder icon. Press the Encoder while the disk is highlighted to save the current patch. Press the Encoder while the folder is highlighted to load the patch saved in that slot.

Stuff that is saved in a patch:

- Instrument
- Selected waveform
- Voice knob positions
- Filter
- Tempo
- Octave
- Scale stuff
- Attack / Release
- Microtonal shifts

MIDI

Input

Mode + Encoder Press will change the MIDI mode. There are five modes for MIDI that effect the arpeggiator and waveform autoscroller clock source and the behavior of received MIDI note messages:

- Internal - Clock source internal. All MIDI ignored.
- MIDI - MIDI input clock source, note messages, and song start/stop messages are all heeded.
- MIDI Free - MIDI input clock source and note messages are heeded. MIDI input song start/stop messages are ignored.
- Clock Song - MIDI input clock source is heeded. MIDI note messages and song start/stop messages ignored.
- Clock Only - MIDI input clock source and song start/stop messages are heeded. MIDI note messages ignored.

Output

The Round Robin outputs MIDI note messages via USB. Look for the Round Robin as a MIDI device in whatever DAW you're using when the Round Robin is connected to the computer. If the Round Robin was disconnected or powered down when you started your DAW, you may need to restart your DAW to see it.

Reference

Arpeggiator Note Patterns

1. Ping Pong
2. Ascend
3. Descend
4. Low Ping Pong
5. Low Ascend
6. Low Descend
7. High Ping Pong
8. High Ascend
9. High Descend
10. Walk Ping Pong
11. Walk Up
12. Walk Down
13. Held
14. ?
15. ?
16. Random Note
17. Random Pattern

Arpeggiator Octave Variations

18. Default: No octave variation
19. 1 Up
20. 1 Down
21. 1 Up, 1 Down
22. 2 Up
23. 2 Down
24. 2 up, 2 Down

Arpeggiator timing Patterns

1. 16th Notes
2. 32nd Notes
3. 8th Notes
4. Quarter Notes
5. 16th Triplets
6. 32nd Triplets
7. 8th Triplets
8. Quarter Triplets
9. 16th Dotted
10. 32nd Dotted
11. 8th Dotted
12. Quarter Dotted
13. ?
14. ?
15. ?
16. ?
17. ?
18. ?
19. ?
20. ?
21. ?
22. ?
23. ?
24. ?

Mono Unison Modes

1. Chromatic: All notes available. Normal keyboard.
2. Microtonal: User-adjustable notes in quartertone increments.
3. Ionian
4. Dorian
5. Phrygian
6. Lydian
7. Mixolydian
8. Aeolian
9. Locrian
10. Double Harmonic
11. Poorvi
12. Leading Whole Tone Inverse
13. Neapolitan
14. Leading Whole Tone
15. Lydian Minor
16. Major Locrian
17. Superlocrian
18. Jazz Minor
19. Motaki
20. Lydian Augmented
21. Bhusavali
22. Malayalam
23. Minor Locrian

Mono Unison Interval Schemes

1. 0, 0, 0
2. 0, 0, 12
3. 0, 12, -12
4. 0, 7, 12
5. 0, -5, -12
6. 0, 4, 12
7. 0, -8, -12
8. 0, 3, 12
9. 0, -9, -12
10. 0, 4, 7
11. 0, -5, -8
12. 0, 3, 7
13. 0, -5, -9