

Fish heads, with guts:

[wind] *mul add* ; microphone
[corp a/b] *mul add* ; antennae
[bar a/b/c/d] *mul add* ; barflex
[minor a/b/c/d] *mul add* ; lower buttons
[major a/b/c/d] *mul add* ; upper buttons

[horn a..h] *nume deno mul add* ; triangle waveform
[saw a..h] *nume deno mul add* ; sawtooth waveform
[toggle a..h] *trig mul add* ; trigger a flipflop
[togo a..h] *uptrig dntrig listz* ; sequencer
[swoop a..h] *trig nume deno mul add* ; trigger a pyramid
[mount a..h] *nume deno mul add* ; slow triangle waveform
[smoke a..h] *mul add* ; random noise
[dust a..h] *speed mul add* ; random pulses
[fog a..d] *trig swnu swde honu hode mul add* ; trigger triangular grains
[haze a..d] *trig swnu swde sanu sade mul add* ; trigger sawtooth grains
[swamp a..d] *trig swnu swde honu hode mul add* ; trigger swooping grains
[string a..d] *trig nume deno fb mul add* ; trigger a plucked string
[comb a..d] *inn nume deno fb mul add* ; input sound to the string
[zither a..d] *trig deno mul add* ; trigger a bunch of strings
[wave a..h] *inn q rate mul add* ; low pass filter
[water a..d] *trig q rate mul add* ; trigger a cluster of waves
[salt a..d] *inn q rate mul add* ; hi pass filter
[horse a..d] *upnu dnnu upde dnnde mul add* ; variable duty sawtri
[slew a..h] *inn upp don mul add* ; filter a signal with different up and down rates
[wheel a..h] *upp don mul add* ; input numbers to bring the value up or down
[slave a..h] *trig deno mul add* ; count pulses by variable integer amount
[pulse a..h] *trig deno mul add* ; trigger a pulse and decay with variable height
[sauce a..h] *per inn mul add* ; slows down an input by a period
[salsa a..h] *trig inn mul add* ; selectively trigger an input
[press a..d] *inn att dec thresh mul add* ; a compressor
[leak a..d] *inn nume mul add* ; leak DC from a sound

[reflect] *inn oth mul add* ; waveshaper that reflects
[return] *inn oth mul add* ; waveshaper that returns
[and] *inn oth mul add* ; bitwise and of two signals
[xor] *inn oth mul add* ; bitwise xor of two signals
[negwon] ; return negative one
[left] *liszt* ; send sound out the left
[right] *liszt* ; send sound out the right
[square] *inn oth mul add* ; make an input into a square, compared against an optional other
[modo] *inn mod mul add* ; multiply without scaling
[srate] *inn* ; change the sample rate!
[mul] *inn mul add* ; multiply scaling
[add] *inn listz* ; add a listz
[tar] ; tare button
[bend] *inn* ; bend through the fish soup
[jump] *trig* ; trigger a jump to another soup
[pan] *inn place* ; send sound out spacialized
[short] *bigg smal* ; sixteen bit precision number
[dirac] *liszt* ; default, execute using negative numbers
[arab] *liszt* ; esoteric, execute using no negatives
[lights] *inn* ; put an input to the leds

Pitches to Shnth nume & deno conversions

note - srate (use 'short' for all)

C2 - short(67,24)

C#2 - 63, 53

D2 - 59, 110

D#2 - 56, 64

E2 - 53, 42

F2 - 50, 43

F#2 - 47, 65

G2 - 44, 108

G#2 - 42, 42

A2 - 39, 122

A#2 - 37, 91

B2 - 35, 76

C3 - 33, 76

C#3 - 31, 91

D3 - 29, 119

D#3 - 28, 32

E3 - 26, 85

F3 - 25, 21

F#3 - 23, 97

G3 - 22, 54

G#3 - 21, 21

A3 - 19, 125

A#3 - 18, 109

B3 - 17, 102

then halve for each additional octave using a limit of 128 (so C4 is 16, 102; D4 is 14, 123 etc.)

Parameter tips from Bartlebooth:

- tuning is pretty straightforward once you become familiar with just intonation..1:1 is the base frequency, 2:1 is the octave, 3:2 the perfect fifth, etc. note that there are several equivalent tunings for each note..ie 48/32 and 54/36 are the same pitch. the fundamental frequency is the current sampling rate as set by srate or defaults to 16 (approx. c#). use arab mode to get finer granularity in your tuning ratios.
- swoop & mount: a small nume and a large deno is a slower envelope (small nume = rises slowly, large deno = must cover a large distance to the bounds). if you want it even slower than that than put it in sauce
- dust: small numbers are less dense, large numbers are very dense duststorm (to test, put dust as the trigger for water, try dust: 4 versus dust: 40)
- string: this one can be a bit tricky at first but its actually just a nume/deno tuning in there. so to get a typical resonant pluck you want a small nume and a large deno, it will then be bassier.. try a string triggered by majorbutt with nume of 4 and deno of 77 for example. if you want higher pitch strikes raise the nume value, if you want less resonance lower the feedback though i usually just delete the feedback parameter or set it very high (in the 120's).
- zither is similar to string but just has a deno (nume is a constant) so try larger deno values for richer plucks. also its best triggered by dust for recurring plucks like a zither. try zither triggered by dust:15, deno:99 for example.
- wave, salt, water: in all 3 of the filters a low value for Q is higher resonance (more wet, ringy). cutoff can be most anywhere (as long as not completely closed) for different kinds of effects
- horse: the thing to make sure of here is that the upper bound (3rd parameter) is higher than the lower bound (4th parameter)..as long as you do that you'll be fine
- slew: low values are more slewing (ie slower to reach the target value), higher values are less slewing
- sauce: bigger period is slower (longer wait between samples)
- reflect/return/xor: the 'other' term is the threshold above which the waveshaping occurs so make sure this threshold is not higher than the range of the input sound or you won't hear any effect..you can use the deno of the input sound as a guide as to where to set the threshold..ie try waveshaping a horn tuned to 48/64 with a corp with a mul of 32 and add of 64, you should hear it kick in as you touch more wire and the threshold falls below the horn's frequency