

Overtone Cheat Sheet 0.9.1

Instruments (need to be manually referred)

overtone.inst.drums

Drums	kick	kick2	kick3	kick4	dub-kick	dry-kick
	small-hat	closed-hat	close-hat2	open-hat	hat3	soft-hat
	noise-hat	round-kick	snare	snare2	noise-snare	tone-snare
	tom	clap	bing	dance-kick	quick-kick	haziti-clap

overtone.inst.piano

Piano	piano
-------	-------

overtone.inst.sampled-piano

Sampled Piano	sampled-piano
---------------	---------------

overtone.inst.sampler

Sampler	granular
---------	----------

overtone.inst.bass

Bass	bass	grunge-bass	vintage-bass	daf-bass
------	------	-------------	--------------	----------

overtone.inst.synth

Synth	ticker	ping	tb303	mooger	rise-fall-pad
	pad	overpad	buzz	ks1	ks-stringer
	fm-demo	harmonic-swimming	whoahaha	bubbles	supersaw
	cs80lead	simple-flute			

overtone.inst.io

IO	mic
----	-----

Synths (need to be manually referred)

overtone.synth.sampled-piano)

Sampled Piano	sampled-piano
---------------	---------------

overtone.synth.stringed

Stringed s	guitar
------------	--------

overtone.synth.ixi

ixi	impulser	kick	kick2	kick3
-----	----------	------	-------	-------

overtone.synth.retro

Retro	tb-303
-------	--------

overtone.synth.sts

STS	prophet
-----	---------

REPL helpers

Documentation	odoc	ugen-doc	find-ugen	find-ugen-doc
Examples	examples	example	get-example	
Shell	ls	grep		
Synths	unify-synthdef			
Pretty Printing	opp	pp-synth	pp-unified-synth	
	pp-sc-synth	pp-unified-sc-synth		

Timing

Scheduling

Function Application	now	after-delay	periodic
	interspaced	apply-by	apply-at
OSC	at		
Stopping	stop-player	kill-player	
Feedback	show-schedule		

Metronome

Create	metronome
Manipulate	metro-start metro-tick metro-beat
	metro-bpm metro-tock metro-bar metro-bpb
bps	beat-ms

Studio

Mixer

Control	volume	input-gain
---------	--------	------------

MIDI

Connected Controllers	midi-connected-devices	midi-connected-receivers	midi-find-connected-devices	midi-find-connected-device	midi-find-connected-receivers	midi-find-connected-receiver
Info	midi-device-num	midi-full-device-key				
Player	midi-poly-player	midi-player-stop	midi-inst-controller			
Discovery	midi-capture-next-controller-control-key	midi-capture-next-controller-key				
Keys	midi-device-keys	midi-mk-control-key-keyword				
State	midi-agent-for-control					

Scope

Create & Reset	scope	pscope	spectrogram
----------------	-------	--------	-------------

Recording

Stop & Start	recording-start	recording-stop
Query	recording?	

Inst Effects

Instrument	inst-volume	inst-out-bus	inst-fx!	clear-fx
FX	fx-noise-gate	fx-compressor	fx-limiter	fx-sustainer
	fx-freeverb	fx-reverb	fx-echo	fx-chorus
	fx-distortion	fx-distortion2	fx-distortion-tubescreamer	fx-bitcrusher
	fx-rlpf	fx-rhpf	fx-feedback	fx-feedback-distortion

Synth Design

Design	definst	defsynth
Examples	defexamples	
CGens	defcgen	
Auditioning	demo	run
Checking	with-no-ugen-checks	with-ugen-debugging
Arguments	synth-args	synth-arg-index

Synth Control

Live Control	ctl	kill
Node Liveness	inactive-node-modification-error	inactive-buffer-modification-error
	block-node-until-ready?	without-node-blocking
	with-inactive-node-modification-error	with-inactive-buffer-modification-error
	with-inactive-modification-error	

Event Handling

Add	on-event	on-sync-event	on-latest-event	oneshot-event	oneshot-sync-event
Fire	event	sync-event			
Remove	remove-event-handler				
Debug	event-debug-on	event-debug-off	event-monitor-on	event-monitor-off	event-monitor-timer
	event-monitor	event-monitor-keys			
Ugen Triggers	trig-id	on-trigger	on-latest-trigger	on-sync-trigger	

## Nodes & Groups

Create & Free	node group node-free group-free group-clear group-deep-clear
Manipulate	node-start node-pause node-place node-control node-control-range node-map-controls node-map-n-controls group-prepend-node group-append-node
Info	node? node-live? node-loading? node-active? node-tree pp-node-tree node-get-control node-get-controls
Foundation Groups	foundation-overtone-group foundation-output-group foundation-monitor-group foundation-input-group foundation-user-group foundation-default-group foundation-safe-group foundation-safe-pre-default-group foundation-safe-post-default-group
Manipulation Handlers	on-node-destroyed on-node-created on-node-paused on-node-started
Event Keys	node-destroyed-event-key node-created-event-key node-paused-event-key node-started-event-key

## Server

Startup	boot-server boot-internal-server boot-external-server connect-external-server
Shutdown	kill-server
Control	stop clear stop-all clear-all
OSC Communication	snd rcv clear-msg-queue at snd-immediately
Diagnostic	server-status server-info server-opts server-connected? server-disconnected? server-connecting? internal-server? external-server? connection-info server-sample-rate server-num-output-buses server-num-input-buses server-num-audio-buses server-num-buffers ensure-connected!
Debug	sc-osc-log-on sc-osc-log-off sc-osc-log sc-debug-on sc-debug-off external-server-log sc-osc-debug-on sc-osc-debug-off

## Visualisation

### Graphviz

Dot Notation	graphviz
Show PDF	show-graphviz-synth

## External Assets

### Generic URLs

Auto cache & Return Path	asset-path asset-seq asset-bundle-path asset-bundle-dir
--------------------------	---

### Freesound.org

Playable Function	freesound
Auto cache & Query	freesound-info freesound-path freesound-pack-info freesound-pack-dir freesound-search freesound-searchm freesound-search-paths

## Algorithmic Composition

### Chance

Choice	choose choose-n weighted-choose
Dice	weighted-coin ranged-rand

### Scaling

Range	scale-range
Rounding	closest-to round-to

### Trig

Scaled	cosr sinr tanr
--------	----------------

### Functions

Cycling	cycle-fn
---------	----------

### List

Rotation	rotate
Creation	fill

## Music

### Pitch

Ratios	unison octave fifth sixth third fourth min-third min-sixth
Note Shifting	shift flat sharp invert inc-first dec-last
Notes	note octave-note nth-octave nth-equal-tempered-freq canonical-pitch-class-name note-info mk-midi-string match-note
Scales	scale resolve-scale scale-field nth-interval resolve-degree degree->int degree->interval degrees->pitches resolve-degree resolve-degrees interval-freq
Chords	chord resolve-chord rand-chord invert-chord chord-degree
Discovery	find-scale-name find-note-name find-pitch-class-name find-chord
Frequencies	cents midi->hz hz->midi
Amplitude	db->amp

## Sound Data

### Buffers

Create & Free	buffer buffer-free buffer-alloc-read
Generate Buffer Data	data->wavetable create-buffer-data
Read & Write To Server	buffer-read buffer-write! buffer-write-relay! buffer-fill! buffer-set! buffer-get buffer-save buffer-data buffer-read
Write To Filesystem	write-wav
Streaming In & Out	buffer-stream buffer-stream? buffer-stream-close buffer-cue buffer-cue? buffer-cue-pos buffer-stream-close
Query	buffer? buffer-info? file-buffer? buffer-out-stream? buffer-in-stream?
Info	buffer-info num-frames buffer-id

### Samples

Create	load-sample load-samples sample defsample
Playback	mono-player stereo-player

### Busses

Create & Free	control-bus audio-bus free-bus
Modify & Read	control-bus-set! control-bus-set-range! control-bus-get control-bus-get-range
Query	bus? control-bus? audio-bus?
Info	bus-id
Monitor	bus-monitor control-bus-monitor audio-bus-monitor

## Persistence

### Local Store

Access    store-get store-set! store

## CGens

Audio In	sound-in
Buffer Playback	scaled-play-buf scaled-v-disk
Control	hold
Oscillators	pm-osc square
Mix	mix splay sum
Pitch	add-cents
Tapping	tap
Range	range-lin

## UGen Helper Constants

Done Actions	NO-ACTION PAUSE FREE FREE-AND-BEFORE FREE-AND-AFTER FREE-AND-GROUP-BEFORE FREE-AND-GROUP-AFTER FREE-UPTO-THIS FREE-FROM-THIS-ON FREE-PAUSE-BEFORE FREE-PAUSE-AFTER FREE-AND-GROUP-BEFORE-DEEP FREE-AND-GROUP-AFTER-DEEP FREE-CHILDREN FREE-GROUP
FFT Windows	SINE HANN RECT
Lines	LINEAR LIN EXPONENTIAL EXP
Onset Analysis	POWER MAGSUM COMPLEX RCOMPLEX PHASE WPHASE MKL
Infinity	INFINITE INF

## UGen Envelope Helper Functions

env-perc env-triangle env-sine env-lin env-cutoff  
env-dadsr env-adsr env-asr

## Unary UGens

neg not-pos? abs ceil floor frac sign squared cubed  
sqrt exp reciprocal midicps cpsmidi midiratio  
rationimidi dbamp ampdb octcps cpsoct log log2  
log10 sin cos tan asin acos atan sinh cosh tanh  
distort softclip rect-window han-window wel-window  
tri-window

## Binary UGens

+ - \* / mod = not= < > <= >= min max and or xor  
round round-up round-down atan2 hypot hypot-aprox  
pow ring1 ring2 ring3 ring4 difsqr sumsqr sqrsum  
sqrdif absdif thresh amclip scale-neg clip2 excess  
fold2 wrap2

## B Equalization Suit UGens

b-low-pass b-hi-pass b-all-pass b-band-pass  
b-band-stop b-peak-eq b-low-shelf b-hi-shelf

## Buffer IO UGens

play-buf t-grains buf-rd buf-wr record-buf  
scope-out local-buf max-local-bufs set-buf  
clear-buf

## Chaos UGens

quad-n quad-l quad-c cusp-n cusp-l gbman-n  
gbman-l henon-n henon-l henon-c latoocarfian-n  
latoocarfian-l latoocarfian-c lin-cong-n lin-cong-l  
lin-cong-c standard-n standard-l fb-sine-n  
fb-sine-l fb-sine-c lorenz-l

## Compander

amplitude compander normalizer limiter

## Delay UGens

delay1 delay-n delay-l delay-c comb-n comb-l  
comb-c allpass-n allpass-l allpass-c buf-delay-n  
buf-delay-l buf-delay-c buf-comb-n buf-comb-l  
buf-comb-c buf-allpass-n buf-allpass-l  
buf-allpass-c

## Demand UGens

demand duty t-duty demand-env-gen dseries dgeom  
dbufrd dbufwr dseq dser dshuf drand dxrand dswitch1  
dswitch dwhite dbrown dibrown dstutter donce dpoll

## Envelope Ugens

done free-self pause-self free-self-when-done  
pause-self-when-done pause free env-gen linen  
i-env-gen

## Fixed Frequency Oscillator UGens

f-sin-osc klang klank blip saw pulse p-sin-grain

## FFT UGens

fft ifft pv-mag-above pv-mag-below pv-mag-clip  
pv-local-max pv-mag-smear pv-bin-shift pv-mag-shift  
pv-mag-squared pv-mag-noise pv-phase-shift90  
pv-phase-shift270 pv-conj pv-phase-shift  
pv-brick-wall pv-bin-wipe pv-mag-mul pv-copy-phase  
pv-copy pv-max pv-min pv-mul pv-div pv-add  
pv-mag-div pv-rand-comb pv-rect-comb pv-rect-comb2  
pv-rand-wipe pv-diffuser pv-mag-freeze  
pv-bin-scramble fft-trigger

## Extra FFT UGens

pv-conformal-map convolution convolution2  
convolution2-l stereo-convolution2-l convolution3  
pv-jenson-andersen pv-hainsworth-foote running-sum

## Filter UGens

resonz one-pole one-zero two-pole two-zero apf  
integrator decay decay2 lag lag2 lag3 ramp lag-ud  
lag2-ud lag3-ud leak-dc rlpf rhpf hpf bpf brf  
mid-eq lpz1 lpz2 hpz1 hpz2 slope bpz2 median slew  
sos ringz formlet detect-silence

## Grain UGens

grain-sin grain-in warp1

## Information UGens

sample-rate sample-dur radians-per-sample  
control-rate control-dur subsample-offset  
num-output-busses num-input-busses num-audio-busses  
num-control-busses num-buffers num-running-synths  
buf-sample-rate buf-rate-scale buf-frames  
buf-samples buf-dur buf-channels check-bad-values  
poll

## Input UGens

mouse-x mouse-y mouse-button key-state

## IO UGens

disk-out disk-in v-disk-in in local-in lag-in  
in-feedback in-trig shared-in out replace-out  
offset-out local-out x-out shared-out

## Line Ugens

line x-line lin-exp lin-lin amp-comp amp-comp-a k2a  
a2k t2k t2a dc silent

## Machine Listening UGens

beat-track loudness onsets key-track mfcc  
beat-track2 spec-flatness spec-pcile spec-centroid

## Miscellaneous UGens

pitch-shift pluck part-conv hilbert freq-shift  
g-verb free-verb free-verb2 moog-ff spring ball  
t-ball check-bad-values gendy1 gendy2 gendy3

### Noise UGens

white-noise brown-noise pink-noise clip-noise  
gray-noise crackle logistic lf-noise0 lf-noise1  
lf-noise2 lf-clip-noise lfd-noise0 lfd-noise1  
lfd-noise3 ldf-clip-noise hasher mantissa-mask dust  
dust2

### Oscillator UGens

osc sin-osc sin-osc-fb osc-n v-osc v-osc3 c-osc  
formant lf-saw lf-par lf-cub lf-tri lf-gauss  
lf-pulse var-saw impulse sync-saw wrap-index  
index-in-between detect-index shaper degree-to-key  
select vibrato index

### Pan UGens

pan2 lin-pan2 pan4 balance2 rotate2 pan-b pan-b2  
bi-pan-b2 decode-b2 pan-az x-fade2 lin-x-fade2

### Random UGens

rand-seed rand-id i-rand t-rand ti-rand n-rand  
exp-rand t-exp-rand coin-gate lin-rand

### STK UGens

stk-pluck stk-flute stk-bowed stk-mandolin  
stk-saxofony stk-shakers stk-banded-wg  
stk-voic-form stk-modal-bar stk-clarinet  
stk-blow-hole stk-moog stk-bee-three

### Trig UGens

tw-index trig1 trig t-delay send-trig send-reply  
latch gate pulse-count set-reset-ff peak  
running-min running-max stepper pulse-divider  
toggle-ff zero-crossing timer sweep phasor  
peak-follower pitch in-range fold clip wrap  
schmidt in-rect trapezoid most-changed least-change  
last-value

### AY Extra UGens

ay

### BBCut2 Extra UGens

analyse-events2

### Bat Extra UGens

coyote trig-avg w-amp markov-synth frame-compare  
needle-rect skip-needle

### Berlach Extra UGens

lpf1 lpfvs6 lpf18 bl-buf-rd clipper4 clipper8  
clipper32 soft-clipper4 soft-clipper8  
soft-clip-amp4 soft-clip-amp8 os-wrap4 os-wrap8  
os-fold4 os-fold8 os-trunc4 os-trunc8 drive-noise  
peak-eq2 peak-eq4

### Bhob Extra UGens

henon2-dn henon2-dl henon2-dc henon-trig  
gbman2-dn gbman2-dl gbman2-dc gbman-trig  
standard2-dn standard2-dl standard2-dc  
standard-trig latoocarfian2-dn latoocarfian2-dl  
latoocarfian2-dc latoocarfian-trig lorenz2-dn  
lorenz2-dl lorenz2-dc lorenz-trig fhn2-dn fhn2-dl  
fhn2-dc fhn-trig pv-common-mag pv-common-mul  
pv-mag-minus pv-mag-gate pv-compander pv-mag-scale  
pv-morph pv-x-fade pv-soft-wipe pv-cutoff  
nested-allpass-n nested-allpass-l nested-allpass-c  
double-nested-allpass-n double-nested-allpass-l  
double-nested-allpass-c moog-ladder rlpfd  
streson nl-filt-n nl-filt-l nl-filt-c gauss-trig  
lf-brown-noise0 lf-brown-noise1 lf-brown-noise2  
t-brown-rand dbrown2 d-gauss t-gauss-rand  
t-beta-rand gendy4 gendy5 t-grains2 t-grains3

### Blackrain Extra UGens

amplitude-mod b-moog iir-filter svf

### Distortion Extra UGens

crossover-distortion smooth-decimator sine-shaper  
decimator disintegrator

### Glitch Extra UGens

glitch-rhpf glitch-hpf

### Mda Extra UGens

mda-piano

### Membrane Extra UGens

membrane-circle membrane-hexagon

### RFW Extra UGens

switch-delay average-output

### SLU Extra UGens

breakcore brusselator double-well double-well2  
double-well3 gravity-grid gravity-grid2

### Stk Extra UGens

stk-pluck stk-flute stk-bowed stk-mandolin  
stk-saxofony stk-shakers stk-banded-wg  
stk-voic-form stk-modal-bar stk-clarinet  
stk-blow-hole stk-moog stk-bee-three

### VOSIM Extra UGens

vosim