

Overtone Cheat Sheet 0.9.1

Instruments (need to be manually referred)	
overtone.inst.drum	
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
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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
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Functions

Cycling	cycle-fn
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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