

Overtone Cheat Sheet 0.16.3331

**Instruments**

(use 'overtone.inst.drum)

Kick Drums	kick kick2 kick3 kick4 dub-kick dance-kick dry-kick quick-kick
Hi-hats	small-hat closed-hat close-hat2 open-hat hat3 soft-hat hat-demo
Snares	snare snare2 noise-snare tone-snare
Percussive elements	tom clap haziti-clap bing

(use 'overtone.inst.piano)

Piano	piano
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(use 'overtone.inst.sampled-piano)

Sampled Piano	sampled-piano
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(use 'overtone.inst.synth)

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

(use 'overtone.inst.io)

I/O	mic
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**Synths**

(use 'overtone.synth.sampled-piano)

Sampled Piano	sampled-piano
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(use 'overtone.synth.stringed)

Stringed	guitar etkara
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(use 'overtone.synth.ixi)

Ixi	impulser kick kick2 kick3 snare
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(use 'overtone.synth.retro)

Retro	tb-303
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(use 'overtone.synth.sts)

STS	prophet
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**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-bar-start metro-tick metro-beat metro-bpm metro-tock metro-bar metro-bpb
bps	beat-ms

**Studio**

**Mixer**

Control	volume input-gain
Instrument	inst-volume! inst-pan! inst-mixer-ctl! replace-inst-mixer! replace-all-inst-mixer!

**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
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**Recording**

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

**Inst Effects**

Instrument	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 connect-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? 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	signal->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 bit-and bit-or  
bit-xor round round-up round-down atan2 hypot  
hypot-aprox pow ring1 ring2 ring3 ring4 difsqr  
sumsqr sqrsqr 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