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 recv 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
ratiomidi 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