Overtone Cheat Sheet (Overtone 0.7.0)

REPL helpers

Documentation	`odoc ugen-doc find-ugen find-ugen-doc`
Examples	`examples example get-example`
Shell	`ls grep`

Synths

Design	`definst defsynth`
Examples	`defexamples`
CGens	`defcgen`
Control	`ctl kill`
Auditioning	`demo run`

Server

Startup	`boot-server boot-internal-server`
	`boot-external-server`
	`connect-external-server`
Shutdown	`kill-server`
Control	`stop`
OSC Communication	`snd recv clear-msg-queue`
Diagnostic	`server-status server-info`
	`server-connected?`
	`server-disconnected?`
	`connection-info server-sample-rate`
	`server-num-output-buses`
	`server-num-input-buses`
	`server-num-audio-buses`
	`server-num-buffers`
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`

Event Handling

Add	`on-event on-sync-event`
Remove	`remove-handler remove-all-handlers`
Trigger	`event sync-event oneshot-event`
	`oneshot-sync-event`
Synth Triggers	`on-trigger remove-trigger`
Debug	`event-debug-on event-debug-off`

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-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	`bus-set! bus-set-range! bus-get`
	`bus-get-range`
Query	`bus? control-bus?`
Info	`bus-id`

Studio

Instruments

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`
Piano	`piano`
Sampled Piano	`sampled-piano`
Sampler	`granular`
Synth	`ticker ping tb303 mooger rise-fall-pad`
	`pad overpad buzz bass grunge-bass`
	`vintage-bass ks1 ks-stringer fm-demo`
	`harmonic-swimming whoahaha bubbles`
IO	`mic`

Mixer

Control	`volume input-gain`

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`
	`bitcrusher fx-rlpf fx-rhpf fx-feedback`
	`fx-feedback-distortion`

Metronome

Create	`metronome`
Manipulate	`metro-start metro-tick metro-beat`
	`metro-bpm`
bps	`beat-ms`

Scope

Create & Reset	`scope pscope reset-scopes`

Recording

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

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`

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-tree`

External Assets

Generic URLs

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

Freesound.org

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

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
Discovery	find-scale-name find-note-name find-pitch-class-name find-chord
Frequencies	cents midi->hz hz->midi
Amplitude	db->amp

CGens

Audio In	sound-in
Buffer Playback	scaled-play-buf scaled-v-disk
Control	hold
Oscillators	pm-osc square
Mix	mix splay
Tapping	tap

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

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
```

MDA UGens

```
mda-piano
```

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
```