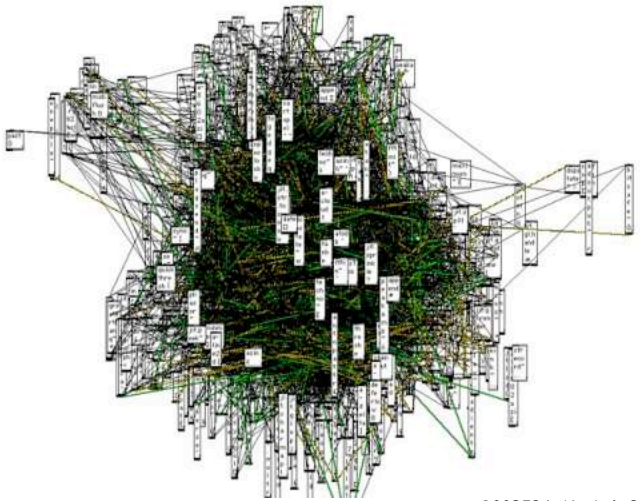
a-objects0x10

by André Sier | www.s373.net



atan_sol092734 (André Sier, 2005)

the a-objects are an externals set for max msp jitter by cycling74. ranges from utility objects to some 3d synthetic motion physics sonic undulation

this file is in ongoing construction..
suggestions apreciated at alpha @ s373.net

documentation credits: alpha
documentation version: 03c ~~03a 02 01 00~~
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msp synthesis:
      a-gaussnoise~     msp gaussian noise generation
      a-lorenz~         msp lorenz noise generation
      a-pt~             msp poisson trigger noise generation
      a-pt2~            msp poisson trigger interp noise generation
      a-random~         msp rand noise generation
      a-randomwalk~     msp random walk generation
      a-rednoise~       msp red noise generation
      a-rossler~        msp rossler noise generation
      a-spring~         msp spring model noise generation
      a-string~         msp string model noise generation

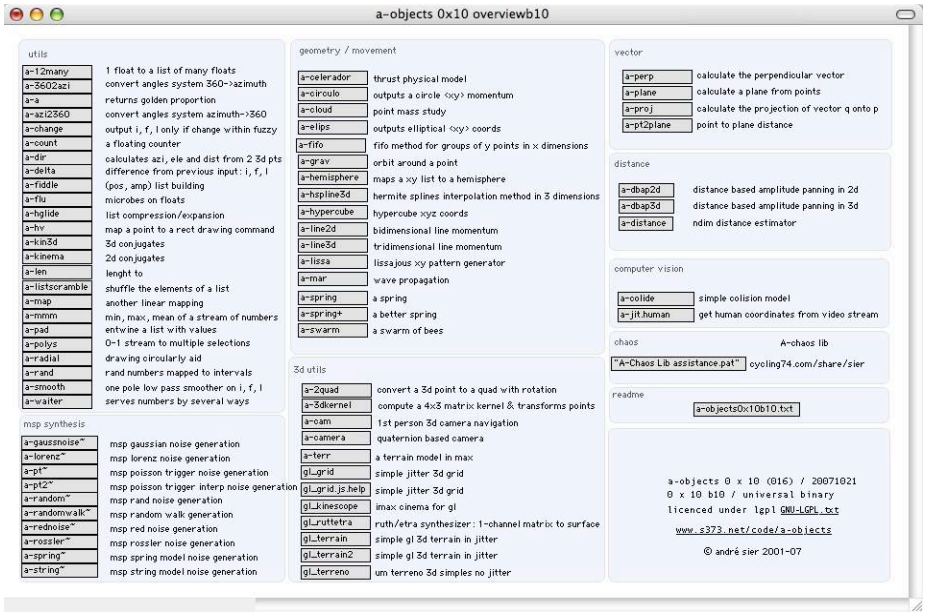
vector:
      a-perp            calculate the perpendicular vector
      a-plane           calculate a plane from points
      a-proj            calculate the projection of vector q onto p
      a-pt2plane        point to plane distance

distance:
      a-dbap2d          distance based amplitude panning in 2d
      a-dbap3d          distance based amplitude panning in 3d
      a-distance        ndim distance estimator

computer vision:
      a-colide          simple colision model
      a-jit.human       get human coordinates from video stream

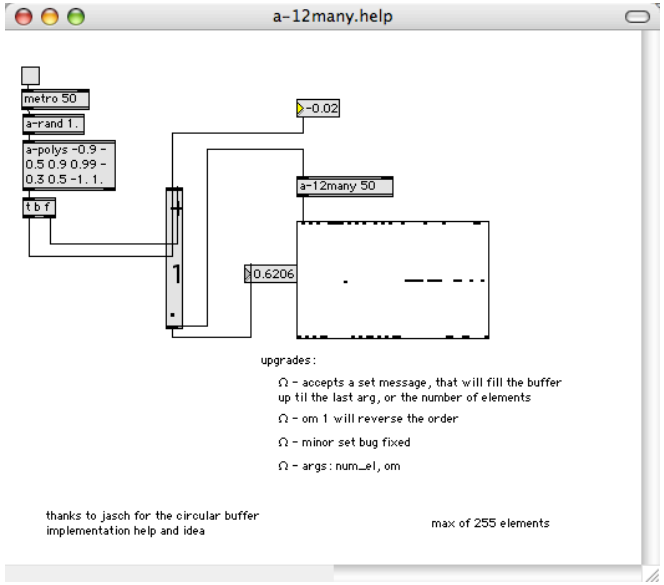
chaos:
      see A-Chaos Lib (cycling74.com/share/sier)
```


the overview patch



a-12many

a delay line for 1 float to a list of many floats



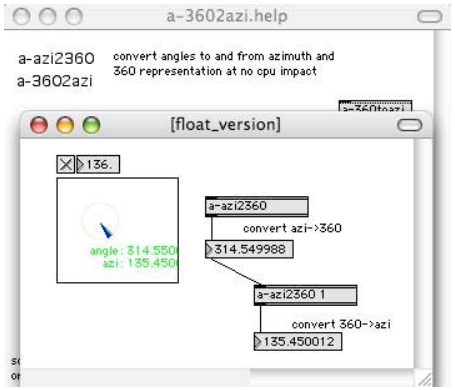
arguments:
- 1 int — specifies number of elements in delay line

messages:
- float — next number for the delay line
- set — set next number for the delay line
- om — sets mode (0 to right, 1 to left)

outputs:
- list — N elements specified in argument

a-3602azi

convert angles system 360->azimuth



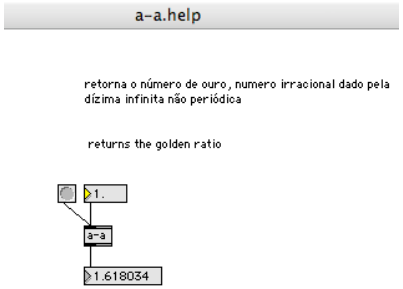
arguments:
- na

messages:
- float — angle in 360. to be converted

outputs:
- float — angle in azi

a-a

returns golden proportion



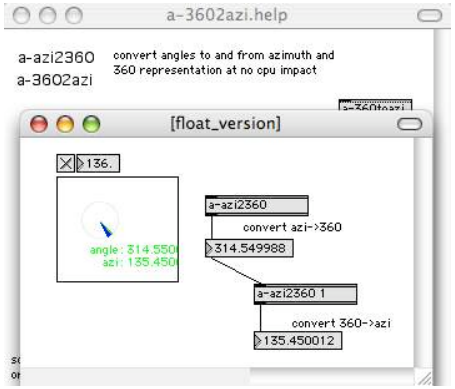
arguments:
na

messages:
float multiplier

outputs:
float result

a-azi2360

convert angles system azimuth->360



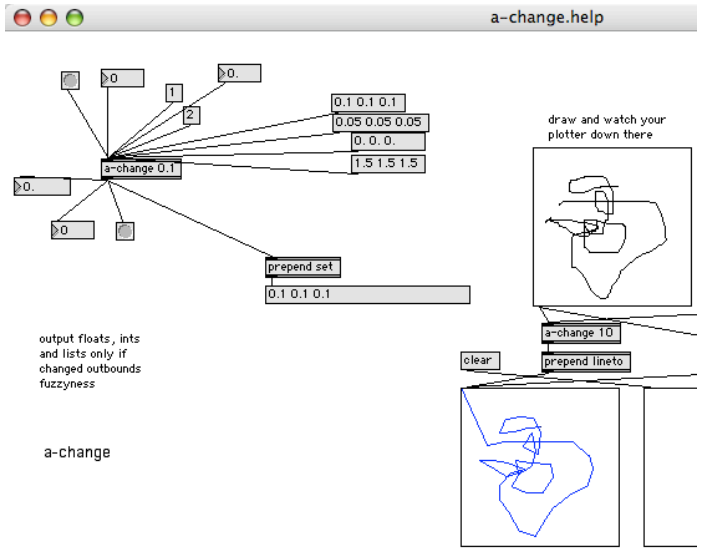
arguments:
na

messages:
float angle in azi to be converted

outputs:
float angle in 360

a-change

output i,f,l only if change within fuzzy



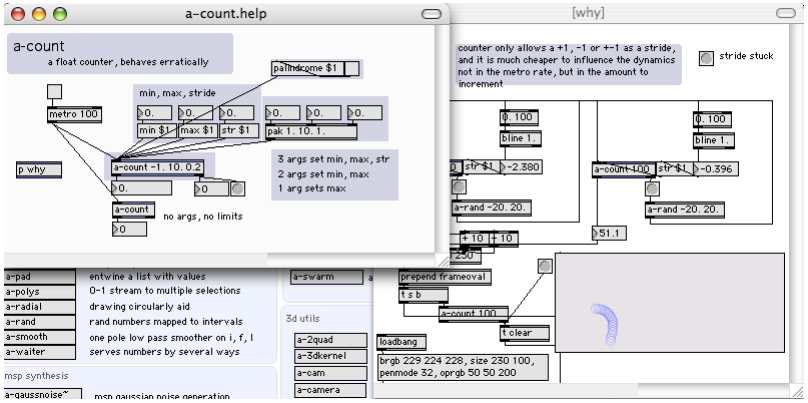
arguments:
float/int

messages:
fuzzy amount of fuzzyness to consider

outputs:
i,f,l changed input

a-count

a floating counter



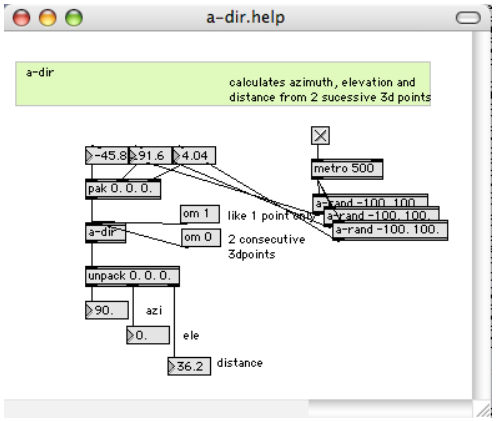
arguments:
1 float/int sets max
2 float/int sets min,max
3 float/int sets min,max,stride

messages:
min starting point for counter
max ending point for counter
str stride for counter
palindrome flag to toggle palindrome mode

outputs:
float counter value

a-dir

calculates azi,ele,dist from 2 sucessive 3d points



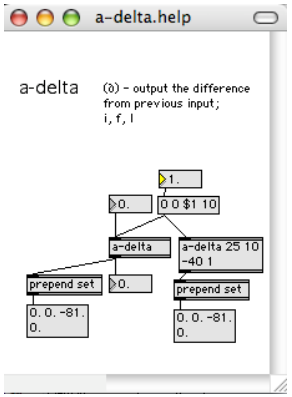
arguments:
na

messages:
list 3d point coords
om mode

outputs:
list azi, ele, dist

a-delta

difference from previous input: i, f, l



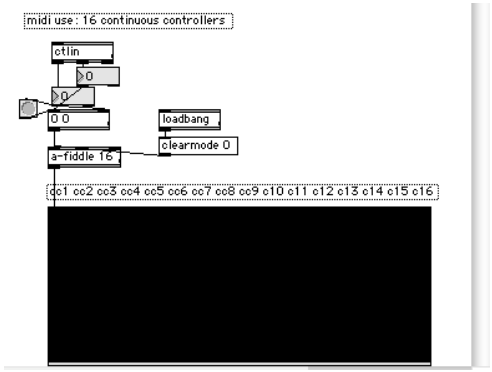
arguments:
na

messages:
list
int, float

outputs:
list,int,float

a-fiddle

(pos,amp) list building



arguments:

int	number of list members

messages:

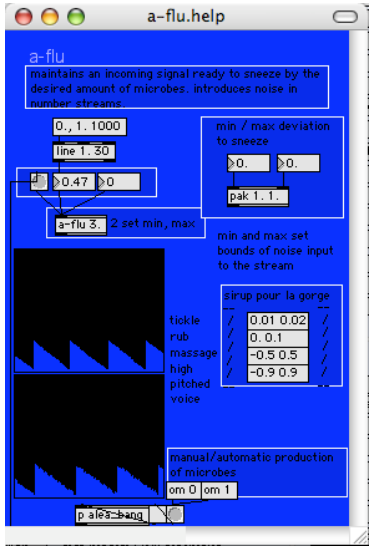
list	first element is pos on list, second is value

outputs:

list

a-flu

microbes on floats



arguments:

1 float/int	sets max
2 float/int	sets min,max

messages:

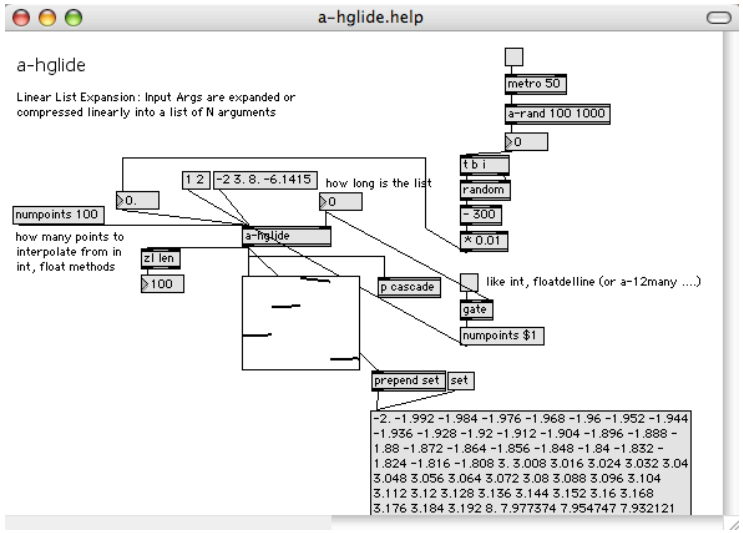
list	min/max to deviate
int,float	reference value

outputs:

float

a-hglide

list compression/expansion



arguments:

int	numpoints in final list

messages:

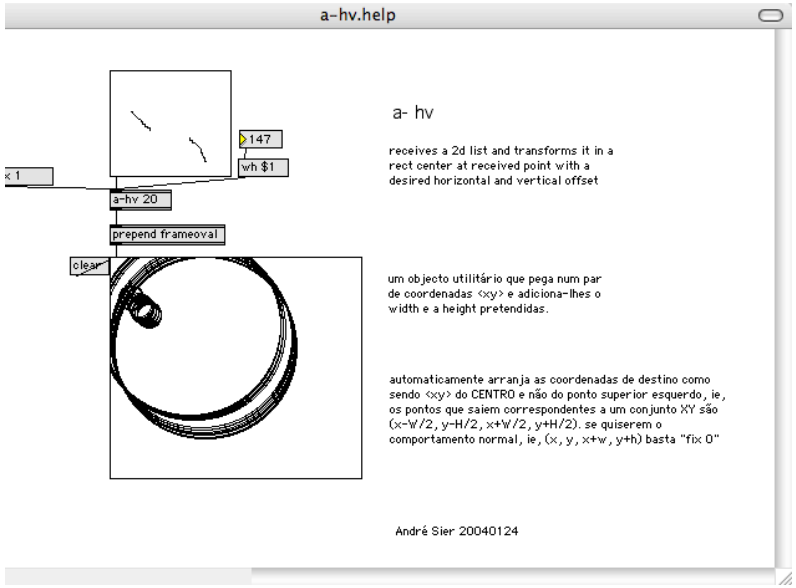
list	reference list
int,float	reference value

outputs:

list	expanded/compressed list

a-hv

map a point to a rect drawing command



arguments:

int,float	default width and/or height for the point

messages:

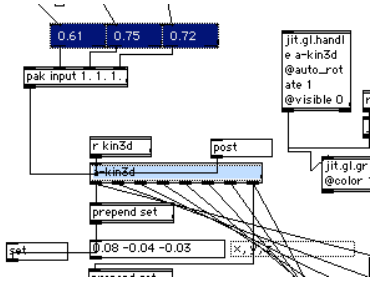
hv	width and/or height for the point
list	point to be rect'ized

outputs:

list	rect drawing list

a-kin3d

3d conjugates



arguments:

int,float	default width and/or height for the point

messages:

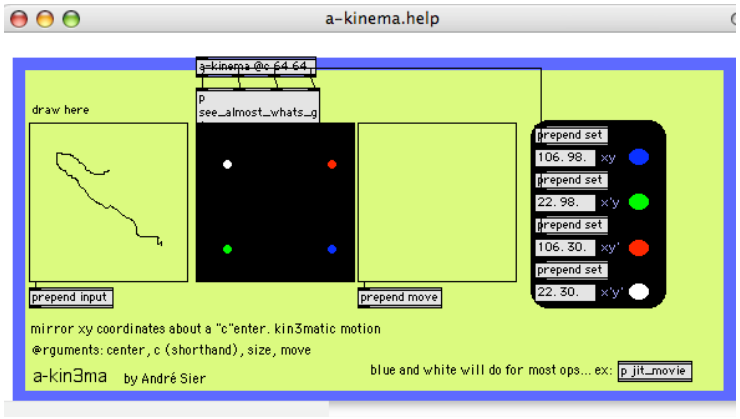
hv	width and/or height for the point
list	point to be rect'ized

outputs:

list	rect drawing list

a-kinema

2d conjugates



arguments:

@center	defines center to make conjugates from

messages:

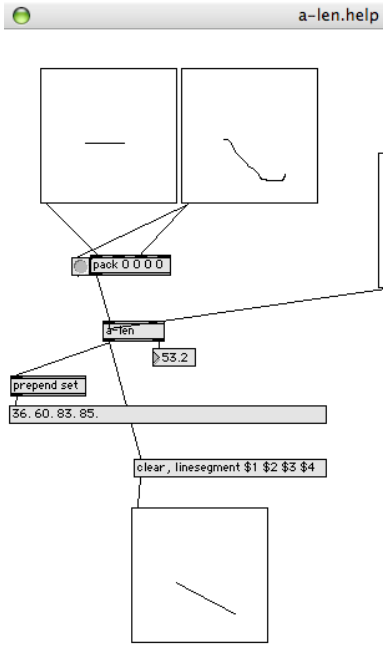
input	point to be cojugated

outputs:

4 lists	conjugate points

a-len

lenght to



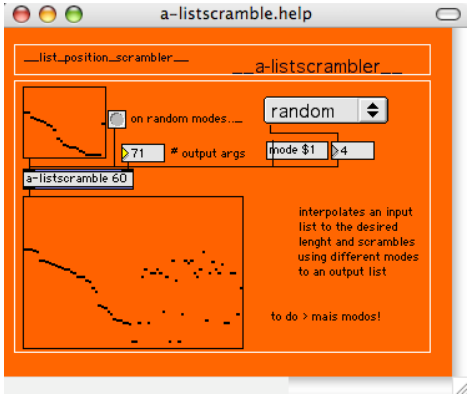
arguments:
- na

messages:
- list — 2 points

outputs:
- list — difference of 2 points
- float — lenght to

a-listscramble

shuffle the elements of a list



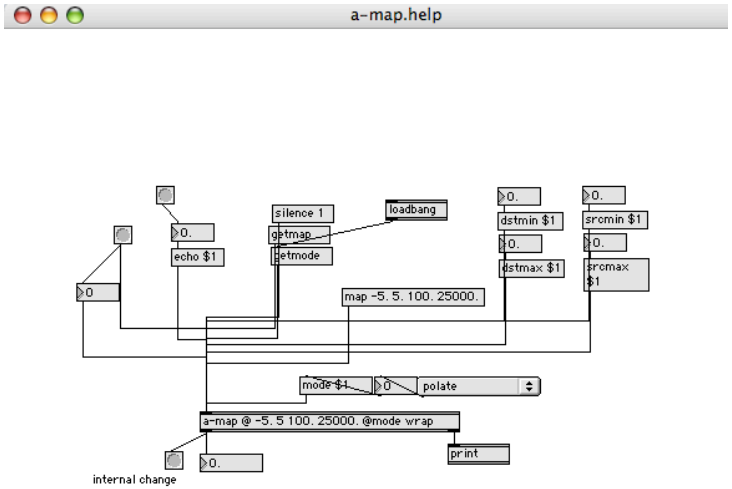
arguments:
- int — default list lenght

messages:
- mode — change the mode
- int — # of args

outputs:
- list — shuffled list

a-map

another linear mapper



arguments:

@	mapping list: src min, src max, dst min, dst max
@mode	bound mode: interpolate, clip, wrap, fold

messages:

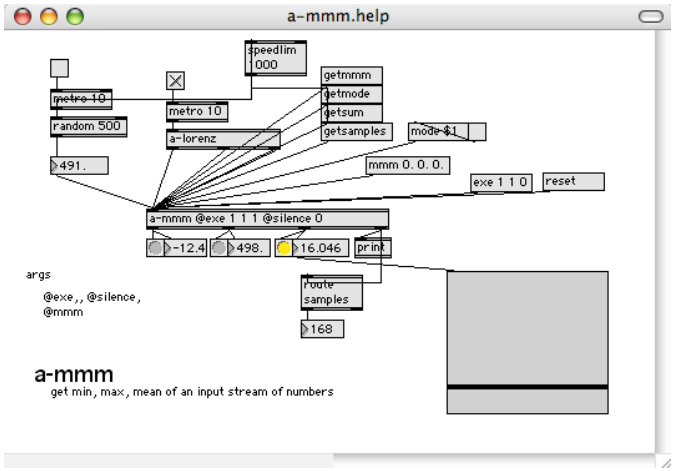
map	mapping list: src min, src max, dst min, dst max
float	input to be scaled

outputs:

float	scaled value

a-mmm

min, max, mean of a stream of numbers



arguments:

@exe	config ops to be performed
@silence	new output on parameter change

messages:

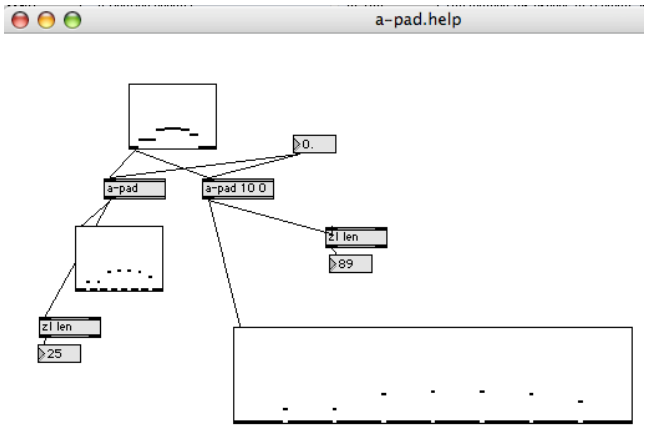
exe	mapping list: src min, src max, dst min, dst max
silence	input to be scaled
float	input to be analyzed

outputs:

float	min value
float	max value
float	mean value

a-pad

entwine a list with values



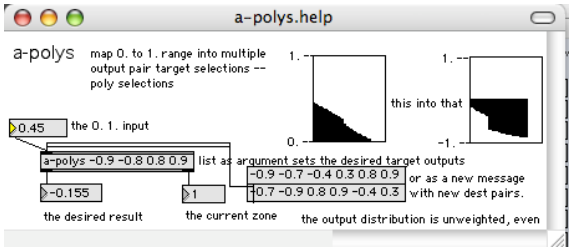
arguments:
- list — num elements to be padded, and value to pad with

messages:
- list — list to be padded

outputs:
- list — padded list

a-polys

0-1 stream to multiple selections



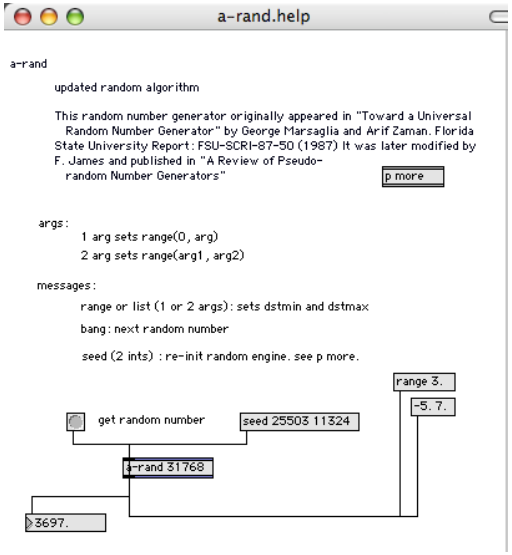
arguments:
- list — desired pairs of output values

messages:
- float — input

outputs:
- float — value between multiple selections

a-rand

rand numbers mapped to intervals



arguments:

	1 float/int	sets max
	2 float/int	sets min,max

messages:

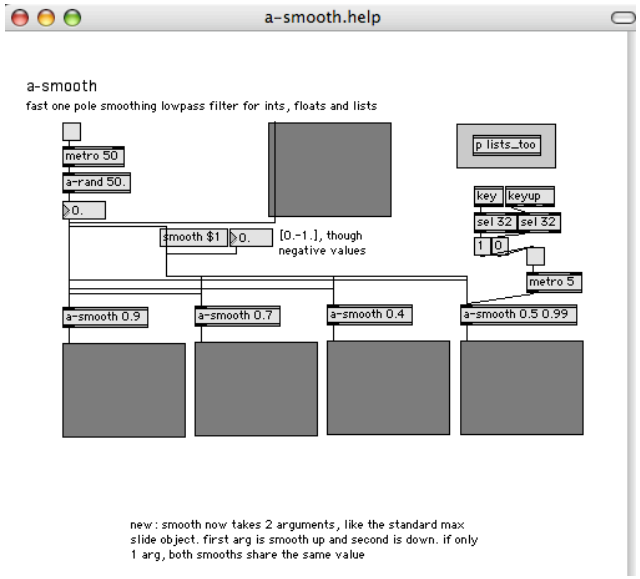
	bang	next pseudo-number
	seed	seed random engine
	range	set new min max random range
	list	set new min max random range

outputs:

	float	pseudo-number

a-smooth

one pole low pass smoother on i, f, l



arguments:

	1 float/int	sets smooth up and down
	2 float/int	sets smooth up,sets smooth down

messages:

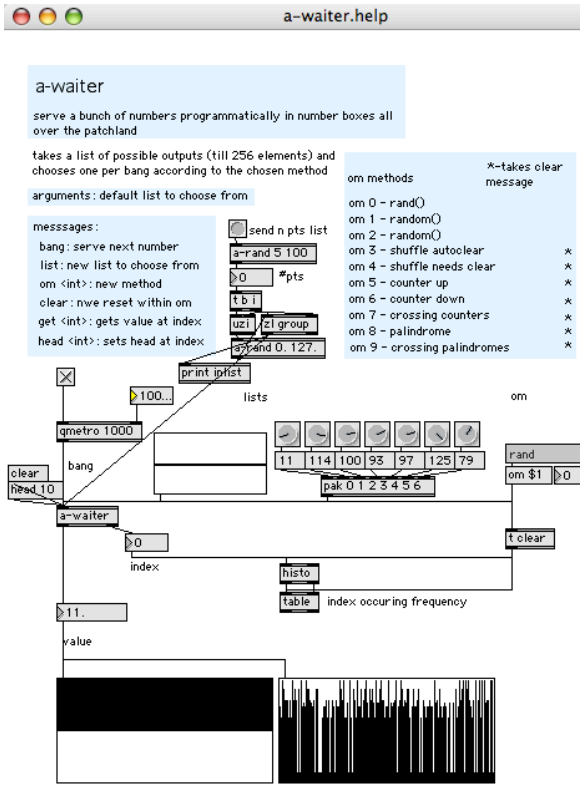
	bang	smooth
	float	sets new input and smooth
	list	sets new input list and smooth

outputs:

	float	smoothed value
	list	smoothed list

a-waiter

serves numbers by several ways



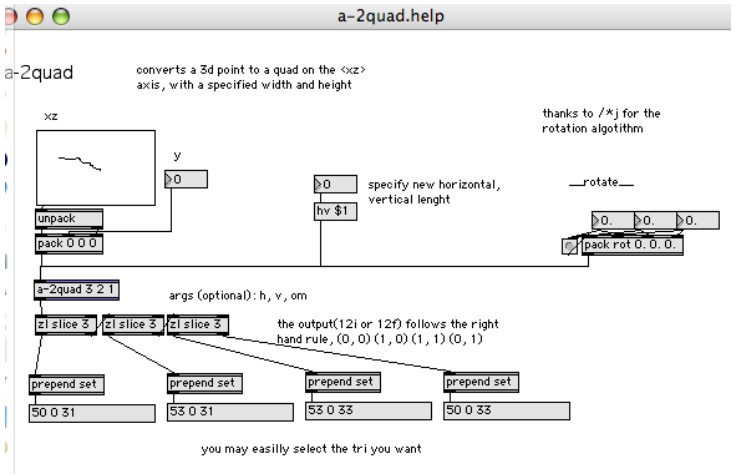
arguments:
list default list to choose from

messages:
see patch image

outputs:
float chosen value

a-2quad

convert a 3d point to a quad with rotation



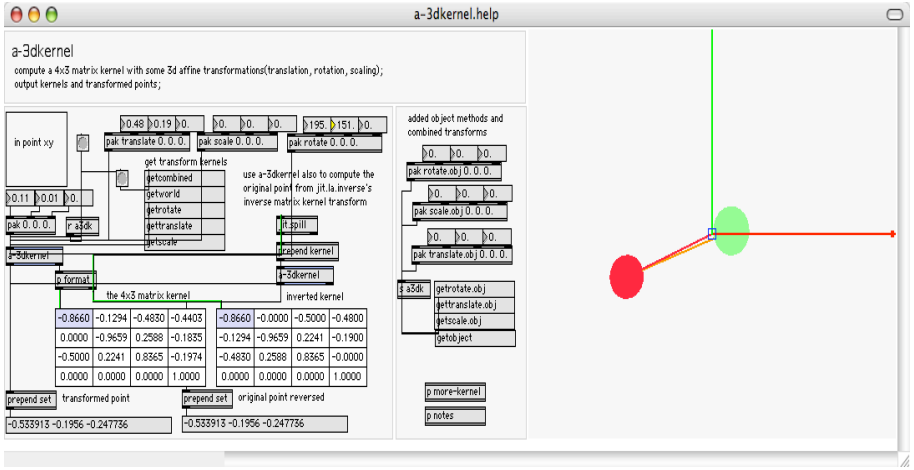
arguments:
h,v,om

messages:
hv new horizontal vertical width height
list 3d point coords

outputs:
list 4 3d points

a-3dkernel

compute a 4x3 matrix kernel & transforms points



arguments:
na

messages:

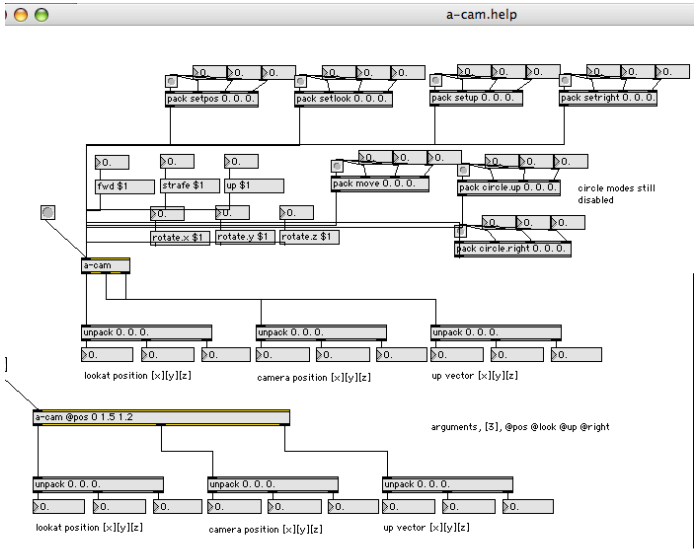
translate	translate and compute kernel
rotate	rotate and compute kernel
scale	scale and compute kernel
translate.obj	translate object kernel and compute kernels
rotate.obj	rotate object kernel and compute kernels
scale.obj	scale object kernel and compute kernels
list	point to be transformed
getcombined	getcombined kernel
getworld	getworld kernel
getrotate	getrotate kernel
gettranslate	gettranslate kernel
getscale	getscsale kernel

outputs:

list	transformed point
list	kernel

a-cam

1st person 3d camera navigation



arguments:
na

messages:

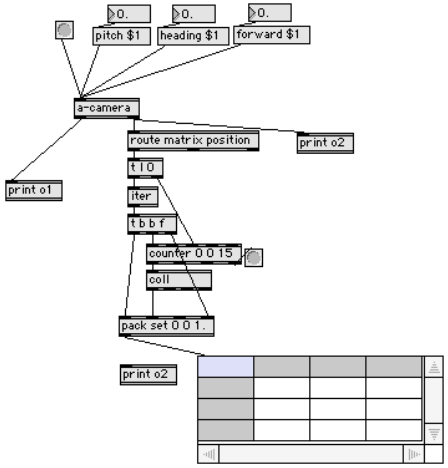
fwd	amount to go forward in set direction
strafe	amount to go sideways in set direction
up	amount to go up in set direction
rotate.x	rotate around x
rotate.y	rotate around y
rotate.z	rotate around z
bang	advance

outputs:

list	lookat position
list	camera position
list	up vector

a-camera

quaternion based camera



arguments:
na

messages:

fwd	amount to go forward in set direction
strafe	amount to go sideways in set direction
up	amount to go up in set direction
rotate.x	rotate around x
rotate.y	rotate around y
rotate.z	rotate around z
bang	advance

outputs:

list	lookat position
list	camera position
list	up vector

a-terr

terrain model in max

arguments:
na

messages:

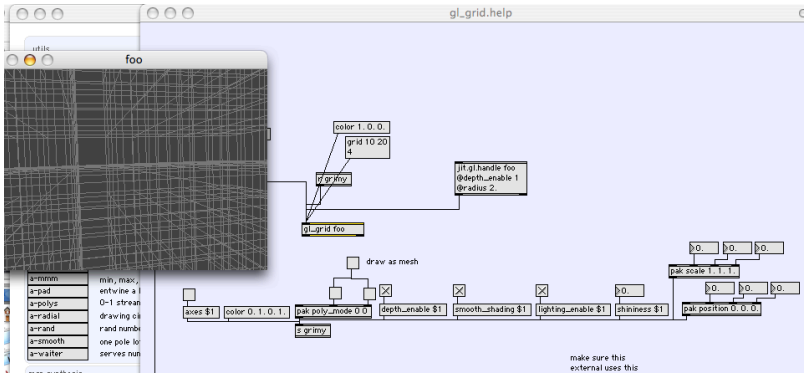
fwd	amount to go forward in set direction
strafe	amount to go sideways in set direction
up	amount to go up in set direction
rotate.x	rotate around x
rotate.y	rotate around y
rotate.z	rotate around z
bang	advance

outputs:

list	lookat position
list	camera position
list	up vector

gl_grid

simple jitter 3d grid



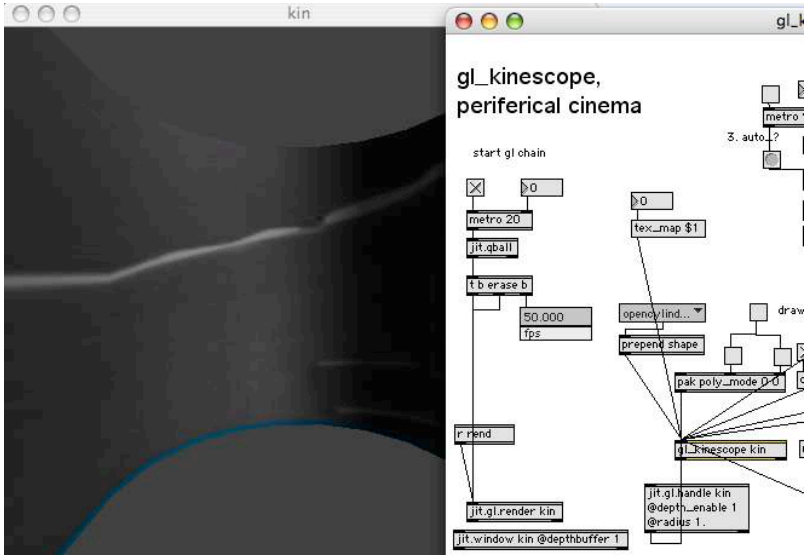
arguments:
na

messages:
grid x,y and z dubdivisions of rendered grid

outputs:

gl_kinescope

imax cinema for gl



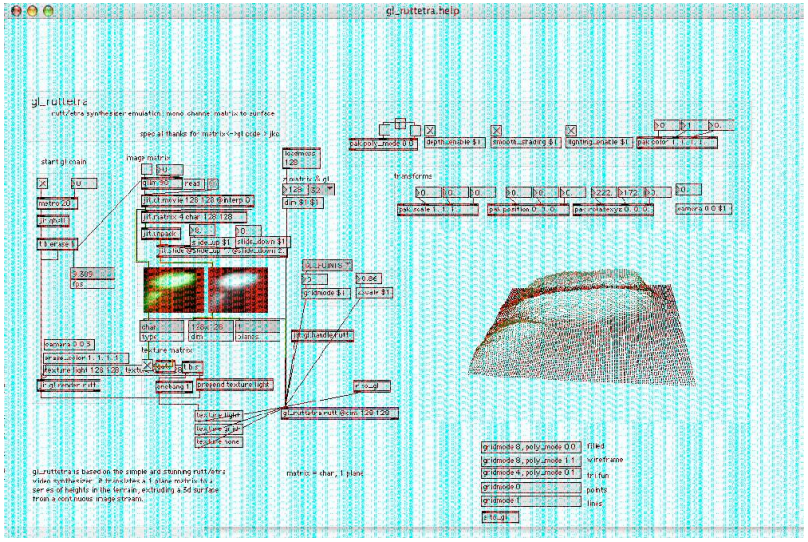
arguments:

messages:

outputs:

gl_ruttetra

rutt/etra synthesizer: 1-channel matrix to surface



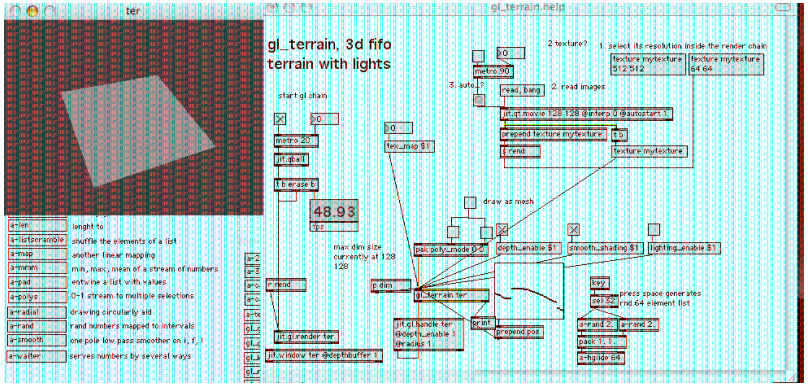
arguments:

messages:

outputs:

gl_terrain

simple gl 3d terrain in jitter



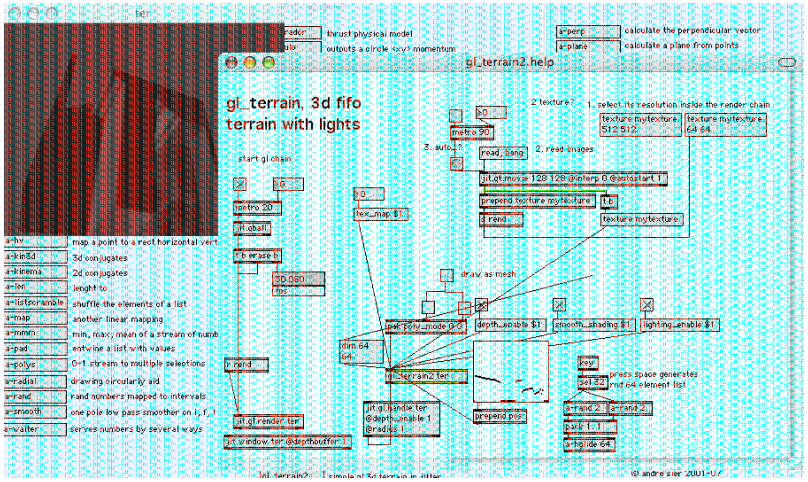
arguments:

messages:

outputs:

gl_terrain2

simple gl 3d terrain in jitter



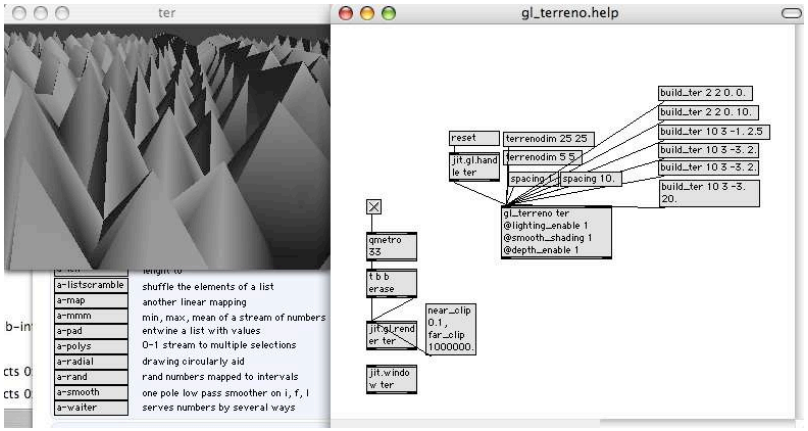
arguments:

messages:

outputs:

gl_terreno

um terreno 3d simples no jitter



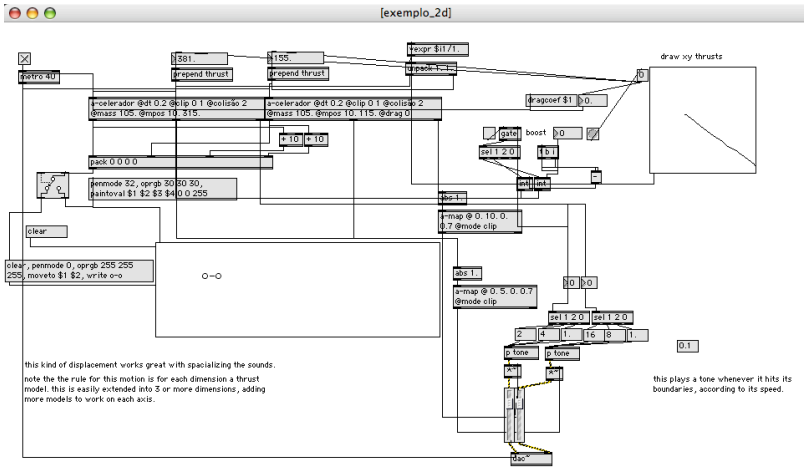
arguments:

messages:

outputs:

a-celerador

thrust physical model



arguments:
same as messages prepended with @

messages:

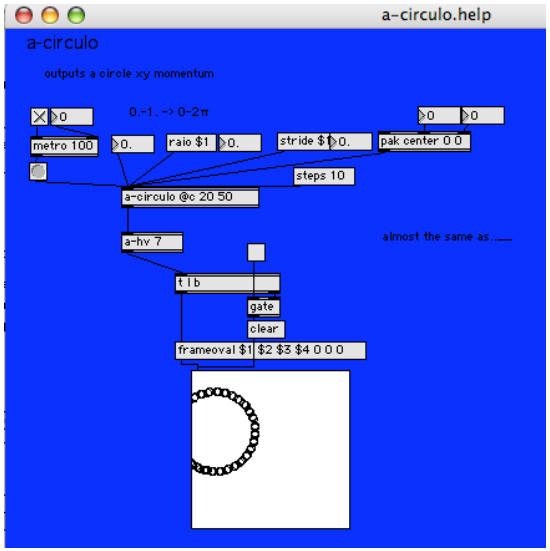
thrust	set acceleration
dt	set dt
mass	set mass
mvel	set max and min velocity
mpos	set max and min position
colisão	flag to be notified at bounds
colide	colide now
bang	advance

outputs:

float	position
float	velocity
int	boundary state

a-circulo

outputs a circle <xy> momentum



arguments:
same as messages prepended with @

messages:

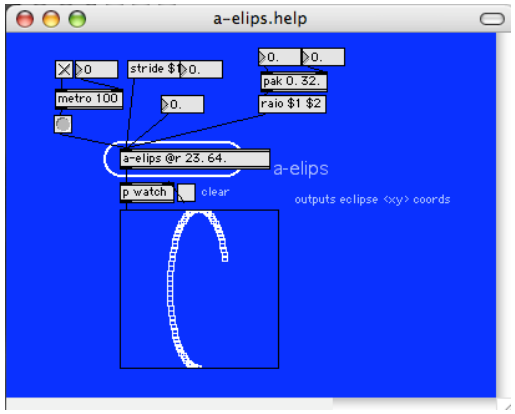
center	set circle center
raio	set circle radius
stride	set circle stride
steps	set circle stride
float	sync to circle position
bang	advance circle by stride

outputs:

list	circular point position

a-elips

outputs elliptical <xy> coords



arguments:
same as messages prepended with @

messages:

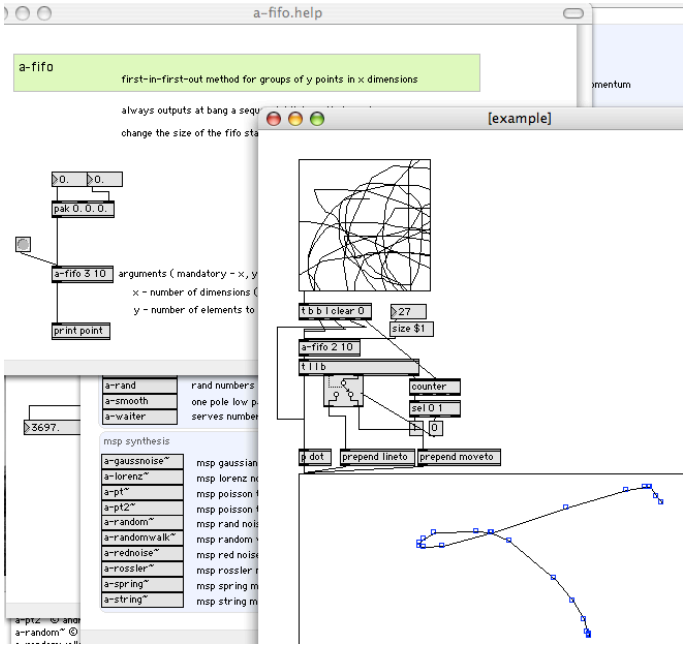
center	set ellipse center
raio	set ellipse radius
stride	set ellipse stride
steps	set ellipse stride
float	sync to ellipse position
bang	advance ellipse by stride

outputs:

list	elliptical point position

a-fifo

fifo method for groups of y points in x dimensions



arguments:

2 ints	number of dimensions, number of elements in each dim

messages:

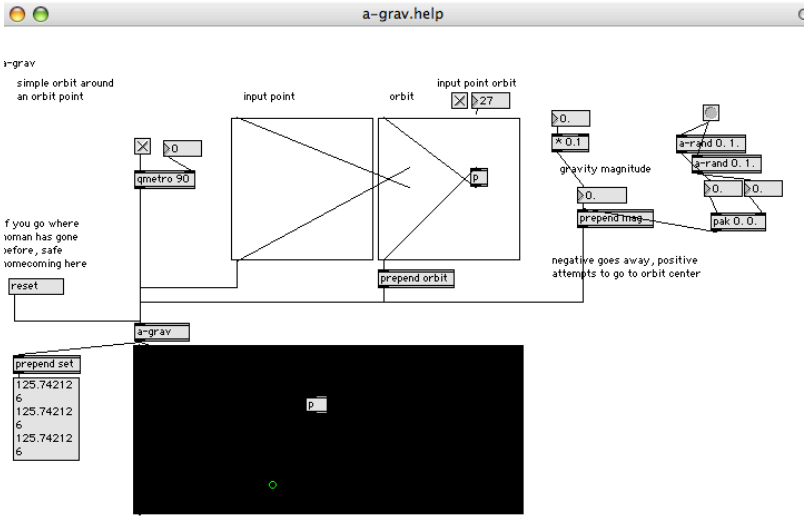
list	set next fifo element list
bang	get fifo chain

outputs:

list	fifo chain

a-grav

orbit around a point



arguments:

2 ints	number of dimensions, number of elements in each dim

messages:

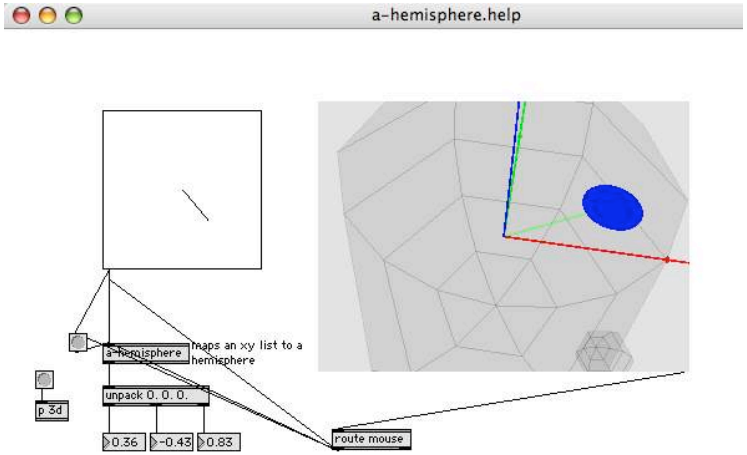
mag	gravitation forces magnitude
bang	calc point position

outputs:

list	point position

a-hemisphere

maps a xy list to a hemisphere



arguments:

messages:

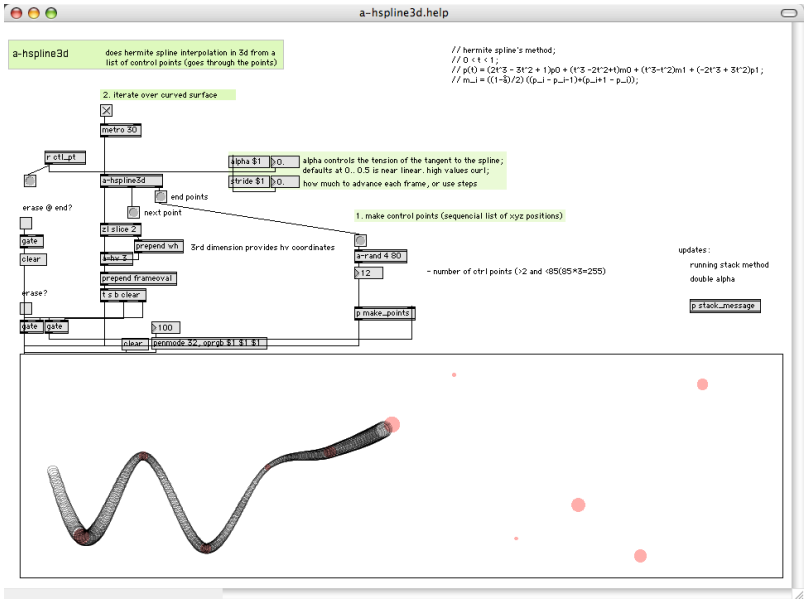
list	xy point
bang	get xyz pos

outputs:

list	xyz pos

a-hspline3d

hermite splines interpolation method in 3 dimensions



arguments:

messages:

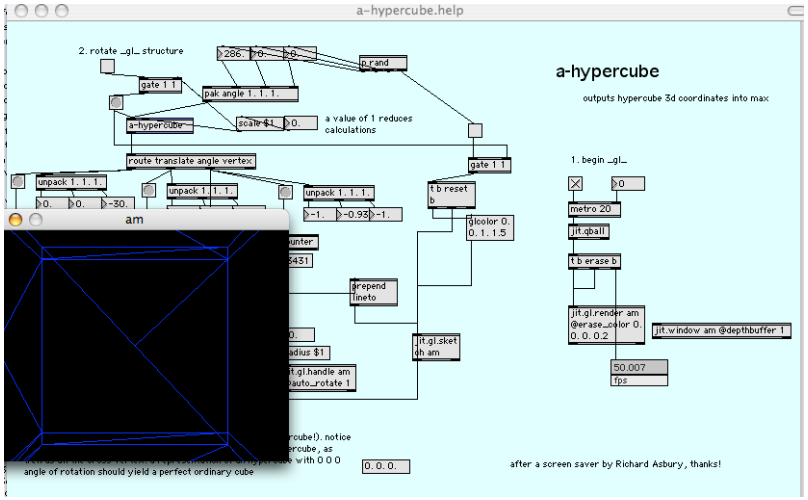
list	sequential list of 3d control points
stack	infinite control point seeding
alpha	tension of tangent to spline
stride	stride of spline calculations
bang	get xyz splinned point pos

outputs:

list	xyz pos

a-hypercube

hypercube xyz coords



arguments:

messages:

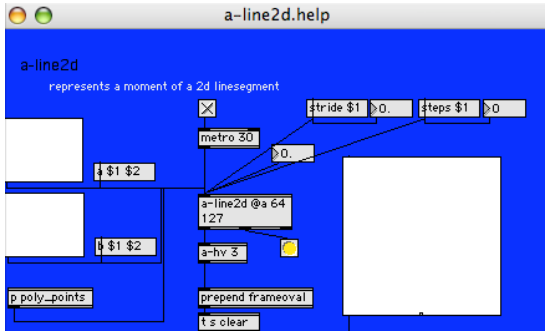
angle	rotation angle
bang	get hypercube data

outputs:

list	hypercube data

a-line2d

bidimensional line momentum



arguments:
same as messages prepended with @

messages:

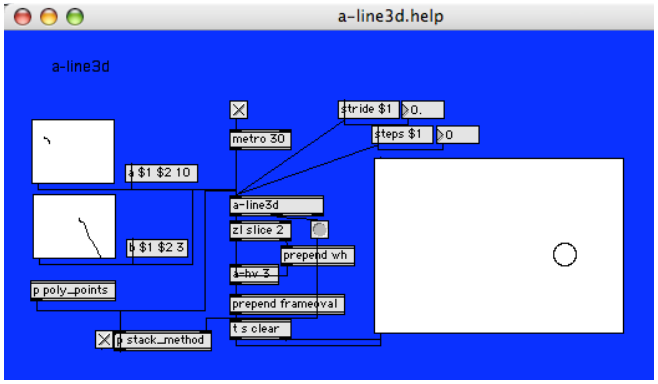
a	set point a center
b	set point b center
list	sequential list of control points for line
stride	set line stride
steps	set line stride
float	sync to line position
bang	advance line by stride

outputs:

list	line point position

a-line3d

tridimensional line momentum



arguments:
same as messages prepended with @

messages:

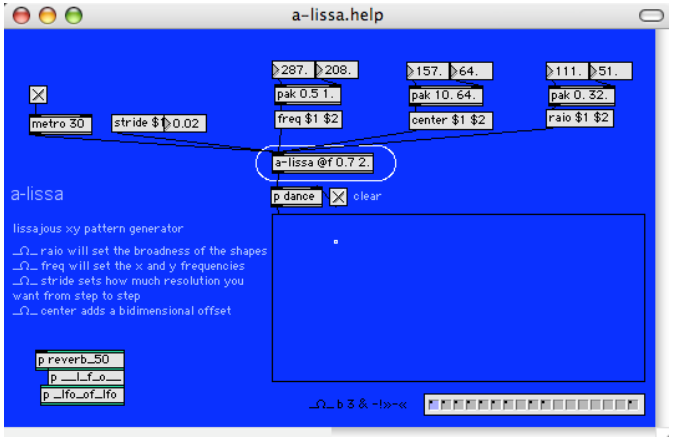
a	set point a center
b	set point b center
list	sequential list of control points for line
stride	set line stride
steps	set line stride
float	sync to line position
bang	advance line by stride

outputs:

list	line point position

a-lissa

lissajous xy pattern generator



arguments:
same as messages prepended with @

messages:

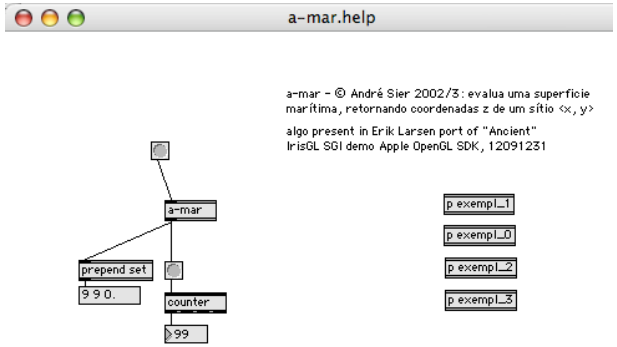
freq	set frequency
center	set center
raio	set radius
stride	set lissa stride
steps	set lissa stride
bang	advance line by stride

outputs:

list	lissajous point position

a-mar

wave propagation



arguments:

messages:

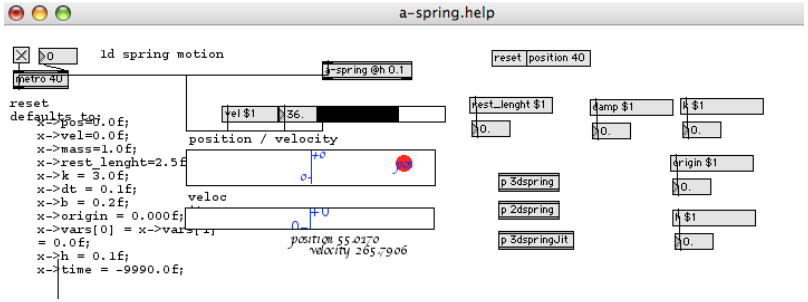
om	set mode
xy	set xy grid pos
grid	define grid size
dt	set dt of simulation
bang	advance simulation

outputs:

list	grid of points

a-spring

a spring



arguments:
same as messages prepended with @

messages:

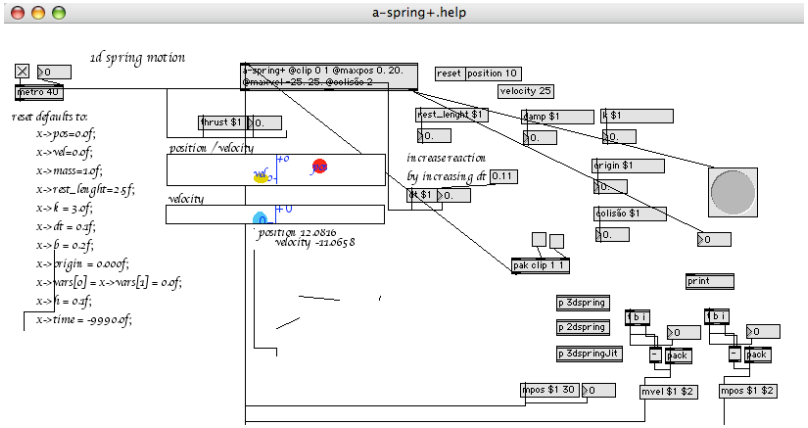
k	set spring stiffness
damp	set spring damping
rest_lenght	set spring rest lenght
origin	set spring origin
vel	set spring velocity
pos	set spring position
dt	set simulation time factor
bang	advance spring

outputs:

float	point position
float	point velocity

a-spring+

a spring



arguments:
same as messages prepended with @

messages:

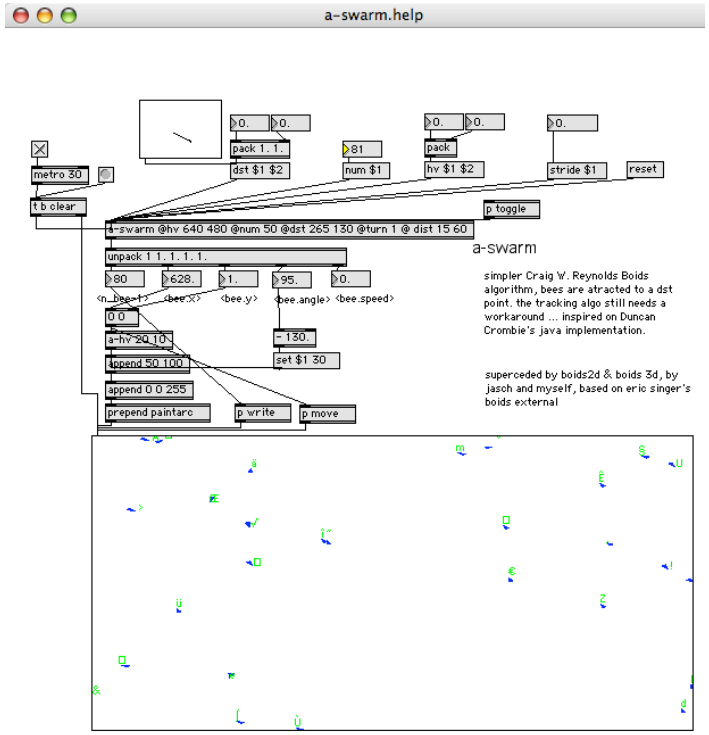
k	set spring stiffness
damp	set spring damping
rest_lenght	set spring rest lenght
origin	set spring origin
vel	set spring velocity
pos	set spring position
dt	set simulation time factor
bang	advance spring

outputs:

float	point position
float	point velocity

a-swarm

a swarm of bees



arguments:
      same as messages prepended with @

messages:

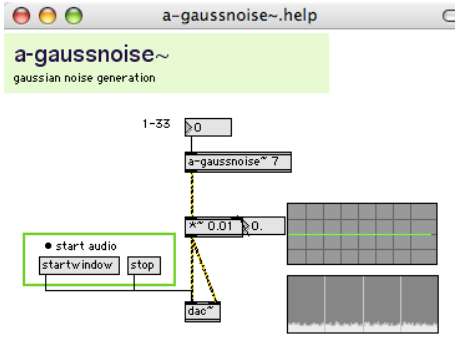
num	number of bees
hv	space
stride	set stride simulation
dst	set attract point
bang	advance simulation

outputs:

list	indexed bees point positions

a-gaussnoise~

msp gaussian noise generation



arguments:

int	gaussnoise factor

messages:

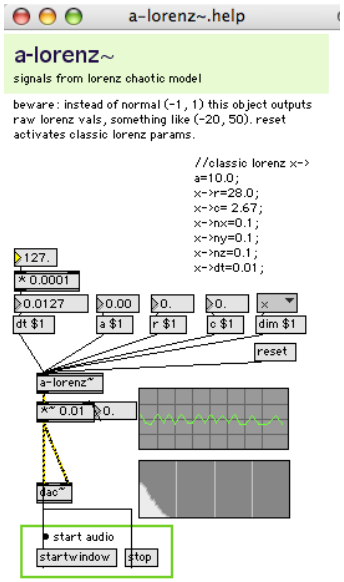
int	gaussnoise factor

outputs:

signal	gaussnoise signal

a-lorenz~

msp lorenz noise generation



arguments:

messages:

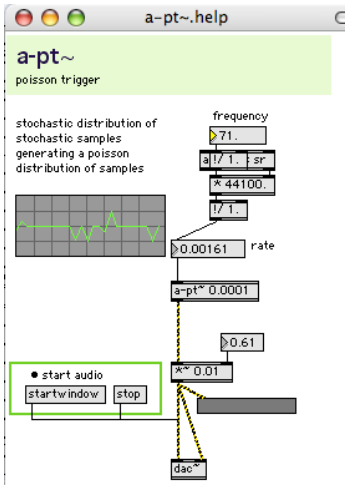
a	set a constant of lorenz equation
c	set c constant of lorenz equation
r	set r constant of lorenz equation
dim	select output signal
reset	reset to classic lorenz params
dt	set simulation time factor

outputs:

signal	lorenz noise signal

a-pt~

msp poisson trigger noise generation



arguments:

float	set rate of poisson trigger

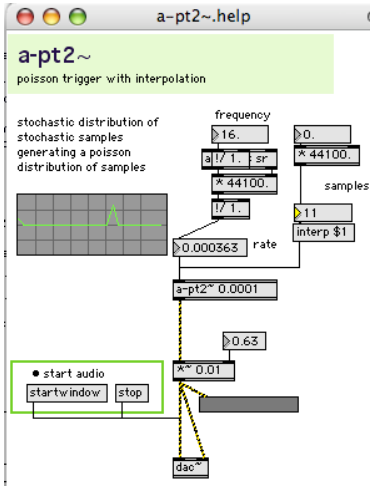
messages:

float	set rate of poisson trigger

outputs:

signal	poisson noise signal

a-pt2~ msp poisson trigger interp noise generation



arguments:

float	set rate of poisson trigger

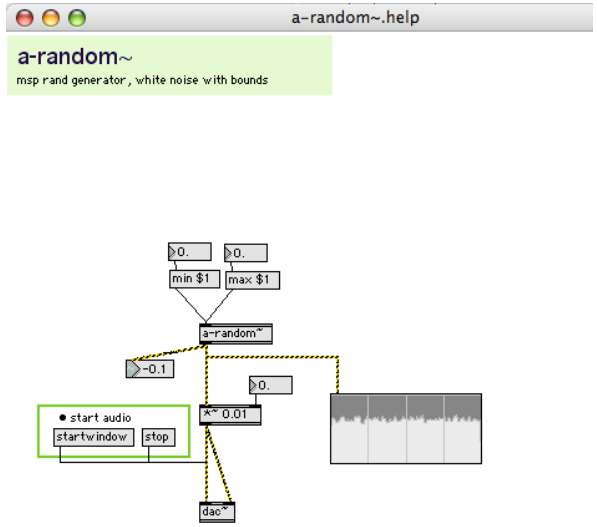
messages:

float	set rate of poisson trigger
interp	set num samples to interpolate

outputs:

signal	interped poisson noise signal

a-random~ msp random noise generation



arguments:

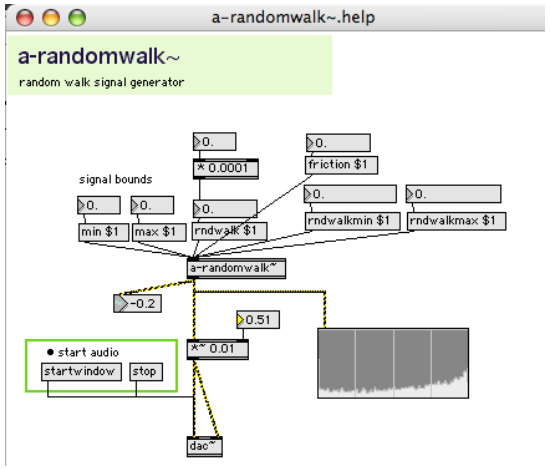
messages:

min	set min bounds of signal
max	set max bounds of signal

outputs:

signal	white noise

a-randomwalk~ msp randomwalk noise generation



arguments:

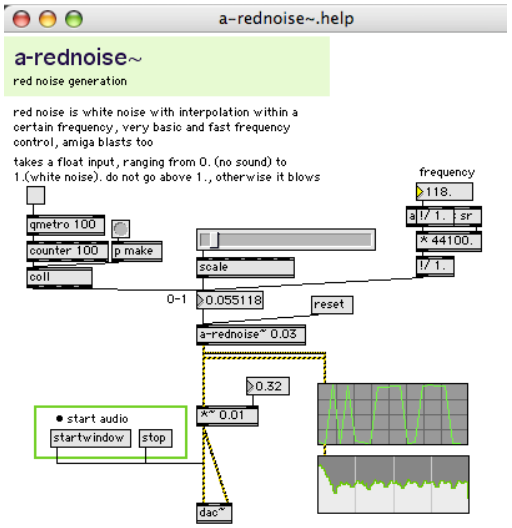
messages:

min	set min bounds of signal
max	set max bounds of signal
rndwalk	set rndwalk min and max
rndwalkmin	set rndwalk min
rndwalkmax	set rndwalk max

outputs:

signal	rndwalk noise

a-rednoise~ msp red noise generation



arguments:

float	set rate of red noise gen

messages:

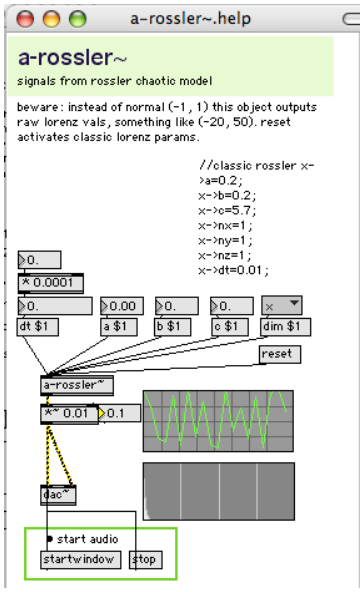
float	set rate of red noise gen

outputs:

signal	red noise signal

a-rossler~

msp rossler noise generation



arguments:

messages:

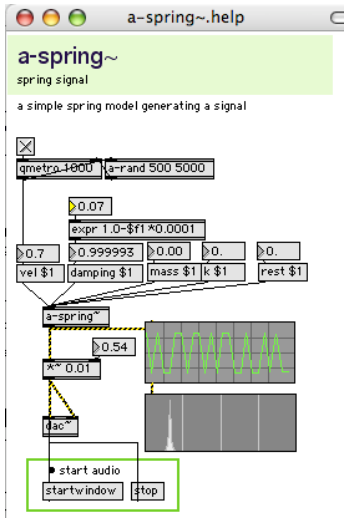
a	set a constant of rossler equation
b	set b constant of rossler equation
c	set c constant of rossler equation
dim	select output signal
reset	reset to classic rossler params
dt	set simulation time factor

outputs:

signal	rossler noise signal

a-spring~

msp spring model noise generation



arguments:

messages:

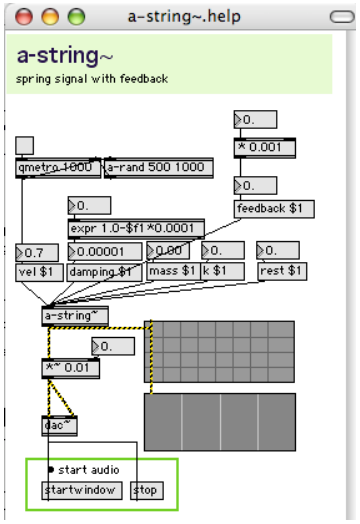
vel	give the string a velocity
damping	damp the string
mass	the mass
k	spring stiffness
rest	rest position
reset	reset spring

outputs:

signal	spring signal

a-string~

msp string model noise generation



arguments:

messages:

vel	give the string a velocity
damping	damp the string
mass	the mass
k	spring stiffness
rest	rest position
reset	reset spring

outputs:

signal	string signal

a-perp

calculate the perpendicular vector

arguments:

messages:

outputs:

a-plane

calculate the perpendicular vector

arguments:

messages:

outputs:

a-proj

calculate the perpendicular vector

arguments:

messages:

outputs:

a-pt2plane

calculate the perpendicular vector

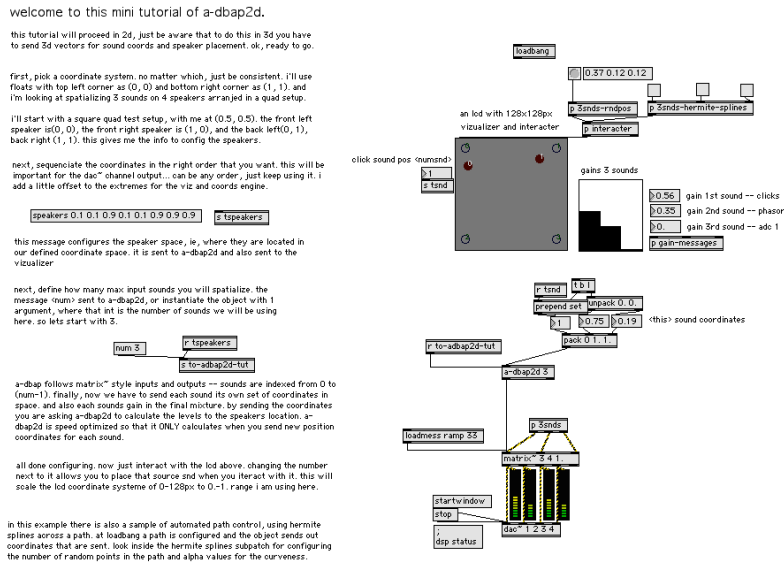
arguments:

messages:

outputs:

a-dbap2d

distance based amplitude panning in 2d



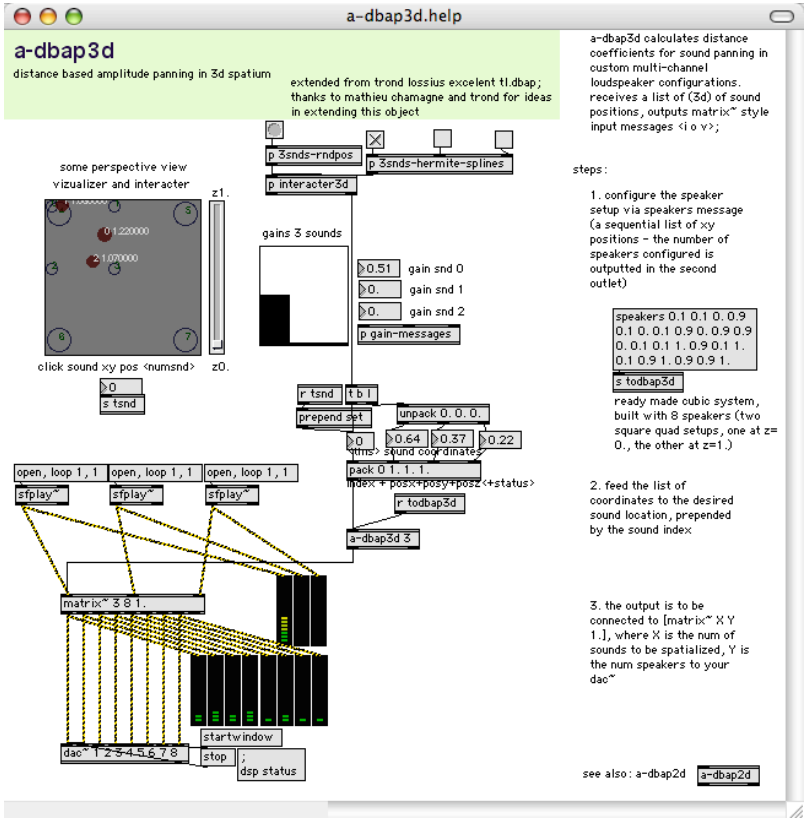
arguments:

messages:

outputs:

a-dbap3d

distance based amplitude panning in 3d



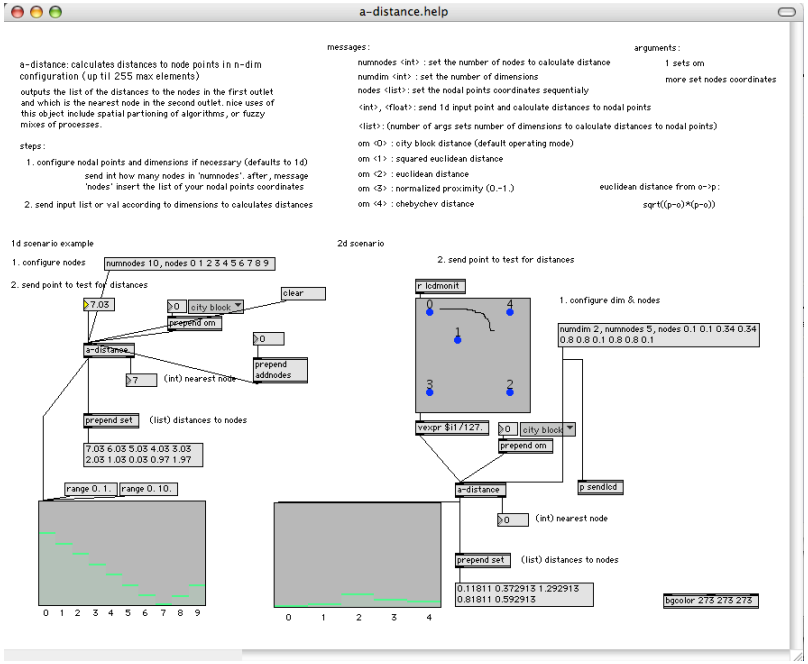
arguments:

messages:

outputs:

a-distance

ndim distance estimator



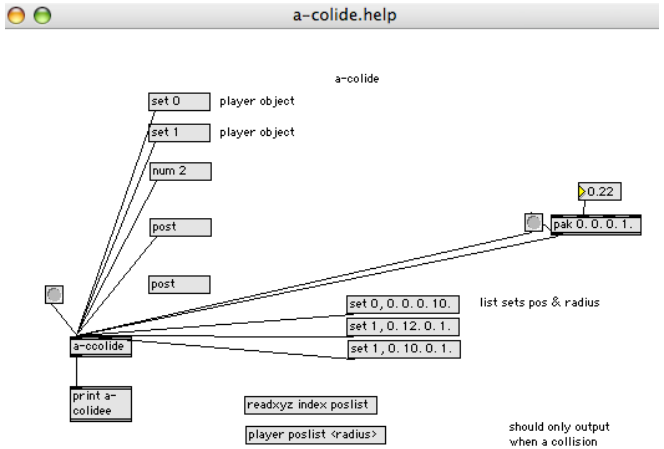
arguments:

messages:

outputs:

a-colide

simple colision model



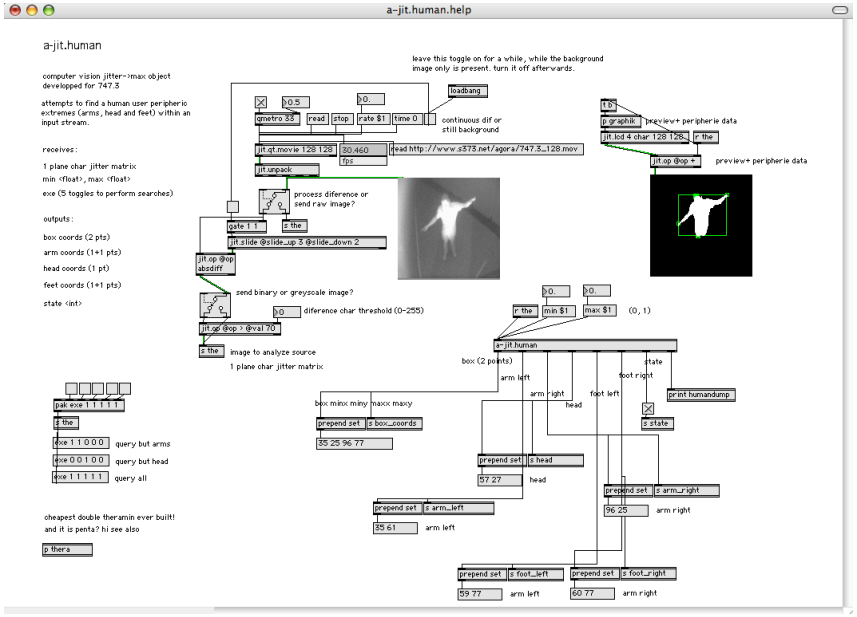
arguments:

messages:

outputs:

a-jit.human

get human coordinates from video stream



arguments:

messages:

outputs: