

Pure Data 0.4 quick reference guide

adc~	analog to digital converter (sound card input)	declare	set search path and/or load libraries	lop~	one-pole low pass filter
append	add item to a list	delay	callback after time delay	makefilename	create a filename
bag	collection of numbers	delread~	read a signal from a delay line	makenote	send note-on messages and schedule note-off for later
bang	triggers an action by sending a BANG message	delwrite~	writes a signal in a delay line	metro	metronome object
bang~	triggers an action by sending a BANG after each DSP cycle	drawcurve	draw shapes for data structures	midiin	MIDI raw message in
bendin	MIDI pitch bend in	drawnumber	draw numeric fields from data structures	midiout	MIDI raw message out
bendout	MIDI pitch bend out	drawpolygon	draw shapes for data structures	moses	part a stream of numbers
biquad~	2-pole-2-zero-filter	element	get pointer to an element of an array	mtof, mtof~	MIDI to frequency
block~	block size and on/off control for DSP	env~	envelope follower	my_canvas	GUI 2D controller
bng	GUI bang	f	abbreviation of float	namecanvas	attach this canvas to a name (obsolete)
bp~	bandpass filter	fft~	forward complex FFT	netreceive	listen for incoming messages from network
catch~	summing signal bus and non-local connection	filledcurve	draw shapes for data structures and fill them	netsend	send Pd messages over a network
change	eliminate redundancy in a number stream	filledpolygon	draw shapes for data structures and fill them	noise~	uniformly distributed white noise
clip	restrict a message to lie between two limits	float	store and recall a floating point number	notein	MIDI note in
clip~	restrict a signal to lie between two limits	framp~	estimate frequency and amplitude of FFT components	noteout	MIDI note out
cos~	cosine waveshaper	ftom, ftom~	frequency to MIDI	openpanel	query you for a filename
cpole~	complex one-pole (recursive) filter, raw	get	get values from a scalar	osc~	cosine wave oscillator
cputime	measure CPU usage	getsize	get number of elements of an array	outlet	add an outlet to a pd
ctlin	MIDI control in	hip~	one-pole high pass filter	pack	combine several atoms into one message
ctlout	MIDI control out	hslider	GUI value selector	pd	create subpatch
czero~	complex one-zero (non-recursive) "reverse" filter, raw	iff~	inverse complex FFT	pgmin	MIDI program change in
czero_rev~	complex one-zero (non-recursive) "reverse" filter, raw	inlet	add an inlet to a pd	pgmout	MIDI program change out
dac~	digital to analog converter (sound card output)	int	store and recall an integer	phasor~	sawtooth generator
dbtopow	decibel to power	key	get raw key value (on key pressed)	pipe	message "delay line"
dbtorms, dbtorms~	decibel to RMS	keyup	get raw key value (on key released)	plot	draw array elements of scalars
		keyname	get key value and state	pointer	remember the location of a scalar in a list
		line	ramp generator (target value, speed)	poly	MIDI style polyphonic voice allocator
		line~	audio ramp generator	polytouchin	MIDI poly aftertouch in
		list	building and using variable-length messages	polytouchout	MIDI poly aftertouch out
		loadbang	triggers an action by sending a BANG message	powtdb	power to deciBel
				print	print messages to terminal window

print~ print out raw values of a signal
q8_rsqr~ 8 bit reciprocal square root
q8_sqr~ 8 bit squar root
qlist text-based sequencer
r abbreviation of receive
random pseudorandom integers
readsf~ read a soundfile
realtime ask OS for elapsed real time
receive receive messages without patch chords
receive~ signal receive; one-to-many non-local signal connections
rfft~ forward real FFT
rifft~ inverse real FFT
rmstodb, rmstodb~ RMS to deciBel
route route messages according to their first element
rpole~ real one-pole (non-recursive) filter
rsqr~ signal reciprocal square root
rzero~ real one-zero (non-recursive) filter, raw
rzero_rev~ real reversed (non-recursive) filter, raw
s abbreviation of send
samplerate~ get the sample rate
samphold~ sample and hold unit
savepanel query you for the name of a file to create
select compare numbers or symbols
send send messages without patch chords
send~ signal send; one-to-many non-local signal connections
serial serial device control for NT only
set set values in a scalar
setsize resize an array
sig~ convert numbers to audio signal

snapshot~ convert a signal to a number on demand
soundfiler read and write soundfiles to arrays
spigot pass or block messages
sqr~ signal square root
stripnote send note-on messages and schedule not-off for later
struct declare the fields in a data structure
sublist get a list from a field of a scalar (untested!)
swap swap two numbers, respecting right-to-left order
switch~ blocks size and on/off control for DSP and switches it off
symbol store and recall a symbol
sysexin MIDI system exclusive in
t abbreviation of trigger
table array of numbers
tabosc4~ 4-point interpolating oscillator
tabplay~ play a table as a sample (non-transposing)
tabread read numbers from a table
tabread~ read numbers from a table
tabread4~ 4-point-interpolating table lookup
tabreceive~ read a block of a signal from an array continuously
tabsend~ writes one block of a signal continuously to an array
tabwrite writes numbers to a table
tabwrite~ object to write a signal in an array
template use struct now
textfile reads and writes text files
touchin MIDI channel aftertouch in
touchout MIDI channel aftertouch out
threshold~ trigger from audio signal

throw~ summing signal bus and non-local connection
timer measure logical time
toggle GUI toggle
trigger sequence messages in right-to-left order. message types can be abbreviated: **a**(nything), **b**(ang), **f**(loat), **I**(ist), **p**(ointer), **s**(ymbol)
unpack split a message to atoms
until loop
v abbreviation of value
value nonlocal shared value (named variable)
vcf~ voltage-controlled bandpass filter
vd~ reads a signal from a delay line at a variable delay time (4-point-interpolation)
vline~ high-precision audio ramp generator
vslider GUI value selector
vsnapshot~ deluxe snapshot
vu GUI VU meter display
wrap~ remainder modulo 1
writesf~ write audio signals to a sound file

operator +, -, *, /, pow, max, min
otherbinpos (logical): &, |, &&, ||, <<, >>
(relational): >, >=, ==, !=, <=, <
sigbinops operators on audio signals.
+~, ~~, *~, /~, max~, min~

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