

Alphabetical class reference

- **AToDB** : Returns the decibel equivalent of an amplitude value.
- **Abs** : Performs an absolute function on audio signal.
- **Adsr** : Attack - Decay - Sustain - Release envelope generator.
- **Allpass2** : Second-order phase shifter allpass.
- **AllpassWG** : Out of tune waveguide model with a recursive allpass network.
- **Allpass** : Delay line based allpass filter.
- **Atan2** : Computes the principal value of the arc tangent of b/a.
- **AtanTable** : Generates an arctangent transfert function.
- **Atone** : A first-order recursive high-pass filter with variable frequency response.
- **AttackDetector** : Audio signal onset detection.
- **Average** : Moving average filter.
- **Balance** : Adjust rms power of an audio signal according to the rms power of another.
- **BandSplit** : Splits an input signal into multiple frequency bands.
- **Beat** : Generates algorithmic trigger patterns.
- **Bendin** : Get the current value of the pitch bend controller.
- **Between** : Informs when an input signal is contained in a specified range.
- **Biquad** : A sweepable general purpose biquadratic digital filter.
- **Biquada** : A general purpose biquadratic digital filter (floating-point arguments).
- **Biquadx** : A multi-stages sweepable general purpose biquadratic digital filter.
- **Blit** : Band limited impulse train synthesis.
- **BrownNoise** : A brown noise generator.
- **ButBP** : A second-order Butterworth bandpass filter.
- **ButBR** : A second-order Butterworth band-reject filter.
- **ButHP** : A second-order Butterworth highpass filter.
- **ButLP** : A second-order Butterworth lowpass filter.
- **CallAfter** : Calls a Python function after a given time.
- **CarToPol** : Performs the cartesian to polar conversion.
- **Ceil** : Rounds to smallest integral value greater than or equal to the input signal.
- **Centroid** : Computes the spectral centroid of an input signal.
- **CentsToTranspo** : Returns the transposition factor equivalent of a given cents value.
- **Change** : Sends trigger that informs when input value has changed.
- **ChebyTable** : Chebyshev polynomials of the first kind.
- **ChenLee** : Chaotic attractor for the Chen-Lee system.
- **Choice** : Periodically choose a new value from a user list.
- **Chorus** : 8 modulated delay lines chorus processor.
- **Clean_objects** : Stops and deletes PyoObjects after a given time.
- **Clip** : Clips a signal to a predefined limit.
- **Cloud** : Generates random triggers.
- **Compare** : Comparison object.
- **ComplexRes** : Complex one-pole resonator filter.
- **Compress** : Reduces the dynamic range of an audio signal.

- **ControlRead** : Reads control values previously stored in text files.
- **ControlRec** : Records control values and writes them in a text file.
- **Convolve** : Implements filtering using circular convolution.
- **CosLogTable** : Construct a table from logarithmic-cosine segments in breakpoint fashion.
- **CosTable** : Construct a table from cosine interpolated segments.
- **Cos** : Performs a cosine function on audio signal.
- **Count** : Counts integers at audio rate.
- **Counter** : Integer count generator.
- **CrossFM** : Cross frequency modulation generator.
- **Ctl1Scan2** : Scan the Midi channel and controller number in input.
- **Ctl1Scan** : Scan the Midi controller's number in input.
- **CurveTable** : Construct a table from curve interpolated segments.
- **Cv1Verb** : Convolution based reverb.
- **DBToA** : Returns the amplitude equivalent of a decibel value.
- **DCBlock** : Implements the DC blocking filter.
- **DataTable** : Create an empty table ready for data recording.
- **Degrade** : Signal quality reducer.
- **Delay1** : Delays a signal by one sample.
- **Delay** : Sweepable recursive delay.
- **Denorm** : Mixes low level noise to an input signal.
- **Disto** : Kind of Arc tangent distortion.
- **Dummy** : Dummy object used to perform arithmetics on PyoObject.
- **EQ** : Equalizer filter.
- **Euclide** : Euclidean rhythm generator.
- **ExpTable** : Construct a table from exponential interpolated segments.
- **Exp** : Calculates the value of e to the power of x.
- **Expr** : Prefix audio expression evaluator.
- **Expr** : Prefix audio expression evaluator.
- **Expseg** : Draw a series of exponential segments between specified break-points.
- **FFT** : Fast Fourier Transform.
- **FM** : A simple frequency modulation generator.
- **FToM** : Returns the midi note equivalent to a frequency in Hz.
- **Fader** : Fadein - fadeout envelope generator.
- **FastSine** : A fast sine wave approximation using the formula of a parabola.
- **Floor** : Rounds to largest integral value not greater than audio signal.
- **Follower2** : Envelope follower with different attack and release times.
- **Follower** : Envelope follower.
- **FourBand** : Splits an input signal into four frequency bands.
- **FrameAccum** : Accumulates the phase differences between successive frames.
- **FrameDelta** : Computes the phase differences between successive frames.
- **Freeverb** : Implementation of Jezar's Freeverb.
- **FreqShift** : Frequency shifting using single sideband amplitude modulation.
- **Gate** : Allows a signal to pass only when its amplitude is above a set threshold.
- **Granulator** : Granular synthesis generator.

- **Granule** : Another granular synthesis generator.
- **HannTable** : Generates Hanning window function.
- **HarmTable** : Harmonic waveform generator.
- **Harmonizer** : Generates harmonizing voices in synchrony with its audio input.
- **Hilbert** : Hilbert transform.
- **IFFT** : Inverse Fast Fourier Transform.
- **IRAverage** : Moving average filter using circular convolution.
- **IRFM** : Filters a signal with a frequency modulation spectrum using circular convolution.
- **IRPulse** : Comb-like filter using circular convolution.
- **IRWinSinc** : Windowed-sinc filter using circular convolution.
- **InputFader** : Audio streams crossfader.
- **Input** : Read from a numbered channel in an external audio signal.
- **Interp** : Interpolates between two signals.
- **Iter** : Triggers iterate over a list of values.
- **LFO** : Band-limited Low Frequency Oscillator with different wave shapes.
- **LinTable** : Construct a table from segments of straight lines in breakpoint fashion.
- **Linseg** : Draw a series of line segments between specified break-points.
- **Log10** : Performs a base 10 log function on audio signal.
- **Log2** : Performs a base 2 log function on audio signal.
- **LogTable** : Construct a table from logarithmic segments in breakpoint fashion.
- **Log** : Performs a natural log function on audio signal.
- **LogiMap** : Random generator based on the logistic map.
- **Lookup** : Uses table to do waveshaping on an audio signal.
- **Looper** : Crossfading looper.
- **Lorenz** : Chaotic attractor for the Lorenz system.
- **MToF** : Returns the frequency (Hz) equivalent to a midi note.
- **MToT** : Returns the transposition factor equivalent to a midi note.
- **MatrixMorph** : Morphs between multiple PyoMatrixObjects.
- **MatrixPointer** : Matrix reader with control on the 2D pointer position.
- **MatrixRecLoop** : MatrixRecLoop records samples in loop into a previously created NewMatrix.
- **MatrixRec** : MatrixRec records samples into a previously created NewMatrix.
- **Max** : Outputs the maximum of two values.
- **Metro** : Generates isochronous trigger signals.
- **MidiAdsr** : Midi triggered ADSR envelope generator.
- **MidiDelAdsr** : Midi triggered ADSR envelope generator with pre-delay.
- **MidiListener** : Self-contained midi listener thread.
- **Midictl** : Get the current value of a Midi controller.
- **Min** : Outputs the minimum of two values.
- **Mirror** : Reflects the signal that exceeds the *min* and *max* thresholds.
- **Mix** : Mix audio streams to arbitrary number of streams.
- **Mixer** : Audio mixer.
- **MoogLP** : A fourth-order resonant lowpass filter.
- **NewMatrix** : Create a new matrix ready for recording.
- **NewTable** : Create an empty table ready for recording.

- **NextTrig** : A trigger in the second stream opens a gate only for the next one in the first stream.
- **Noise** : A white noise generator.
- **NoteinRead** : Reads Notein values previously stored in text files.
- **NoteinRec** : Records Notein inputs and writes them in a text file.
- **Notein** : Generates Midi note messages.
- **OscBank** : Any number of oscillators reading a waveform table.
- **OscDataReceive** : Receives data values over a network via the Open Sound Control protocol.
- **OscDataSend** : Sends data values over a network via the Open Sound Control protocol.
- **OscListReceive** : Receives list of values over a network via the Open Sound Control protocol.
- **OscListener** : Self-contained OSC listener thread.
- **OscLoop** : A simple oscillator with feedback reading a waveform table.
- **OscReceive** : Receives values over a network via the Open Sound Control protocol.
- **OscSend** : Sends values over a network via the Open Sound Control protocol.
- **OscTrig** : An oscillator reading a waveform table with sample accurate reset signal.
- **Osc** : A simple oscillator reading a waveform table.
- **PVAddSynth** : Phase Vocoder additive synthesis object.
- **PVAmpMod** : Performs frequency independent amplitude modulations.
- **PVAnal** : Phase Vocoder analysis object.
- **PVBufLoops** : Phase vocoder buffer with bin independent speed playback.
- **PVBufTabLoops** : Phase vocoder buffer with bin independent speed playback.
- **PVBuffer** : Phase vocoder buffer and playback with transposition.
- **PVCross** : Performs cross-synthesis between two phase vocoder streaming object.
- **PVDelay** : Spectral delays.
- **PVFilter** : Spectral filter.
- **PVFreqMod** : Performs frequency independent frequency modulations.
- **PVGate** : Spectral gate.
- **PVMix** : Mix the most prominent components from two phase vocoder streaming objects.
- **PVMorph** : Performs spectral morphing between two phase vocoder streaming object.
- **PVMult** : Multiply magnitudes from two phase vocoder streaming object.
- **PVShift** : Spectral domain frequency shifter.
- **PVSynth** : Phase Vocoder synthesis object.
- **PVTranspose** : Transpose the frequency components of a pv stream.
- **PVVerb** : Spectral domain reverberation.
- **PadSynthTable** : Generates wavetable with the PadSynth algorithm from Nasca Octavian Paul.
- **Pan** : Cosinus panner with control on the spread factor.
- **ParaTable** : Generates parabola window function.
- **PartialTable** : Inharmonic waveform generator.
- **Particle2** : An even more full control granular synthesis generator.
- **Particle** : A full control granular synthesis generator.
- **Pattern** : Periodically calls a Python function.
- **PeakAmp** : Peak amplitude follower.
- **Percent** : Lets pass a certain percentage of the input triggers.
- **Phaser** : Multi-stages second-order phase shifter allpass filters.
- **Phasor** : A simple phase incrementor.

- **PinkNoise** : A pink noise generator.
- **Pointer2** : High quality table reader with control on the pointer position.
- **Pointer** : Table reader with control on the pointer position.
- **PolToCar** : Performs the polar to cartesian conversion.
- **Port** : Exponential portamento.
- **Pow** : Performs a power function on audio signal.
- **Print** : Print PyoObject's current value.
- **Programin** : Get the current value of a program change Midi controller.
- **Pulsar** : Pulsar synthesis oscillator.
- **PyoGuiControlsSlider** : Floating-point control slider.
- **PyoGuiGrapher** : Multi-modes break-points function editor.
- **PyoGuiMultiSlider** : Data multi-sliders editor.
- **PyoGuiScope** : Oscilloscope display.
- **PyoGuiSndView** : Soundfile display.
- **PyoGuiSpectrum** : Frequency spectrum display.
- **PyoGuiVuMeter** : Multi-channels Vu Meter.
- **RCOsc** : Waveform aproximation of a RC circuit.
- **RandDur** : Recursive time varying pseudo-random generator.
- **RandInt** : Periodic pseudo-random integer generator.
- **Randh** : Periodic pseudo-random generator.
- **Randi** : Periodic pseudo-random generator with interpolation.
- **RawMidi** : Raw Midi handler.
- **Record** : Writes input sound in an audio file on the disk.
- **Resample** : Realtime upsampling or downsampling of an audio signal.
- **Reson** : A second-order resonant bandpass filter.
- **Resonx** : A multi-stages second-order resonant bandpass filter.
- **Rosslr** : Chaotic attractor for the Rossler system.
- **Round** : Rounds to the nearest integer value in a floating-point format.
- **SDelay** : Simple delay without interpolation.
- **SLMapDur** : SLMap with normalized values for a 'dur' slider.
- **SLMapFreq** : SLMap with normalized values for a 'freq' slider.
- **SLMapMul** : SLMap with normalized values for a 'mul' slider.
- **SLMapPan** : SLMap with normalized values for a 'pan' slider.
- **SLMapPhase** : SLMap with normalized values for a 'phase' slider.
- **SLMapQ** : SLMap with normalized values for a 'q' slider.
- **SPan** : Simple equal power panner.
- **STRev** : Stereo reverb.
- **SVF** : Fourth-order state variable filter allowing continuous change of the filter type.
- **SampHold** : Performs a sample-and-hold operation on its input.
- **SawTable** : Sawtooth waveform generator.
- **Scale** : Maps an input range of audio values to an output range.
- **Scope** : Oscilloscope - audio waveform display.
- **Score** : Calls functions by incrementation of a preformatted name.
- **Select** : Sends trigger on matching integer values.

- **Selector** : Audio selector.
- **Seq** : Generates a rhythmic sequence of trigger signals.
- **SfMarkerLooper** : AIFF with markers soundfile looper.
- **SfMarkerShuffler** : AIFF with markers soundfile shuffler.
- **SfPlayer** : Soundfile player.
- **SharedTable** : Create an inter-process shared memory table.
- **SigTo** : Convert numeric value to PyoObject signal with portamento.
- **Sig** : Convert numeric value to PyoObject signal.
- **Sin** : Performs a sine function on audio signal.
- **SincTable** : Generates sinc window function.
- **SineLoop** : A simple sine wave oscillator with feedback.
- **Sine** : A simple sine wave oscillator.
- **SmoothDelay** : Artifact free sweepable recursive delay.
- **Snap** : Snap input values on a user's defined midi scale.
- **SndTable** : Transfers data from a soundfile into a function table.
- **Spectrum** : Spectrum analyzer and display.
- **Sqrt** : Performs a square-root function on audio signal.
- **SquareTable** : Square waveform generator.
- **SumOsc** : Discrete summation formulae to produce complex spectra.
- **SuperSaw** : Roland JP-8000 Supersaw emulator.
- **Switch** : Audio switcher.
- **TableFill** : Continuously fills a table with incoming samples.
- **TableIndex** : Table reader by sample position without interpolation.
- **TableMorph** : Morphs between multiple PyoTableObjects.
- **TablePut** : Writes values, without repetitions, from an audio stream into a DataTable.
- **TableRead** : Simple waveform table reader.
- **TableRec** : TableRec is for writing samples into a previously created NewTable.
- **TableScale** : Scales all the values contained in a PyoTableObject.
- **TableScan** : Reads the content of a table in loop, without interpolation.
- **TableWrite** : TableWrite writes samples into a previously created NewTable.
- **Tan** : Performs a tangent function on audio signal.
- **Tanh** : Performs a hyperbolic tangent function on audio signal.
- **Thresh** : Informs when a signal crosses a threshold.
- **Timer** : Reports elapsed time between two trigs.
- **Tone** : A first-order recursive low-pass filter with variable frequency response.
- **Touchin** : Get the current value of an after-touch Midi controller.
- **TrackHold** : Performs a track-and-hold operation on its input.
- **TranspoToCents** : Returns the cents value equivalent of a transposition factor.
- **TrigBurst** : Generates a time/amplitude expandable trigger pattern.
- **TrigChoice** : Random generator from user's defined values.
- **TrigEnv** : Envelope reader generator.
- **TrigExpseg** : Exponential segments trigger.
- **TrigFunc** : Python function callback.
- **TrigLinseg** : Line segments trigger.

- **TrigRandInt** : Pseudo-random integer generator.
- **TrigRand** : Pseudo-random number generator.
- **TrigTableRec** : TrigTableRec is for writing samples into a previously created NewTable.
- **TrigVal** : Outputs a previously defined value on a trigger signal.
- **TrigXnoiseMidi** : Triggered X-class midi notes pseudo-random generator.
- **TrigXnoise** : Triggered X-class pseudo-random generator.
- **Trig** : Sends one trigger.
- **Urn** : Periodic pseudo-random integer generator without duplicates.
- **VarPort** : Convert numeric value to PyoObject signal with portamento.
- **Vectral** : Performs magnitude smoothing between successive frames.
- **Vocoder** : Applies the spectral envelope of a first sound to the spectrum of a second sound.
- **VoiceManager** : Polyphony voice manager.
- **WGVerb** : 8 delay lines mono FDN reverb.
- **Waveguide** : Basic waveguide model.
- **WinTable** : Generates different kind of windowing functions.
- **Wrap** : Wraps-around the signal that exceeds the *min* and *max* thresholds.
- **XnoiseDur** : Recursive time varying X-class pseudo-random generator.
- **XnoiseMidi** : X-class midi notes pseudo-random generator.
- **Xnoise** : X-class pseudo-random generator.
- **Yin** : Pitch tracker using the Yin algorithm.
- **ZCross** : Zero-crossing counter.