

IrcamDescriptor configuration parameters**IrcamDescriptor Version 2.5.8 | 21/6/2011 | Ircam 2011****Instructions**

Click on any descriptor name to highlight the parameters that affect its computation. Click again to remove the highlighting.

Standard Descriptors	Dim	Var
SignalZeroCrossingRate	1	1
Chroma	12	1
AutoCorrelation	12	1
SpectralSkewness	1	6
SpectralKurtosis	1	6
SpectralSlope	1	6
SpectralDecrease	1	1
SpectralVariation	1	3
SpectralRollOff	1	1
PerceptualSpectralDeviation	1	3
Spread	1	1
Sharpness	1	1
RelativeSpecificLoudness	-1	1
PerceptualOddToEvenRatio	1	3
PerceptualTristimulus	3	3
SpectralCrest	-1	1
SpectralFlatness	-1	1
PerceptualSpectralSkewness	1	6
PerceptualSpectralKurtosis	1	6
PerceptualSpectralSlope	1	6
PerceptualSpectralDecrease	1	1
PerceptualSpectralVariation	1	3
PerceptualSpectralRollOff	1	1
MFCC	13	1
Inharmonicity	1	1
Noisiness	1	1
NoiseEnergy	1	1
HarmonicSpectralDeviation	1	3
HarmonicOddToEvenRatio	1	3
HarmonicTristimulus	3	3
HarmonicSpectralSkewness	1	6
HarmonicSpectralKurtosis	1	6
HarmonicSpectralSlope	1	6
HarmonicSpectralDecrease	1	1
HarmonicSpectralVariation	1	3
HarmonicSpectralRollOff	1	1

Energy Descriptors	Dim	Var
ShortTermFeature (EnergyEnvelope)	1	1
LogAttackTime (EnergyEnvelope)	-1	1
TemporalIncrease (EnergyEnvelope)	-1	1
TemporalCentroid (EnergyEnvelope)	-1	1
EffectiveDuration (EnergyEnvelope)	-1	1
AmplitudeModulationAmp (EnergyEnvelope)	-1	1
AmplitudeModulationFreq (EnergyEnvelope)	-1	1

ID	Name	Section	Data Type	Required/Default	Range
Description					
General					
1	ResampleTo	Parameters	Integer	<u>Required</u>	11025-44100
The internal sampling rate of the program					
2	NormalizeSignal	Parameters	Boolean	Opt - Default 1	0-1
Applies amplitude normalization to the input file					
3	WindowType	Parameters	String	Opt - Default blackman	hanning blackman hamming hanning2
The window type					
4	MaxFrequency	Parameters	Integer	Opt - Default ResampleTo/2	1-ResampleTo/2
Max frequency considered in the analysis					
5	FFTPadding	Parameters	Integer	Opt - Default 1	1 - N
How many times the the first power of two bigger than the window size will be multiplied by 2 to obtain the fft size					
6	SaveShortTermTMFeatures	Parameters	Boolean	<u>Required</u>	0-1
Enables the outputting of the short time temporal features					
7	SubtractMean	Parameters	Integer	Opt - Default 1	0-1
Enables the DC offset removal frame by frame					
Standard modeling space					
8	WindowSize	StandardDescriptors	Float	<u>Required</u>	1/ResampleTo - N
The length of the window size in seconds					
9	HopSize	StandardDescriptors	Float	<u>Required</u>	1/ResampleTo - WindowSize
The hop size in seconds					
Energy modeling space					
10	WindowSize	EnergyDescriptors	Float	<u>Required</u>	1/ResampleTo - N
The length of the window size in seconds					
11	HopSize	EnergyDescriptors	Float	<u>Required</u>	1/ResampleTo - WindowSize
The hop size in seconds					
Spectral descriptors parameters					
12	AutoCorrelationCoeffs	Parameters	Integer	Opt - Default 12	2-N+1
Max lag to compute the autocorrelation. Becomes the number of variations of the autocorrelation descriptor.					
13	ReducedBands	Parameters	Integer	Opt - Default 4	1-4
Number of frequency bands used for Spectral Flatness and Spectral Crest. These bands are defined as the first multiples of 1 kHz					
14	RollOffThreshold	StandardDescriptors	Float	Opt - Default 0.95	0.0-1.0
Percentage of the maximum value of the loudness (or energy).					
15	DeviationStopBand	StandardDescriptors	Integer	Opt - Default 10	1-min(harmonics, MFCC)
Max number of bands (number of harmonics or number of mel bands) to use in the deviation computation. Note that this parameter is shared between multiple unrelated descriptors, and its value must exceed the minimum between the number of mel bands or harmonics.					
Perceptual descriptors parameters					
16	PerceptualBands	Parameters	Integer	Opt - Default 24	10-24
Number of Mel Bands					
17	MFCCs	Parameters	Integer	Opt - Default 13	1-N
Number of MFCCs					
Harmonic descriptors parameters					
18	Harmonics	Parameters	Integer	Opt - Default 20	1-N
Max number of harmonics for harmonic analysis					
19	F0MaxAnalysisFreq	StandardDescriptors	Integer	Opt - Default 3000	1-ResampleTo/2
Cutoff frequency for F0 estimation					
20	F0MinFrequency	StandardDescriptors	Integer	Opt - Default 200	1-ResampleTo/2
Minimum frequency for F0 estimation					
21	F0MaxFrequency	StandardDescriptors	Integer	Opt - Default 200	F0MinFrequency-ResampleTo/2
Maximum frequency for F0 estimation					
22	F0AmpThreshold	StandardDescriptors	Integer	Opt - Default 1	1-N
Thresholding of the spectrum in F0 detection					
23	F0AmplitudeModulation	StandardDescriptors	Boolean	Opt - Default 0	0-1
Enables the computation of the F0 modulation descriptor					
Energy descriptors parameters					
24	DecreaseThreshold	EnergyDescriptors	Float	Opt - Default 0.4	0.0-1.0
Percentage of the maximum value of the loudness (or energy).					
25	NoiseThreshold	EnergyDescriptors	Float	Opt - Default 0.15	0.0-1.0
Percentage of the maximum value of the loudness (or energy).					
Chroma descriptors parameters					
26	ChromaFreqMinHz	StandardDescriptors	Float	Opt - Default 77	1-ChromaFreqMinHz
The minimum pitch for chroma computation					

27	ChromaFreqMaxHz The maximum pitch for chroma computation	StandardDescriptors	Float	Opt - Default 1500	ChromaFreqMinHz- ResampleTo/2
28	ChromaResolution The resolution of chroma in semitones	StandardDescriptors	Float	Opt - Default 1	0.001-12
29	ChromaNormmax Enables normalization of the chroma results	StandardDescriptors	Boolean	Opt - Default 1	0-1
30	ChromaAmFftNormmax Turn on or off spectrum normalization in Chroma	StandardDescriptors	Boolean	Opt - Default 1	0-1
31	ChromaAmplEnerLog Sets the filter scale of Chroma	StandardDescriptors	String	Opt - Default ener	ampl ener logTCN
32	ChromaAmFftThreshold Thresholds the fft in chroma detection	StandardDescriptors	Float	Opt - Default 0.001	0-1
33	ChromaPeakPickingLagHz Sets the tolerance for peak detection respect to the absolute scale in Hertz	StandardDescriptors	Float	Opt - Default 0.0	0.0-ChromaFreqMaxHz
34	ChromaSfmThreshold FilterBank threshold	StandardDescriptors	Float	Opt - Default 0.0	0.0-1.0
35	ChromaSfmBandHz FilterBank bands	StandardDescriptors	Integer	Opt - Default 100 500 1000 2000 4000	0-ResampleTo/2
Temporal modeling parameters					
36	TextureWindowsFrames (StandardDescriptors) The number of short time frames used to compute a texture window frame. -1 disables the texture windows computation	StandardDescriptors	Integer	Opt - Default -1	1-N
37	TextureWindowsHopFrames (StandardDescriptors) Step size for texture windows. -1 disables the texture windows computation	StandardDescriptors	Integer	Opt - Default -1	1-N
38	TextureWindowsFrames (EnergyDescriptors) The number of short time frames used to compute a texture window frame. -1 disables the texture windows computation	EnergyDescriptors	Integer	Opt - Default -1	1-N
39	TextureWindowsHopFrames (EnergyDescriptors) Step size for texture windows. -1 disables the texture windows computation	EnergyDescriptors	Integer	Opt - Default -1	1-N
40	MedianFilterOrder If any descriptor has median modeling switched on, this is the size of the median filter.	StandardDescriptors	Integer	Opt - Default 5	1-N (odd)
41	MedianFilterNormalize Normalizes the output of the median filter over the maximum value in the filter window, to have an output always included between 0 and 1.	StandardDescriptors	Boolean	Opt - Default 1	0-1
42	TemporalFilterWindowSize Expressed in seconds, it's the length of the Temporal Filter window.	StandardDescriptors	Boolean	Opt - Default 0	0-N
43	TemporalFilterHopSize Expressed in seconds, it's the hop size of the Temporal Filter.	StandardDescriptors	Integer	Opt - Default 0	0-TemporalFilterWindowSize
44	TemporalFilterBank Sets the FFT bins that will be used to compute the Temporal Filter.	StandardDescriptors	Integer	Opt - Default 5 10 15 20	0-N
Legacy / low level / experimental parameters					
46	IOBufferSize The buffer used to read the input file from disk.	Parameters	Integer	Opt - Default 4096	256-8196
47	GroupMatrices Reduces the dimension of the SDIF file using one single frame for all the descriptors matrices computed in the same instant and belonging to the same family	Parameters	Boolean	Opt - Default 1	0-1
48	OutputFormat The output format, normally SDIF	Parameters	String	Opt - Default sdif	sdif raw sdifdata