Value Converters (SLMap)

These objects are used to convert values between different ranges.

Map

class **Map**(*min*, *max*, *scale*) [source]

Converts value between 0 and 1 on various scales.

Base class for Map objects.

Args: min: int or float

Lowest value of the range.

max: int or float

Highest value of the range.

scale: string {'lin', 'log'}

Method used to scale the input value on the specified range.

```
>>> m = Map(20., 20000., 'log')
>>> print(m.get(.5))
632.455532034
>>> print(m.set(12000))
0.926050416795
```

get(*x*) [source]

Takes *x* between 0 and 1 and returns scaled value.

set(*x*) [source]

Takes *x* in the real range and returns value unscaled (between 0 and 1).

setMin(*x*) [source]

Replace the *min* attribute.

Args: x: float

New *min* attribute.

setMax(*x*) [source]

Replace the *max* attribute.

Args: x: float

New *max* attribute.

`setScale`(*x*) [source]

Replace the *scale* attribute.

Args: x: string
New *scale* attribute.

`min`

int or float. Lowest value of the range.

`max`

int or float. Highest value of the range.

`scale`

string. Method used to scale the input value.

SLMap

class `SLMap`(*min*, *max*, *scale*, *name*, *init*, *res='float'*, *ramp=0.025*, *dataOnly=False*) [source]

Base Map class used to manage control sliders.

Derived from Map class, a few parameters are added for sliders initialization.

Parent: `Map`

Args: min: int or float
Smallest value of the range.

max: int or float
Highest value of the range.

scale: string {'lin', 'log'}
Method used to scale the input value on the specified range.

name: string
Name of the attributes the slider is affected to.

init: int or float
Initial value. Specified in the real range, not between 0 and 1. Use *set* method to retreive the normalized corresponding value.

res: string {'int', 'float'}, optional
Sets the resolution of the slider. Defaults to 'float'.

ramp: float, optional
Ramp time, in seconds, used to smooth the signal sent from slider to object's attribute. Defaults to 0.025.

dataOnly: boolean, optional

Set this argument to True if the parameter does not accept audio signal as control but discreet values. If True, label will be marked with a star symbol (*). Defaults to False.

```
>>> s = Server().boot()
>>> s.start()
>>> ifs = [350,360,375,388]
>>> slmapfreq = SLMap(20., 2000., 'log', 'freq', ifs)
>>> slmapfeed = SLMap(0, 0.25, 'lin', 'feedback', 0)
>>> maps = [slmapfreq, slmapfeed, SLMapMul(.1)]
>>> a = SineLoop(freq=ifs, mul=.1).out()
>>> a.ctrl(maps)
```

name

string. Name of the parameter to control.

init

float. Initial value of the slider.

res

string. Slider resolution {int or float}.

ramp

float. Ramp time in seconds.

dataOnly

boolean. True if argument does not accept audio stream.

SLMapFreq

class **SLMapFreq**(*init=1000*) [source]

SLMap with normalized values for a 'freq' slider.

Parent: SLMap

Args: init: int or float, optional

Initial value. Specified in the real range, not between 0 and 1. Defaults to 1000.

Note: SLMapFreq values are:

- min = 20.0
- max = 20000.0
- scale = 'log'
- name = 'freq'
- res = 'float'
- ramp = 0.025

SLMapMul

class **SLMapMul**(*init=1.0*) [source]

SLMap with normalized values for a ‘mul’ slider.

Parent: SLMap

Args: init: int or float, optional

Initial value. Specified in the real range, not between 0 and 1. Defaults to 1.

Note: SLMapMul values are:

- min = 0.0
- max = 2.0
- scale = ‘lin’
- name = ‘mul’
- res = ‘float’
- ramp = 0.025

SLMapPhase

class **SLMapPhase**(*init=0.0*) [source]

SLMap with normalized values for a ‘phase’ slider.

Parent: SLMap

Args: init: int or float, optional

Initial value. Specified in the real range, not between 0 and 1. Defaults to 0.

Note: SLMapPhase values are:

- min = 0.0
- max = 1.0
- scale = ‘lin’
- name = ‘phase’
- res = ‘float’
- ramp = 0.025

SLMapQ

class **SLMapQ**(*init=1.0*) [source]

SLMap with normalized values for a ‘q’ slider.

Parent: SLMap

Args: init: int or float, optional

Initial value. Specified in the real range, not between 0 and 1. Defaults to 1.

Note: SLMapQ values are:

- min = 0.1
- max = 100.0
- scale = 'log'
- name = 'q'
- res = 'float'
- ramp = 0.025

SLMapDur

class **SLMapDur**(*init=1.0*) [source]

SLMap with normalized values for a 'dur' slider.

Parent: SLMap

Args: init: int or float, optional

Initial value. Specified in the real range, not between 0 and 1. Defaults to 1.

Note: SLMapDur values are:

- min = 0.
- max = 60.0
- scale = 'lin'
- name = 'dur'
- res = 'float'
- ramp = 0.025

SLMapPan

class **SLMapPan**(*init=0.0*) [source]

SLMap with normalized values for a 'pan' slider.

Parent: SLMap

Args: init: int or float, optional

Initial value. Specified in the real range, not between 0 and 1. Defaults to 0.

Note: SLMapPhase values are:

- min = 0.0

- max = 1.0
- scale = ‘lin’
- name = ‘pan’
- res = ‘float’
- ramp = 0.025