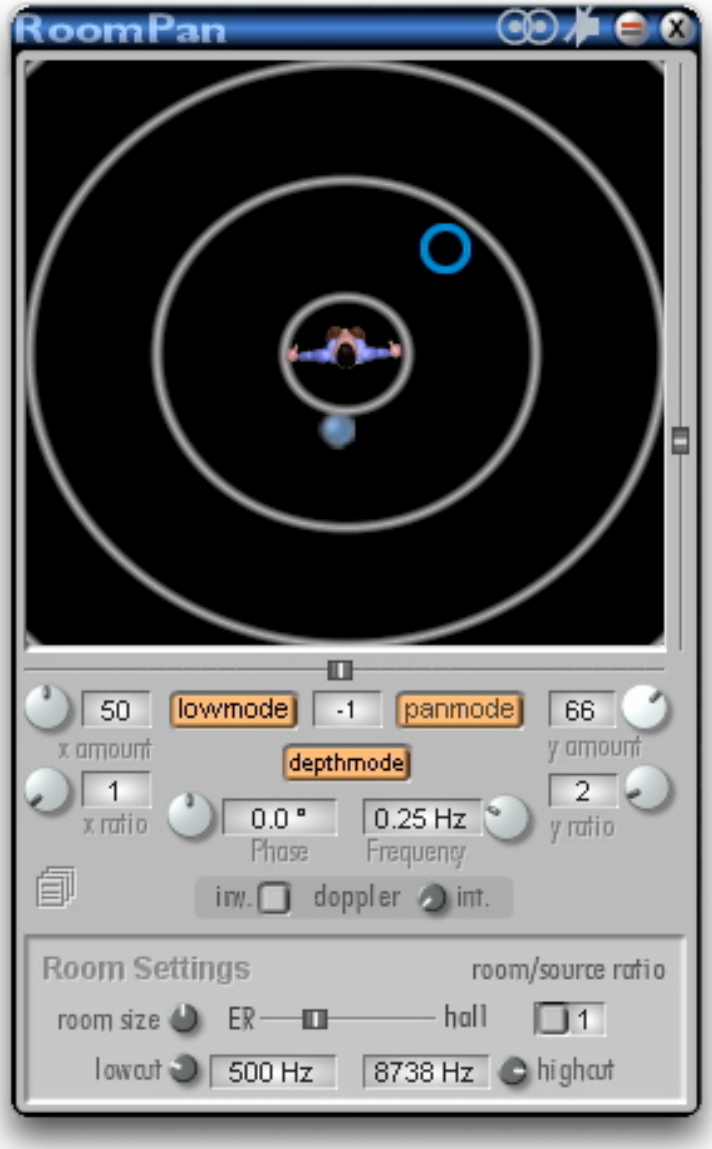
# WOLF AUDIO DESIGN




# ROOMPAN

Moving Sound Sources !

## 1. INSTALLATION

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|---|---|
| Windows : | Just drag the content of the unzipped archive onto the scope / sfp folder. The devices for scope itself you'll find in the "Pan" subdirectory of the effetcs folder (or the pendant of the LiveBar). |
| Mac OS9 : | Unzip the archive and navigate into the folder Devices > Effects > Reverb. Copy the device found there into your scope / sfp installation to Devices > Effects > Mono/Stereo > Reverb. |

## 2. GENERAL

RoomPan tries to imitate the characteristics of moving sound sources in a room.
This is realized by basic techniques like reverberation and the doppler effect, but also for example via delay based panning and psycho-accoustical effects. All techniques interact which each other making the "movement" a real experience.

The usage should be very easy and straight-forward, although the circuit behind is quite complex and full with cross-linked parameters.

### Features :

- easy user interface to set/move position in the room
- several modes for depth, panning & reflections in a room
- modulation of the position via lissajous figures
- true stereo hall/reverb with early refelection
- doppler effect
- x/y-controls for midi assignment

Feel free to "misuse" this device as leslie simulation or as a simple but nice reverb.

### Presets :

Following parameters are not saved within the preset list, but with the project :

- mono-stereo switch
- bypass
- surface positions

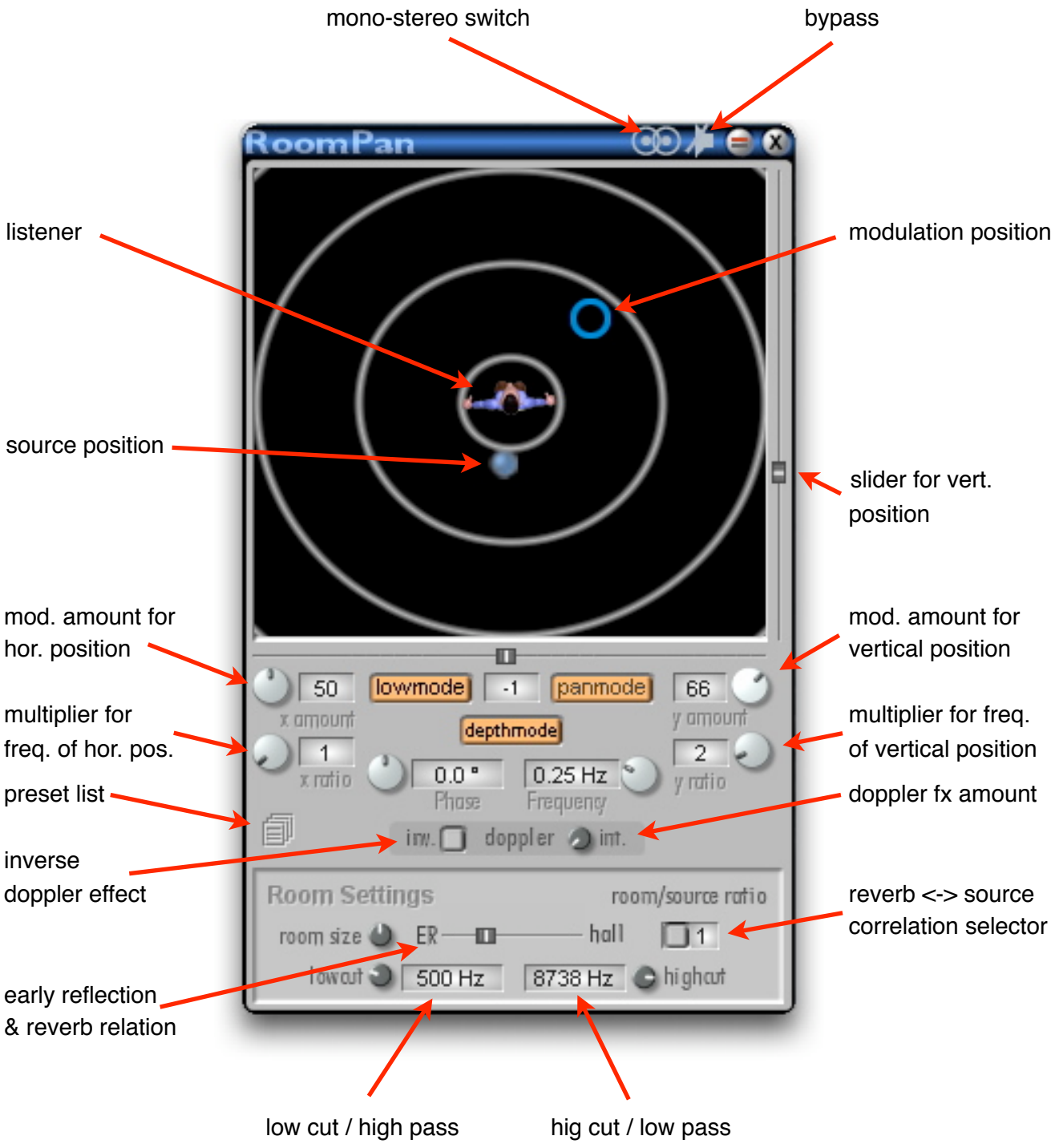
The preset name is shown in the title bar.

### Compatibility :

RoomPan is supposed to be comaptible (and was tested) with Scope v4.x and v5.

## 3. EXPLANATIONS :

### Surface :




By moving the mouse pointer over the buttons, tooltips will show the functions.

**Position & Modulation :**

The basic position can be set either via GUI by the blue 3d point or via Midi controler by assigning two controlers to the sliders on the right and below the black area ("the room").

The position itself can be modulated, which is shown by the blue circle.
Set the amount of the modulation via the x/y-amount knobs.

The ratio can be used to alter the frequency for each modulation target.
Together with the phase parameter you can now easily create movements like a circle, an eight (hor. or vert.) and other lissajous figures, since "phase" in this context describes the gap between the "waveform start" of y and y and therefor the direction (left/right,up/down).

The impression of moving sources will become even richer, when you move the position additionally.

A nice trick is to modulate with a small amount while the position doesn't change (or not that fast). This way the source position is always retrieved in a natural way (since we never keep our head in one position).
In fact it is a little bit like this: if things don't change over time, they leave your attention.
So raising the modulation amount after some time lets it bring back to attention in a very uninstrusive way for the listener, since the change is so slight, so he even doesn't know why it is now back to his attention.
RoomPan uses this techinique already internally in a slightly different way, but there's no reason to not add an addtional modulation to adjust it to needs of the mix.

Due to the aspect of perspective you can also realize a moving listener, not only a moving source.
All in all it's the perception that counts, not the reality. So you can easily trick the listener to be the one who moves, while in fact the source moves.

This can be achieved by bringing the output of RoomPan into the right context to the rest of the mix, for example :
-> if the whole mix is routed through RoomPan, it's more the listener who may be moving (if it comes in a surprising way)
-> if only one or some parts of the mix are routed via (several instances of) RoomPan, it's the source that moves (given the context)

**Reverb & EQ :**

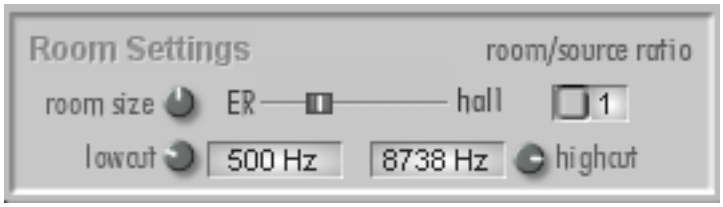
The reverb is carefully designed to fit to the idea of moving sound sources.
It comes with a relation setting for early reflections and the actual reverberation stage.
Beside that it features true stereo over the whole path.

The position settings makes great use of this internally, since the pan is also true stereo.
If for example the sound source is set to the left, both channels of the source are routed into the left path of the reverb. If the source is then moved to the upper left, the ratio of reverb and direkt sonic is adjusted to add more reverb and less direct sound.

The EQ sits partly inside the reverb circuit and partly outside. Adjust the room response with it.
The HighCut/LowPass frequency is slightly modulated depending on position & modulation amount.

<u>reverb controls</u>

There are only view controls, which should be wideley known.




- room size
- relation between early reflections and reverb
- lowcut / high cut

The room-source ratio can be set between three different states.
These are different internal settings, which change the influence on the several actions, that happens if the sound source is moved. It's not (or at least only partly) a different or bigger reverb.

Some more words on the pan:
Beside beeing true stereo it also features delay based panning. Delay based panning will create a better impression of the source really coming to you (which is not the case with volume based panning). To keep this still phase coherent only the upper frequency above 300 Hz area is using this.

**The Modes :**

depthmode

Active : If the sound source is moved away from a previous point, the reverb trail will stay there (as long as it takes).
This leads to the effect of hearing the only the reverb of the source i.e. rear left while it already emitts sound somewhere else.

Inactive: The reflections are moving with the sound source
In other words: the listener is now moving.

While the activated depthmode is interesting for single sources with not too much sound activity a music piece with rich activity may become dull very fast. However this may also be wanted, i.e. in a flim score, where someone slowly enters a party location ..

Both modes do not change what's going into the reverb, but the behaviour of its output.

panmode

If switched off the reverb amount is not raised, if the sound source moves away from the listener to the left or to the right (walls).

low mode

If activated wall reflections of lower frequencies are more pronnounced, which creates the impression of a the "bigger" and more empty room.

**Doppler Effect :**

The doppler effect is very well known by the pitch change of the sirene of ambulances driving along. Maybe less known is, that the famous leslie effect is also based on this natural effect.

RoomPan tries to imitate this doppler effect by changing the pitch the more the faster the sound source is moving to & away from the listener.
The amount of pitch change can be set via the doppler amount knob.

Additionally the physics can be turned around, so that the pitch of the coming sound source does not go from high to low, but the other way: low to high.

"Trying to imitate" means that this feature works only in the y-axis, not in the x-axis.
The basic reason for this limitiation is: the panning would be harmed slightly and maybe not fullfill what the user expects.

Eventually this limitation doesn't matter a lot, since it is still possible to create a realistic leslie effect.

## 5. LEGAL BLURB

The manual and the device itself is subject of change without further notice. I take no responsibillity, if any connected gear is damaged while operating RoomPan.

It is not allowed, to deliver this device to anyone without an agreement from the side of wolf audio design. However you are free to use this device on any of your computers.

wolf audio design - contact: wolfgang@worldless.com