Ambient User's Guide

Thank you for purchasing 'Ambient by Zarg'! I hope it will provide you with many hours of fun and experimentation.

For version 3.0 and above, there have been a few changes, as follows:

1) dropdown menu lists for Waldorf oscs and Rotor input assignments
2) Improved Midi Clock Sync control for all LFOs
3) Upgraded LFO 3&4 to full multimode waveshape selection; added retrigger & phase control
4) 4 Slot Stereo Insert FX Rack added (pre built-in effects signal); user definable search path for inserts

NOTE: Obviously, older presets will not have parameter values stored for the new features (such as the Midi Sync settings or LFO 3/4 waveshapes), so you will need to re-save your custom presets with appropriate values for these parameters. Also, the Coarse/Fine tuning controls of the Waldorf oscs had to be redone, so there might be some differences that you will hear, but not necessarily see by looking at the settings.

New in v3.1:

1) Load and Clear functions added for the Wav Oscillators (for sample files)
2) All surface text color changed to white (except Ambient name) for easier legibility

---

To get the most out of this complex synth, some detailed explanation of its design is in order. What follows is my attempt to give you some insight as to how the Ambient works. Hopefully I will inspire you to experiment.

First, some caveats:
1) Changing presets - If you are holding down notes when you change presets, you will hear some strange artifacts as the DSP code is updated, and it's very likely that sometimes these artifacts can be damaging to speakers or ears (if using headphones). So, it is recommended that you wait before playing when a new preset is selected, and try to let the current sound "die out" before changing to the next.

2) Since the Ambient is very DSP-intensive, it will take some time to first load it into the Project Window. Also, depending on your particular hardware configuration, you will most likely manage to have from 2 to 6 playable voices. Use the DSP Meter as you step through the presets to gauge your potential polyphony.

The Ambient's design focus was that of movement. It accomplishes the motion by panning in a "stereo" field for each sound source, with 4 LFOs to modulate, as well as a new 'rotor' source which provides a way to do a very limited "wave sequence" type effect.

This "stereo" field is actually 2 multimode filters which can themselves be panned between the left and right outputs. If you want to create movement where each sound source is being panned, you will want to set one filter panned completely to the left, and the other to the right,

with the sound sources' position exactly in the 'center' of the 2 filters. Otherwise, you can route sources to either filter, and then put each filter's pan position in the middle, and then use the LFOs to move the sound that way.

PLEASE NOTE: When you select SERIES for the filter arrangement, Filter 1 becomes the "master", and its panning position and modulation are the only parameters you need to be concerned with. Also, when in SERIES mode, any oscillator that is panned to Filter 2 will not be heard in the signal chain, so make sure all sound sources are panned to Filter 1.

INSTALLATION

1) Put the .dev file in your SFP/Devices/Synths or Plug-Ins folder.
2) Put the .pre file in SFP/Presets/Synths or Plug-Ins folder.
3) If you are using XTC Mode, put the .dll file in your /vstplugins/Xtc/ folder
4) Put the sample files wherever you have indicated SFP to find them

---

OVERVIEW

You can use the buttons across the top to quickly navigate the various surfaces. Here's the description for each button:

Osc & Filter - The main surface of the Ambient synth, with controls for all the sound sources and filters. Also contains Note Keytrack - Adjusts the keyboard tracking for the modulation source called NOTE, and Filter Keytrack - Adjusts the keyboard tracking for both filters.
Envs & Global - The main control panel for the 3 envelope generators. Also includes mod matrices for time and level modulation, and the Global information for the Mod Wheel Vibrato and Glide functions.
LFOs - The main control panel and mod matrix for all four LFOs.
Osc & Filter Mod - The modulation matrix panel for all of the oscillators, as well as the two filters. Pitch, waveshape/width, cutoff are modified here.
Pan Mod & FX - The mod matrix for all oscillators' and filters' panning position, and the controls for the stereo phaser and delay, left/right EQs, and the Effects Insert rack.

OSCILLATORS:

Raw material is provided by a pair of Waldorf oscillators, a pair of Spectrum/Multiwave oscillators, two WAV oscillators, and two Rotor modules. The Rotors have pop-up surfaces that allow you to select which sound sources will be used for input.

FILTERS:

Two Multimode filters (2-pole filters) provide Low-, High-, and Bandpass modes, and when placed in SERIES can provide a 'notched' filter type as well. The two filters can have their parameters linked together. As already mentioned, when in SERIES mode, some attention

needs to be paid to the routing of each sound source, as Filter 1 becomes the main input path. Also, remember that in SERIES mode you have 24 dB of attenuation.

MODULATION:

The Ambient has extensive modulation capabilities. Modulation is provided by 2 wide range "LFOs" and 2 simple multi waveform LFOs, and all four can be linked to MIDI clock cycles. There are also 3 envelope generators - Env 1 is usually used for the filters, and Env 2 is a general purpose multi-stage envelope. Stages can be added by double-clicking in the envelope's graphic display area.

There is also a dedicated LFO for vibrato, which is controlled from the Global section, and a Global Mod Source selectable as well. The destinations for this Global mod source are the Filter Cutoffs, adjusted on the Osc & Filter page. This Global mod path is actually redundant, since all of the choices are available in the Osc&Filter Mod page, but provides another routing for the filter cutoffs. NOTE: When selecting the Global Mod source +/- Velocity, use the Global knob for either filter at the "12 o'clock" position for NO effect. Turning the knob to the right will cause higher velocities to 'open' the filter; turning it to the left 'closes' the filter with higher velocities.

The wide range LFOs are identical to those in the Dark Star, and have the ability to track the keyboard, or be sync'ed to MIDI clock, however, both of these conditions are not possible simultaneously.
They can also be quantised, and to hear the full effect of quantisation, the LFO's Amount parameter must be fully on, so check this if you feel you are not getting any quantisation. A trick is to attach a MIDI controller to this Amount, so that you can "fade in" the quantisation as desired.

There is an extensive "modulation matrix" list for each of the destinations, and most of the mod sources are self-explanatory. When DC or Direct Control is listed as the source, the amount knob itself becomes the modulation "source", and in this way you can assign MIDI controllers to the knob for direct modulation of the destination.

Though most mod amounts are shown as bi-polar (+ or -), in some cases you will not be able to discern any results from the 'negative' direction. There are various factors causing this, including the 'initial' setting of the control at the destination (Waveshape or Pulse Width, for example).

Here is a list of each mod matrix source for each of the destinations on the Osc Mod page::

all Oscs Pitch	**Rotor Pitch**	**Waveshapes, Rotor Fade**	**Filter Cutoffs**
LFO 1	LFO 1	LFO 1	LFO 1
LFO 2	LFO 2	LFO 2	LFO 2
LFO 3	LFO 3	LFO 3	LFO 3
LFO 4	LFO 4	LFO 4	LFO 4
Envelope 1	Envelope 1	Envelope 1	Envelope 1

Envelope 2	Envelope 2	Envelope 2	Envelope 2
**Waldorf 2	AT - aftertouch	Amp Envelope	Amp Envelope
Spectrum 1	Mod Wheel	Aftertouch	Aftertouch
Spectrum 2	DC (Direct Control)	Velocity	Velocity
Wav Left Osc	OFF	Note	Note
Wav Right Osc		Mod Wheel	Mod Wheel
AT - aftertouch		DC (Direct Control)	DC (Direct Control)
Mod Wheel		OFF	Waldorf 1
DC (Direct Control)			Waldorf 2
OFF			Spectrum 1
			Spectrum 2
			Wav Left Osc
			Wav Right Osc
			Rotor 1
			Rotor 2
			OFF

** Each oscillator cannot modulate itself, so the actual list of oscillators as mod sources changes for each oscillator.

The Pan Mod and LFO rates and amounts matrices are the same as the Waveshapes & Rotor Fade list.

NOTE: Each mod destination can have 2 independently adjustable sources assigned to it. In some cases (such as key tracking the pan position), you may want to list the same source for both, and at full amount, to get the desired result.

EFFECTS AND INSERT RACK:

This is a new section for the Ambient. Just right-click on any insert window, and you can select any Creamware effect to be added to your Ambient preset.
The path selected when you right-click over the insert window can be controlled by either using the Search Path popup list of typical effects paths in SFP, or by typing in your custom path (in the Enter text field).

UNLOADING DSP:

The Ambient is a very complex device, and provides for loading and unloading of modules from the DSP card if you want. However, there are a few things to keep in mind:

1) The Wav Oscillator does not get unloaded from the DSP, regardless of the Bypass Mode.

2) If you change polyphony when certain sections are OFF, and you then select a new preset, it's possible that there will be no sound. In this case, you must toggle any section that is ON, to make sure it has reloaded the correct number of (new) voices.

3) If you want to not deal with the delays and "burps" caused by unloading the DSP for each preset, you can use the Bypass Mode option, 'keeps DSP'. However, the best way to run the Ambient in this mode is to first switch the Bypass Mode into 'unloads DSP', and then turn on ALL of the sections (little yellow lights/buttons). Next, select the desired polyphony, and then lastly, switch the Bypass Mode to 'keeps DSP'. This is only practical for expanded Pulsar and SCOPE systems.

MISCELLANEOUS:

Use the preset "WaldRes 2" as your jumping off point to try out the other tables in the Waldorf oscillator. This preset has velocity set up to "sweep" the tables, so all you have to do is change the number of the table and check out the new sound!

As always, if you increase polyphony, some adjustment of the master volume may be necessary.

I hope this aids in your understanding of the Ambient. If you have any questions or comments, or need further clarification of a section, please send me e-mail at:

johnbowen@bigplanet.com

I will be happy to answer you, and it will also help others, as I can include it in a 'FAQ' file in this document.

My sincere appreciation for purchasing the Ambient synth...I hope you have fun with it!!! Special thanks to Marco Paris, who kindly agreed to inclusion of his custom bank of presets for the Ambient v3.0 and above.

- John Bowen

http://www.zargmusic.com

---

we sell software to customers who own more than 1 Creamware board, the buyer is required to select which of his boards will be the preferred board & serial number.. and only that board (and not all the boards he may own) is the only one the software is keyed to operate.

The software is licensed to the board & serial number that is provided at the time of purchase.. and that software is forever tied to that specific board with the security code we provide. If that specific board is sold to someone else, then the software that is keyed to that specific board can be sold along with that board. No one has the right to sell Zarg Music software and then expect us to provide the new owner a new code so it will work on a new board.