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## Overview

altzeroCOMPOSE is a tool that allows you to import individual sound files into a 3 dimensional world. The purpose is to make dynamic spatial compositions, or soundscapes. altzeroCOMPOSE gives you control over source volume, looping, position, timing and audible range of sounds, and also a wide range of visual parameters.

The end results can be exported and viewed online in any Shockwave enabled browser. A downloadable self-contained player is also available.

The aim of altzero is to get sound designers and artists thinking more about the relationships between sound and space, and to allow for dynamism in the process – i.e. the listener is able to move about within the space, and explore the parts of the piece they are interested in.

One effect of this is to enable a deeper level of understanding of a piece of music by the listener – the experience they have builds on traditional notions of visualization sound sources (usually musicians!) in realworld performances, making the structure of the sound they hear more apparent, as each sonic component can be identified and explored. The visuals act as a kind of roadmap to the sounds.

## Technical overview

altzeroCOMPOSE requires a fairly fast computer to run properly. The slower the computer, the less accurate will be your own experience of your developing piece. Synchronisation is the first thing to go, followed by visuals. However, synchronisation will be fine on a piece made with a slow computer but played back on a fast one.

Recommended: P4 or equivalent with at least 32MB VRAM and good sound card  
G4 700MHz+

Minimum: P3 500MHz 16MB VRAM, stereo sound  
G4

The complexity of your piece (number of simultaneous events and visual choices) will also determine the hardware requirements to an extent.

Supported sound formats : WAV and AIFF. We are working on supporting MP3 as well, but this is not currently supported. If you are composing for the web, bear in mind file sizes. altzeroCOMPOSE does not convert files; the sound files you use are left as external linked files.

## Creating a spatial composition with altzeroCOMPOSE

Double click on the alt-0 icon to start the program

What you see.

- The globe is the 3D world that will be populated with sounds.
- Below that is a series of input/output functions that allow you to import sounds, preview a project in mid flow, save your work and export.
- The right hand part of the screen comprises three sections (Tabs at the top to move between the sections)
  - Project settings (settings that affect the entire project)
  - Sound settings (settings individual to each sound instance)
  - Sound library (a list of all imported sounds)
- The timeline is at the bottom.

### 1. Importing sounds into the Sound library

1.1. Importing a sound. Click on the 'Import a sound' button on the left hand panel. A standard popup will allow you to select a file anywhere on your system, though it is recommended to keep sound files you are using within a single folder. If you are looking for a WAV or AIF, change the display format at the bottom of the pop-up. Note that you can import all sound files in a folder at once using 'Import folder'. The interface automatically jumps to the Sound Library, with your imported sound displayed and selected. Click on a sound to highlight it, and press Play sound to hear it.

1.2. Placing the sound in space. Select the sound you wish to place in the world, then CTRL-click at the position within the world you want the sound to be at. The red arrow indicates the start position. The globe can be rotated by click-dragging. Once placed, the sound is represented by a red cube when selected, and a blue cube when not selected.

1.2.1.A selected sound can be moved by clicking on it, holding the mouse down and dragging. This makes the world rotate around the sound. The triangle represents the starting point of your composition – where listeners arrive when they first enter the piece. The interface will now display the 'Sound Settings' information.

### 2. Sound settings

This panel is in four parts, and displays information for the selected sound (red cube) only.

2.1. **Sound file.** Displays the filename, file size and duration of the sample

2.2. **Geometry.** This is the information that determines its position and audibility within the space.

2.2.1.**Range** The distance over which the sound can be heard. This does not affect maximum volume, but means that sounds that are further away can in some cases be louder than nearby sounds, depending on each sound's range settings.

2.2.2.**Location (latitude and longitude).** Sound location is defined by 3 parameters, but we are using a geographical metaphor: latitude (up/down) and longitude(left/right) determine position on the surface of a sphere, and

2.2.3.**Distance from centre** defines the altitude of the sound.

2.3. **Playback.** This defines when the sound starts and stops. When imported, a sound defaults to play the whole time by looping. Changing these values begins the process of creating a dynamic composition.

2.3.1.**Start time** defaults to beat 1 (the start of the composition) and

- 2.3.2. **End time** defaults to beat 300 (or whatever length the entire composition is, measured in beats – see Project Settings).
- 2.3.3. **Looping** – Loop normally means that the sound will loop continuously. Alternatives are to loop the sound every X beats (this will cause a sound to start playing on certain beats. For example, if you set it to play every four beats then enter 4 in the white field. This will make the sound start playing at beats 1,5,9 and every four beats from then on until the end time is reached, regardless of the length of the sound file). Looping can also be set to off. In this case the sound plays once and stops.
- 2.4. **Visuals.** This is where the visual look of the sound is defined. There are 6 preset main ways to display a sound. This determines everything about the visual presence of the sound within the space except the colour. This is set, like everything else on this panel, separately for each sound. Therefore it makes sense to make up some rules for what kind of sound relates to a particular visual imprint, to help in user's navigation of the piece.
- 2.4.1. **Style.** Use the six grey buttons to select a visual style. The name appears to the right. Once selected, you can view and hear the sound by pressing Play Sound underneath the right hand black square.
- 2.4.2. **Pulsing** defines whether or not the visual marker pulses to the beat of the sound. This means that the size of the visual marker is affected by the amplitude of the sound it represents – bit like a sound-to-light. This is disabled on sounds that exceed 20 seconds.
- 2.4.3. **Light.** Each sound has a light attached to it. This can create some interesting effects. The colour of the light is determined by the three sliders (for red, green and blue components – click and rag the purple slider handle). The light colour is displayed in a small square box.

### 3. Preview file

Click 'Preview file' in the input/output panel (left hand side) to see and hear your project so far. This shows the final piece as it stands; exactly the same as the exported piece will be, except it also shows some timeline information (see later) and there is a back button – this takes you back to the main interface.

Navigate the space using the mouse (up/down/left/right). Of course this is only one sound, and no environmental factors have been set yet.

### 4. Project settings

Settings that affect the entire project are defined here; BPM (beats per minute), timeline parameters, movement settings (how visitors navigate the space and hence the composition), and the visuals and size of the environment.

- 4.1. **Timeline settings.** The timeline works in a similar way to the timeline in any sound composition. It starts at beat 1 and goes through, at a speed determined by the BPM setting to the end of the timeline. There are some significant differences though – mainly the fact that the timeline can be set to loop back to any beat, creating a perpetually looping piece. The timeline itself is displayed along the bottom of the screen with the current beat highlighted. There is a slider below the timeline, and zoom buttons to see more detail or more time.

Note that if timelines are completely ignored the composition will work fine as a static piece. It will still be fully navigable and all features enabled; the only difference will be that the composition will not change over time – it will simply loop perpetually.

- 4.1.1. **Tempo.** Determines the beat rate of the composition. Measured in BPM – beats per minute.
  - 4.1.2. **Beats per bar.** Determines the bar length – normally set to 4 for a standard 4/4 composition, but values from 1 to 16 are accepted.
  - 4.1.3. **Total length of timeline** – set in BARS. This also displays the total length in minutes and seconds
  - 4.1.4. **Looping.** Either on or off. If set to off, the piece stops at the final beat. If set to ON, the playback head will jump back to loop-in point and continue looping until it is turned off.
  - 4.1.5. **Loop in-point.** Set in BARS, this determines where the playback head goes when it reaches the end of the timeline. Set at 1, the entire piece will be looped, but composers may wish to create an introduction that then leads into a permanent looping space. In this case, set the Loop in-point to the relevant bar number.
- 4.2. **Movement settings.** This panel is used to determine how visitors can navigate through the piece. It defaults to a standard movement style, but other options are available.
- 4.2.1. **Style.** Choice of four – click on a square box to change the style, then press Preview File (on the left hand panel) if you wish to try the style out. Each style has a distinctive feel to it;
  - 4.2.2. **Distance from centre.** Determines the distance from the centre of the camera, when playback begins. Visitors can alter the camera's distance from the centre once underway, but together with the position of the red triangle on the sphere this is a complete location definition for the start point.
  - 4.2.3. **Blur.** Determines the amount of motion blur used. If set to zero the space is clear and hard edged. Adding blur is an effective way of creating abstract ambience to the space, and subtly changing shades can occur that add substantially to the look and feel of the visuals.
- 4.3. **Environment settings.** These determine the visual appearance and structure of the virtual space; is there a visible centre, what does it look like, and what colour are the various components of the environment itself. This is distinct from the visuals associated with a sound object – for the actual sound visuals see section 3 (Sound settings) above.
- 4.3.1. **Template.** How is the space constructed? There are several options, ranging from an empty void to multiple abstracted objects
  - 4.3.2. **Scale.** This is a setting between 1 and 100 that determines the size of the world, in comparison to the size of the sound objects. Low values indicate a small world (hence the sound objects will be relatively large) and high values create a large, spacious world.
  - 4.3.3. **Centre texture.** Not available in this release, but will be used to import a texture into the space, which is then applied to either a sphere or a flat plane at the centre.
  - 4.3.4. **Ambient colour.** There are up to four colourable objects within the world – which ones are active is determined by the template used. Template 1 has all four objects.
    - 4.3.4.1. Background is the background colour
    - 4.3.4.2. inner sphere, and
    - 4.3.4.3. middle sphere are both within the camera position and visible as objects

4.3.4.4. outer sphere. The camera is inside this sphere, and so it is in effect part of the background. It is blended with the background colour and reflects the light emitted from sound objects to create a variety of textures.

## 5. Saving and exporting

The 8 input/output buttons (on the left of the screen, under the globe) control the file management of a project. An altzero project can be saved and worked on loaded, and also exported.

- 5.1. **Save file.** Once a project has begun, it is worth saving it regularly. This makes a project structure file of the format YourFileName.alt which contains all the information for your project. This is a construction file though, only for use within altzeroCOMPOSE.
- 5.2. **Load file.** Once a project has been saved, it can be reloaded and work can continue on it at any time.
- 5.3. **Export file.** This is the publishing option. If you want others to see and hear your compositions, on the web or offline, you need to export your project. altzeroCOMPOSE creates a folder, of the same name as the project name (enter a relevant name for the project in the project name field) in the Exported folder next to the altzeroCOMPOSE application. In that folder are placed the following files:

- all sound files are copied to the folder
- Player.exe is a standalone player for offline use. If you activate this file it will play your composition.
- player.htm and player.dcr are the files needed to play an altzero piece on the web
- altzero.txt is a text file read by the players to recreate your composition

For offline use, you need player.exe, altzero.txt and the sound files. Player.htm and Player.dcr are not needed.

For uploading onto the web, remove player.exe – the other files are all needed.

Player.htm can be renamed (for example to index.htm) but the other files need to remain with these names.

NOTE: trying to run the online player from your hard drive will not work.

- 5.4. **Preview file.** See section 3 above
- 5.5. **Import a sound** and
- 5.6. **Import a folder** and
- 5.7. **Remove a sound** – see section 1.1 above
- 5.8. **New project.** If you want to start a new project and are currently working on another project, select this option. Note that you need to save your work in the other project.

## 6. Dynamic compositions

A major feature of altzeroCOMPOSE is its ability to create DYNAMIC compositions – soundscapes that change over time. Dynamic compositions are created using the timeline. Start time, end time and volume at any point can be determined for any sound.

The timeline is at the bottom of the screen; each beat is represented by a vertical rectangle, with the current beat highlighted in blue. The current beat number and time equivalent is also displayed.

When project settings are displayed, the timeline displays the project timeline and current beat. If a sound is selected, that sound's timeline properties are displayed.