## Creating Multichannel Sound Using Multiple Scary Terry Boards and a Sound Card

Several years ago, I purchased a Talking Skull Kit from Cowlacious.com for my Halloween display. I liked it so much I wanted several more talking skulls, but I also wanted to create a multi-channel audio program incorporating the Scary Terry board.

I had an extra 5.1 channel DVD player lying around the house, so I tried my luck at creating a multichannel audio DVD so that I could split the audio to multiple channels for individual talking skulls. Alas, I found out that it is impossible to create such a DVD without the use of some very expensive software. Haunters are penny pinchers by nature, so I looked into some other alternatives.

I stumbled across the idea of using a 7.1 or 5.1 channel sound card to split the audio of a multichannel audio file. Alas, my laptop, which I received for free from a family member (penny pincher!) does not have a built-in multi-channel sound card, but I found one that conveniently plugs into your USB port.

It is the inexpensive **Zalman ZM-RSSC**, which fits the bill.
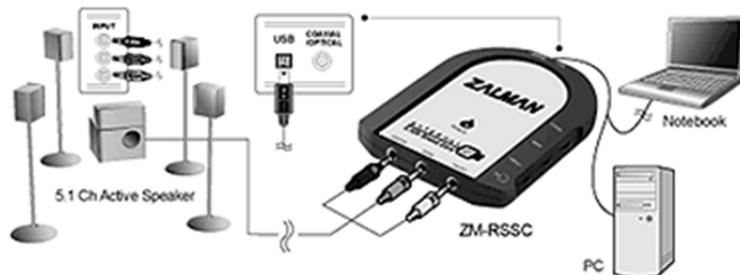
Creating a Multichannel Audio File

Now came the challenging part of creating a multichannel audio file. Thanks to HauntedBay.com, I found the necessary encoding software free from Microsoft.

Microsoft Windows Media Encoder (WME)

Microsoft Mono to Multichannel Wave Combiner (WavAviMux)

Next, I created three separate audio files, one for each talking skull, using the Audacity software. With this 5.1 channel sound card, you can output up to six files, but the SW (subwoofer) channel (indicated by the ".1") does not output audio at the same frequency and the sound is non-directional, so the maximum number of files with dialogue is limited to five. Even if you plan on using only five audio files, you will have to create a "filler file" for the sixth channel (or use one of your existing five files) so you have one audio file for each channel.

Each of the files MUST be the same length and in mono in order for them to be combined and encoded properly. Because I wanted my talking skulls to chat back and forth to each other, I synched the files together and created areas of silence where the skulls are not to talk. Audacity was extremely useful in completing this. I then saved the files in WAV format.

Once I had the necessary audio files of the same length, I combined the files into a single 5.1 channel AVI file using WavAviMux. To use this software, you must enter a command in a command prompt. Open a command prompt (Run > cmd or Start > Programs (All Programs on XP) > Accessories > Command Prompt), and change to the directory in which WavAviMux.exe is installed. *(Be sure to move your WAV files to this directory.)*

Type the following and press Enter.

> cd c:\program files\wavavimux

Now type the following and press enter.

> wavavimux -o [Output AVI file] -iwav 6 [Input WAV files] -mask 63

(To create a 7.1 channel file, use the following command.)

> wavavimux -o [Output AVI file] -iwav 8 [Input WAV files] -mask 255

Replace [Output AVI file] with the name of the AVI you want to create, for example, audio.avi, and replace [Input WAV files] with the six WAV files you previously created. Here is an example of what the command prompt should look like:

```
wavavimux -o audio.avi -iwav 6 front_left.wav front_right.wav
front_center.wav superwoofer.wav rear_left.wav rear_right.wav
-mask 63
```
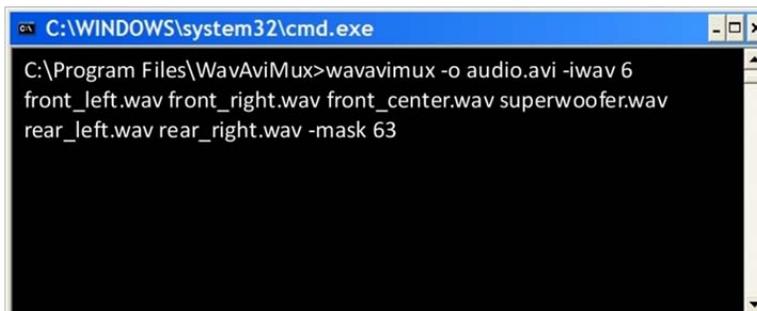

Once you press Enter, the software will create an AVI file in the same directory. If the files have been combined successfully and you play back the AVI file, you should hear the audio in multiple channels. The size of the file, however, will be very large.

To compress the AVI file to a more portable multichannel WMA file, you will have to use Windows Media Encoder. Start WME and select "Convert a file" and "OK" on the New Session screen. Select the source AVI file created above and an output file. To be able to play back the WMA file on your computer, select "File download (computer playback)". For Encoding Options, select "Multichannel audio (VBR)" from the Audio pull-down list and click "Finish". To compress the file, click the "Start Encoding" button at the top. (To confirm the encoding format, click the "Properties" button > "Compression" tab > "Edit" button > "393 Kbps" tab. Check that the information in "Audio format" is correct.)

You should now have a multichannel WMA file that is a fraction the size of the original AVI file. You can experiment with different size files. The longest (and most difficult) file I have created is a 4-minute song in which I separated the audio tracks into four separate files (one for each talking skull, who sang different parts of the song, and one with the entire song running in the background).

Outputting the WMA File through a Multichannel Sound Card

If you have a computer with a built-in multichannel sound card, you can skip the steps for setting up the sound card to work with your computer. Just be sure to set "Speaker setup" (Sounds and Audio Devices > "Volume" tab > "Speaker settings" > "Advanced") to "5.1 surround sound speakers" (or "7.1 home theater speakers") if not already set. Otherwise, set up your sound card according to instructions.

I connected my three talking skulls to the USB sound card using 3.5-mm audio cords and a Y splitter at the sound card. (There are three output ports, and each one outputs two channels.) I then played back the audio file on my computer and adjusted the volume on the computer and the sound card until I achieved the optimal feedback from the servos.

If your computer has a multichannel sound card, this is a fairly cheap and easy way to create multichannel audio for your props. Enjoy!