

2006/01/29, 17:01:31, UTC



How to make a *.amb file

Until we come up with a better one, the official format for distributing Ambisonic files is ***.amb WAVE-EX file** (<http://www.ambisonia.com/Members/mleese/file-format-for-b-format>). The recommended sample rate for submitting content to Ambisonia is 48kHz.

The easiest way to create this format is to use **Richard Dobson's mctools....** a set of command line utilities which can interleave 4 mono files into a 4 channel WAVE-EX file with the correct header. Download Richard Dobson's **mctools here**. (<http://www.bath.ac.uk/%7Emasrwd/mctools.html>) Follow Richard's instructions for installation.

To cut a long story short (see below for the long version), creating a *.amb can be done by executing this command.

```
interlx -x yourInitials_outputfile.amb input_w.wav input_x.wav input_y.wav input_z.wa
```

To avoid naming conflicts, make sure you prefix all your recordings with youu initials. eg. ED_car.amb

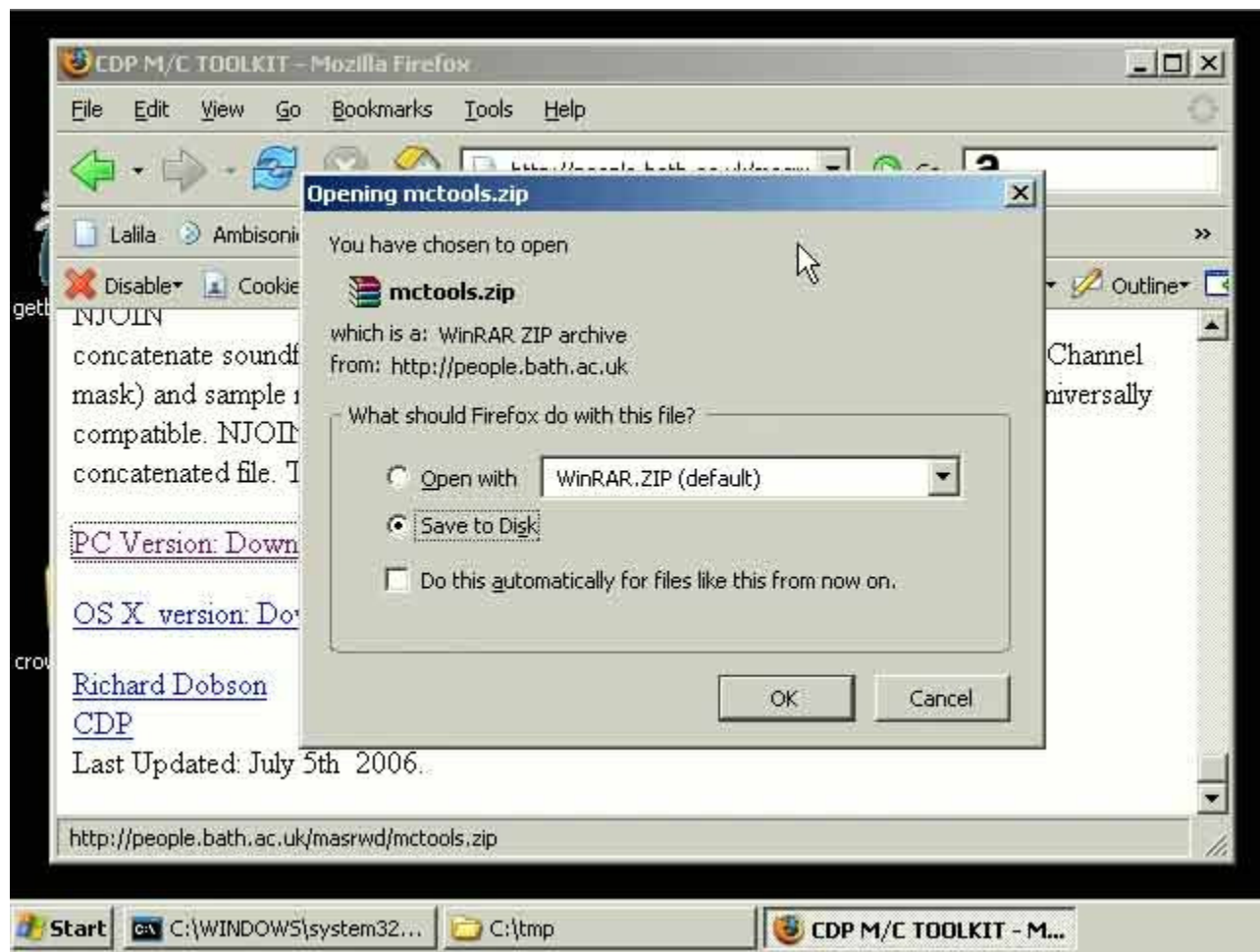
Please see this video demonstration here (<http://video.yahoo.com/video/play?vid=c061356321782efb426847af5c24f8ab.755495&vback=Studio&vdone=http%3A%2F%2Fvideo.yahoo.com%2Fvideo%2Fstudio%3Fei%3DUTF-8>) for a step-by-step guide on how to create a *.amb file from mono wav files ... or follow the directions below.

Step by Step tutorial on how to create a *.amb file using mctools

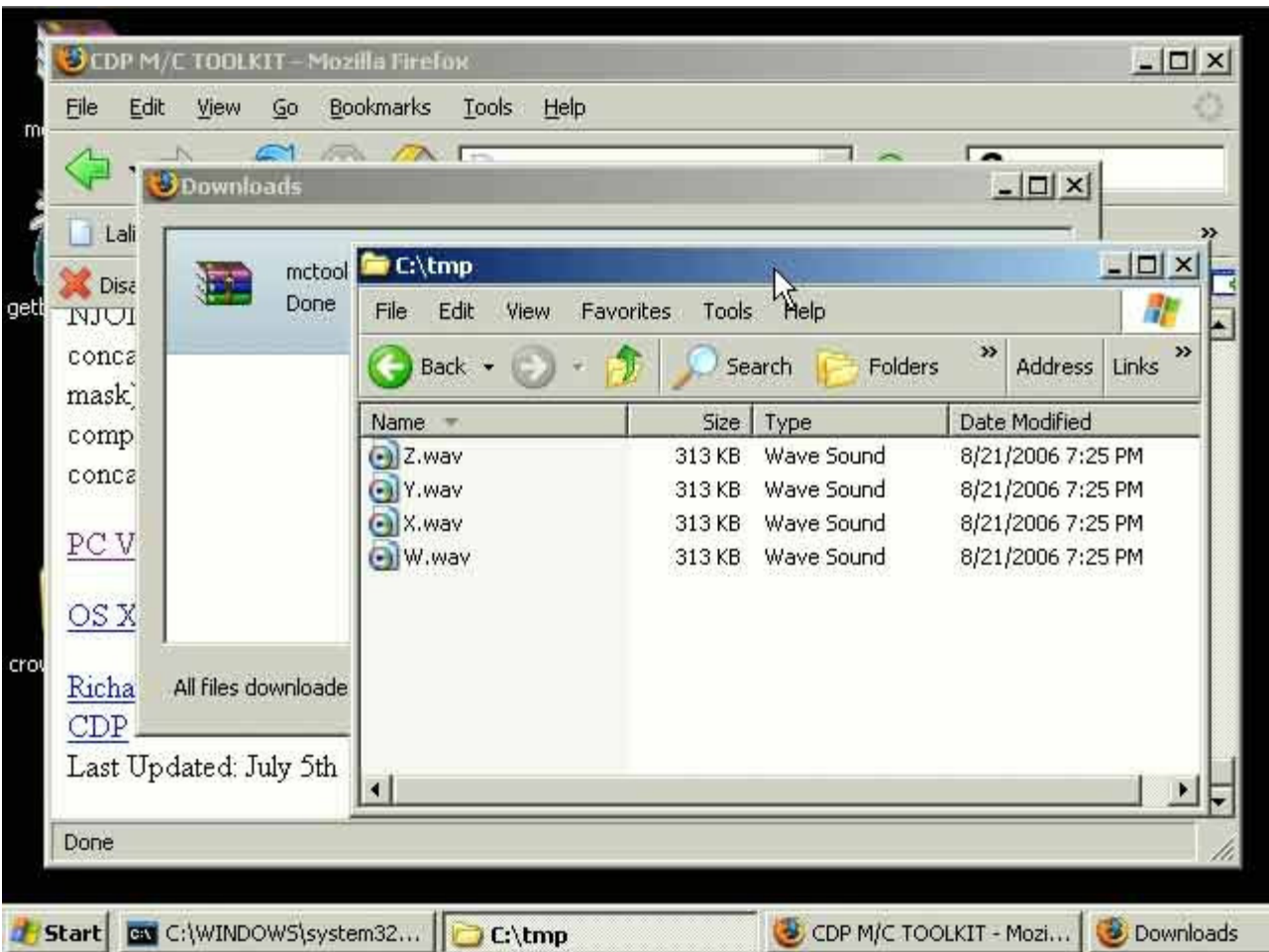
1. Go to <http://www.bath.ac.uk/masrwd/mctools.html> (<http://www.bath.ac.uk/masrwd/mctools.html>) (screenshot below). Click on 'downloads'.



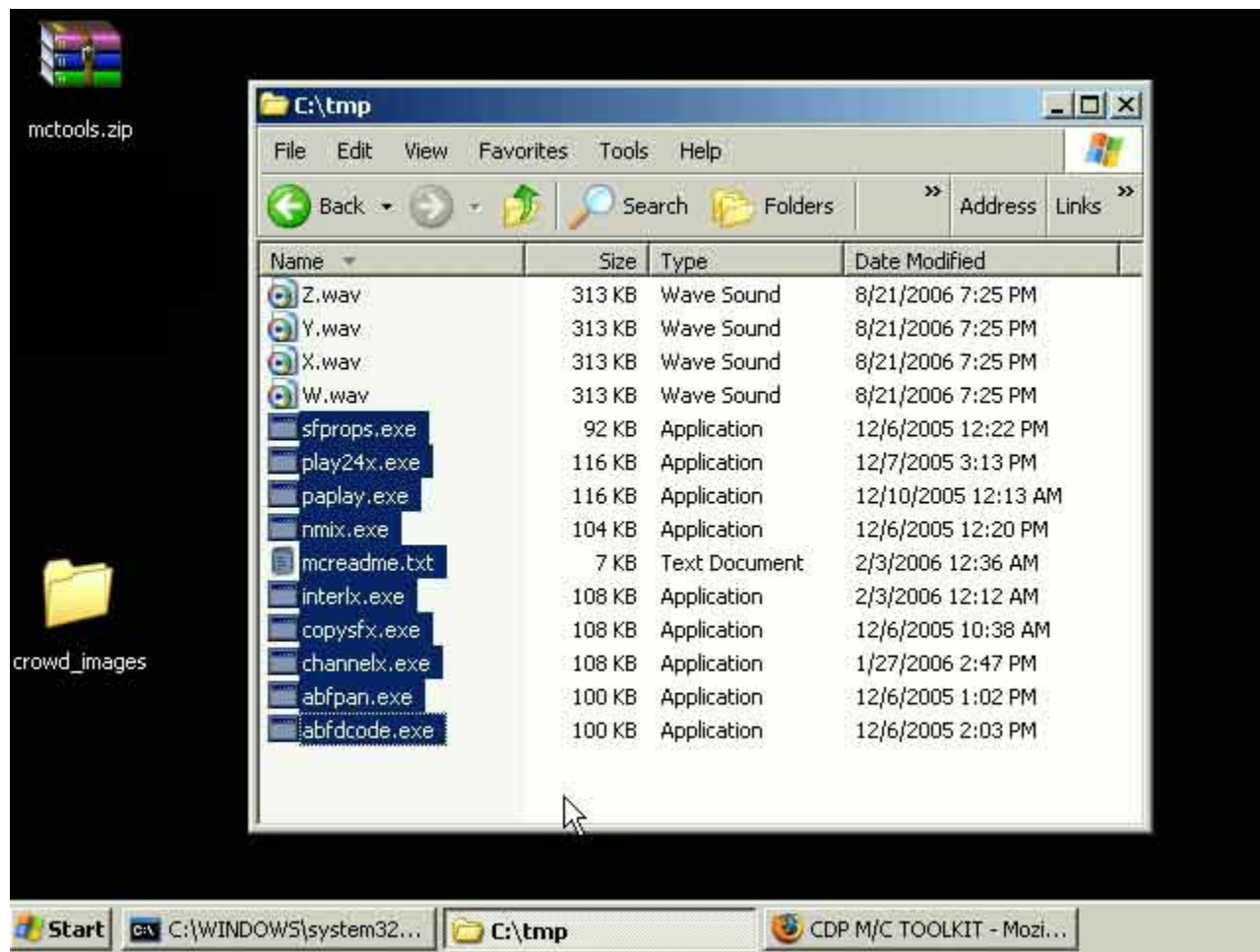
2. Download mctools.zip for your platform.



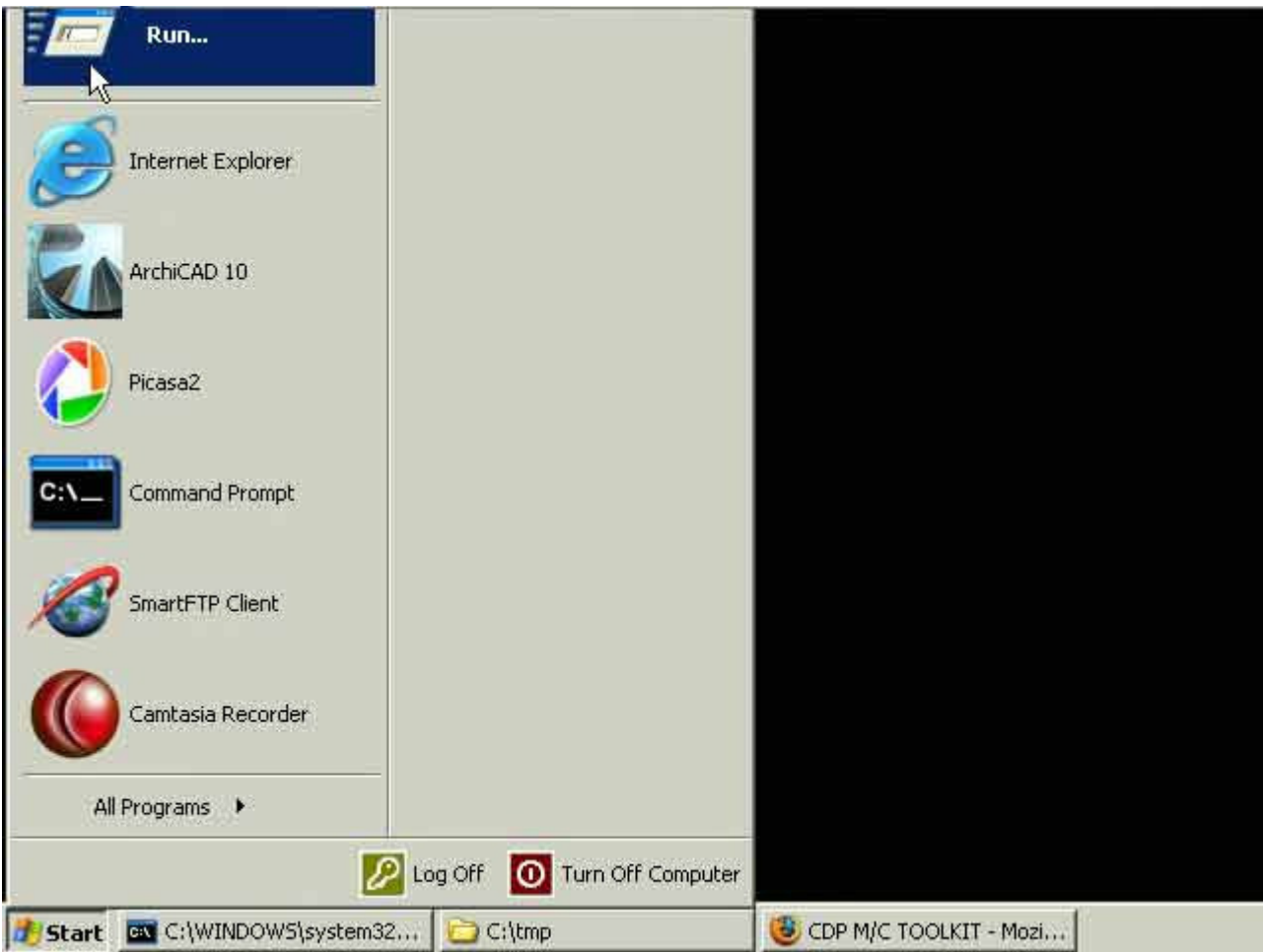
3. The easiest way to use mctools is to unpack it (or unzip it) into the same folder that contains your mono wav files. You can actually unpack mctools anywhere, but then you will have to modify your environment variables so that your OS can find mctools no matter where you want to use them from. It is simpler, for now, to just unpack them into the same folder as your mono wav files. Here, my mono wav files are in a folder C:\tmp



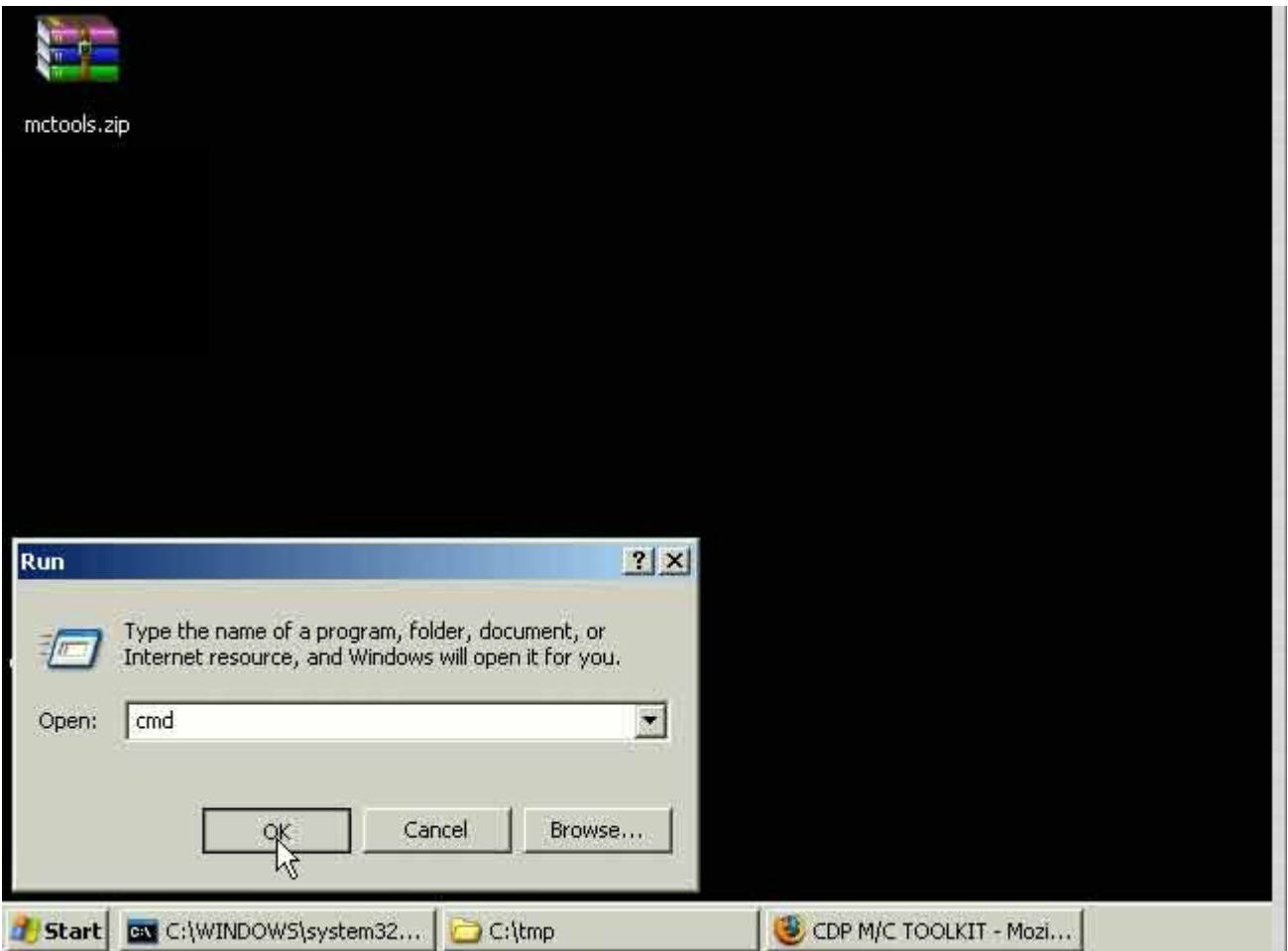
4. All the highlighted items in this screenshot are individual files that have come out of mctools. There's lots of handy tools in there! ... but we are only going to use the file **interlx.exe**



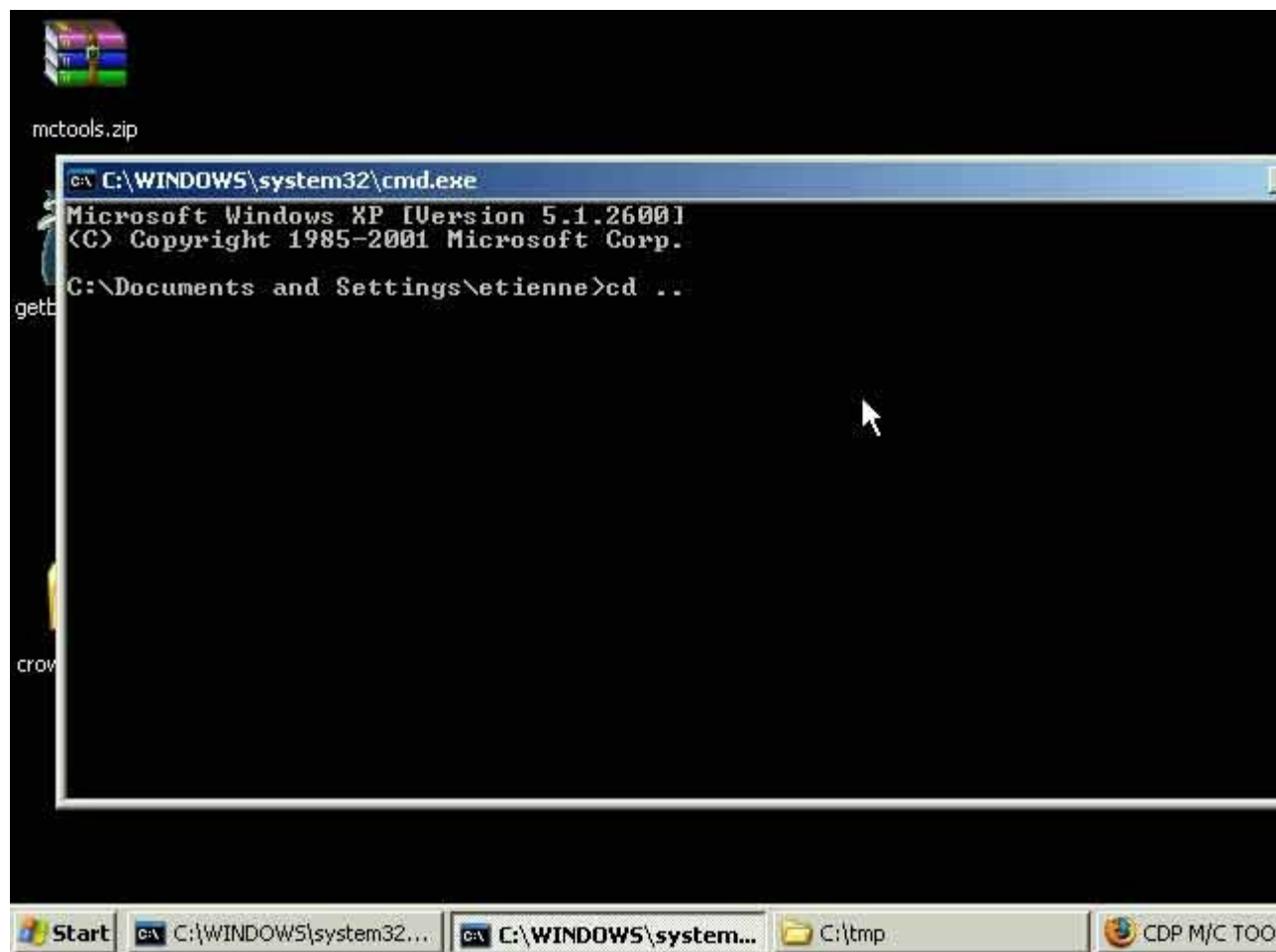
5. To use these tools, we must use windows' *command line*.... that's like a text world where you make your computer do things by issuing commands. RD's mctools are just new commands. To launch Windows' command line utility, click on >Start then Run



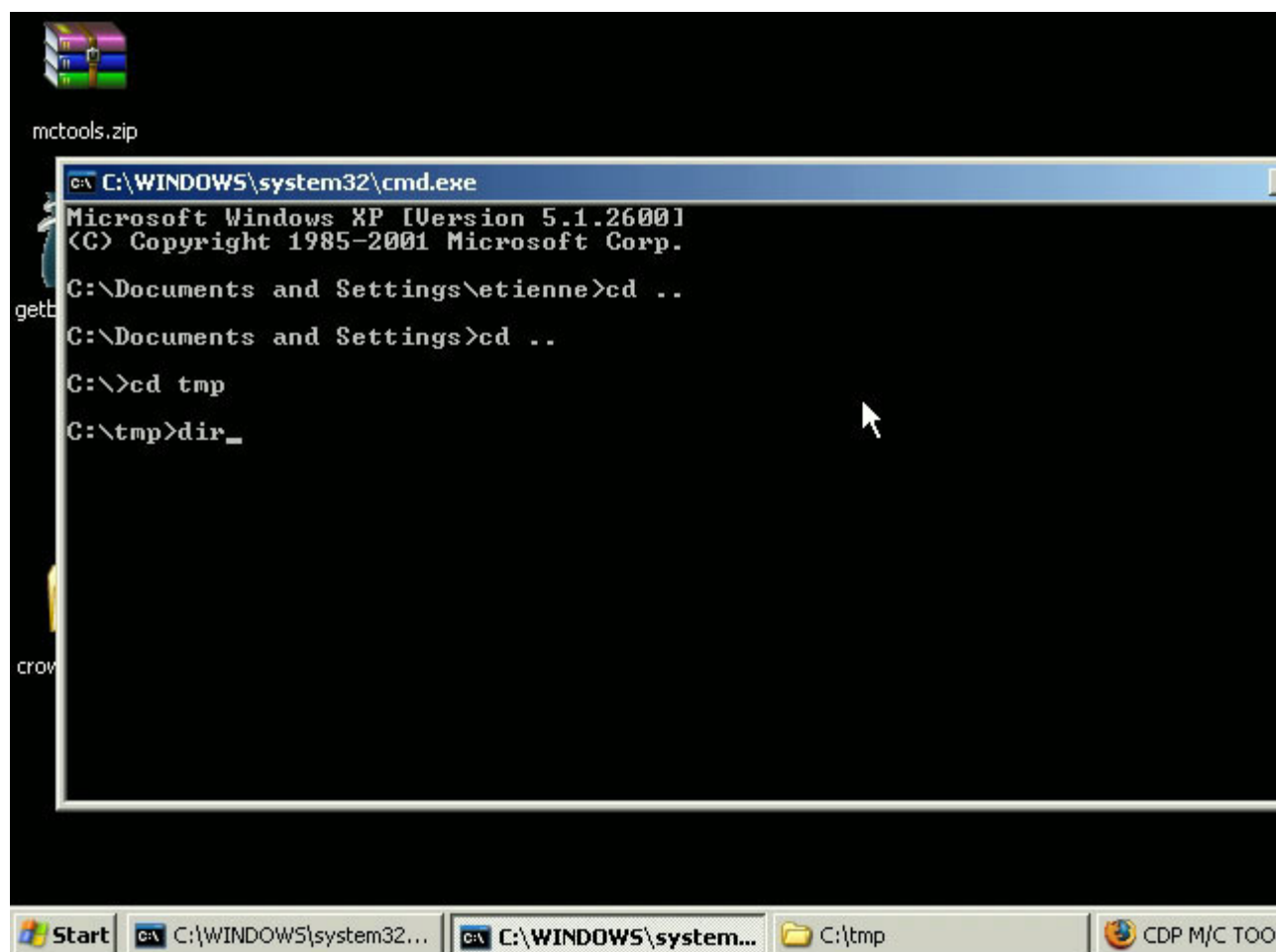
6. A dialog box will launch, asking you what you want to run ... in here type "cmd" and press enter.



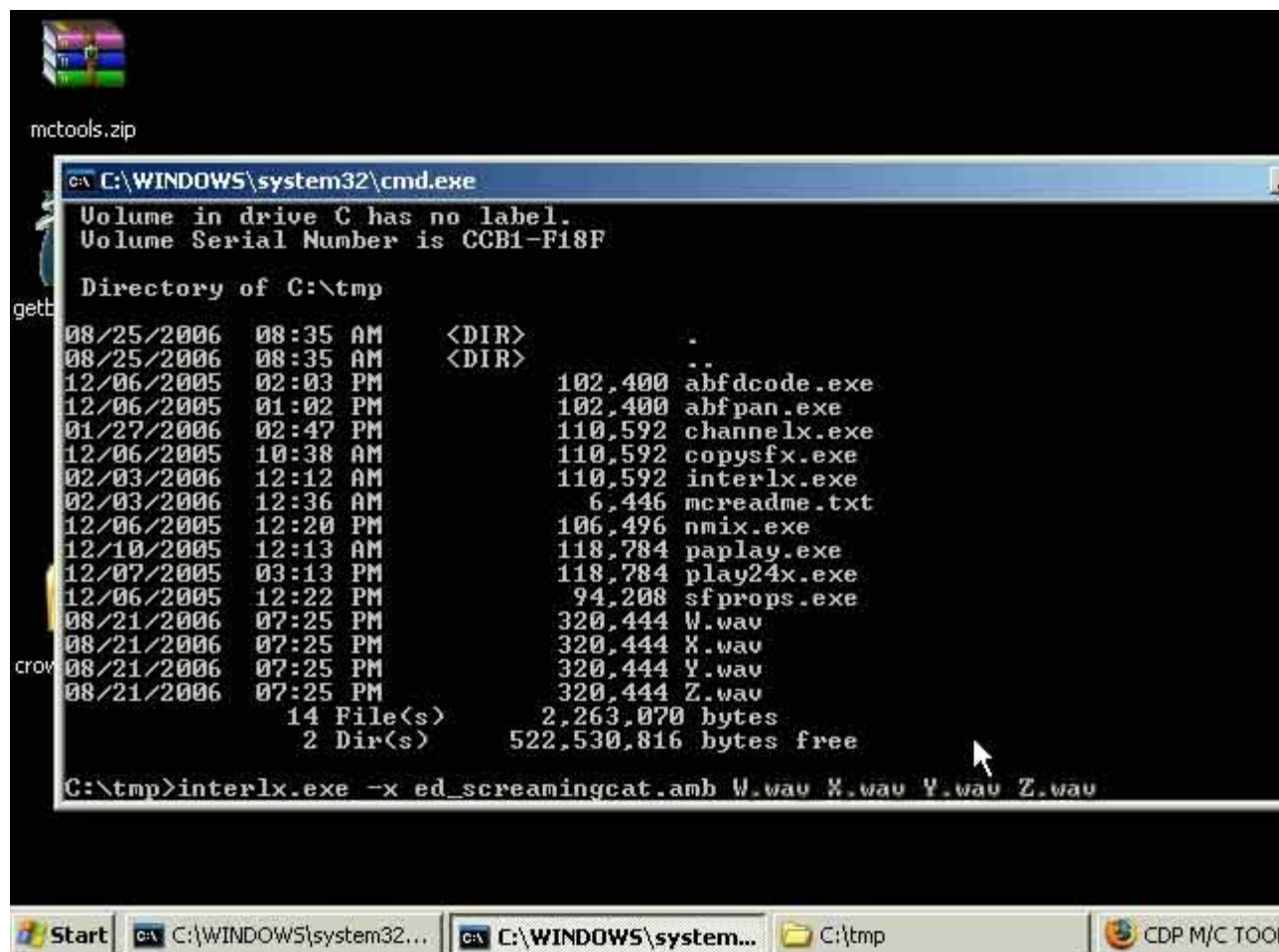
7. And here we are!.... in windows' glorious command line environment. Now we must navigate to the folder that contains the mono wave files and the mctools. "cd" is the command that will allow us to do that. To go backwards, or up a folder, type "cd ..", and press enter.



8. To go into a folder, type "cd " (cd space) and then the name of the folder. The command "dir" allows you to list the contents of the folder (dir-ectory) you are in.



9. This image shows the contents of the folder.... and the required command that we must run. The syntax of this line is "interlx.exe -x yourinitials_yourDesiredOutputName.amb Wfile.wav Xfile.wav Yfile.wav Zfile.wav". The "-x" is there to tell interlex.exe that we want it to make a WAVE_EX file format. Ofcourse, in this example I am creating a 4 channel 1st order file. mctools actually allows you to make up to a 16 channel file ... so you could make a 3rd order .amb file if you wanted.



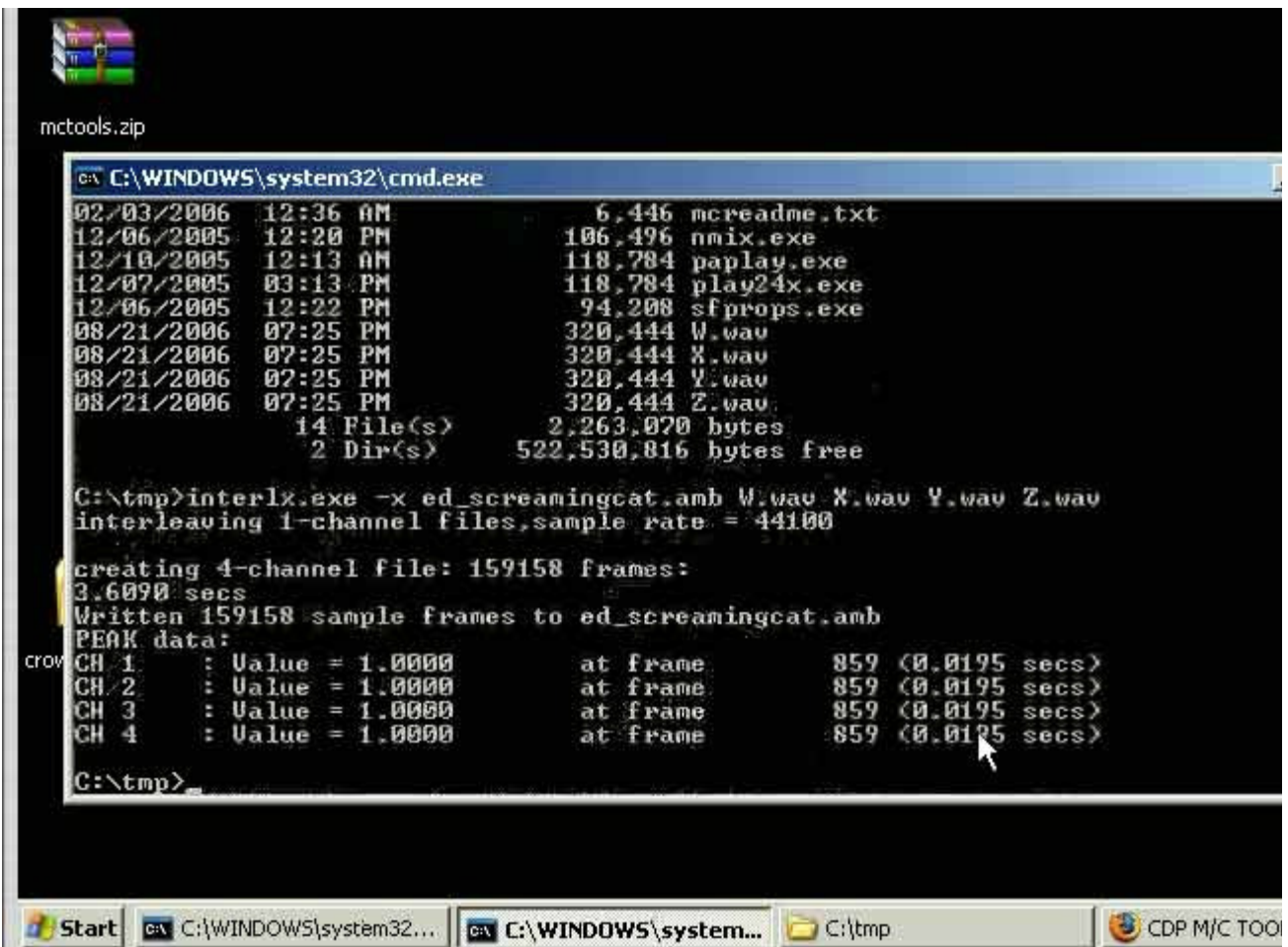
```
C:\WINDOWS\system32\cmd.exe
Volume in drive C has no label.
Volume Serial Number is CCB1-F18F

Directory of C:\tmp

08/25/2006  08:35 AM    <DIR>          .
08/25/2006  08:35 AM    <DIR>          ..
12/06/2005  02:03 PM             102,400  abfdcode.exe
12/06/2005  01:02 PM             102,400  abfpan.exe
01/27/2006  02:47 PM             110,592  channelx.exe
12/06/2005  10:38 AM             110,592  copysfx.exe
02/03/2006  12:12 AM             110,592  interlx.exe
02/03/2006  12:36 AM              6,446  mcreadme.txt
12/06/2005  12:20 PM             106,496  nmix.exe
12/10/2005  12:13 AM             118,784  paplay.exe
12/07/2005  03:13 PM             118,784  play24x.exe
12/06/2005  12:22 PM             94,208  sfprops.exe
08/21/2006  07:25 PM             320,444  W.wav
08/21/2006  07:25 PM             320,444  X.wav
08/21/2006  07:25 PM             320,444  Y.wav
08/21/2006  07:25 PM             320,444  Z.wav
               14 File(s)      2,263,070 bytes
               2 Dir(s)        522,530,816 bytes free

C:\tmp>interlx.exe -x ed_screamingcat.amb W.wav X.wav Y.wav Z.wav
```

10. And when you are done ... interlx.exe prints out some stats that help you determine that everything went OK. Your final file will noe be found in the same folder.



How to convert an interleaved multi-channel .WAV file into to an interleaved .amb file using mctools

Use the copysfx.exe command from Richard's mctools.

```
copysfx.exe -sN -p -t5 infile.wav outfile.amb
```

where N is a different number depending on the bit depth.
eg. For a 24 bit interleaved file use:

```
copysfx.exe -s4 -p -t5 song.wav BH_song.amb
```

for 16 bit it would be:

```
copysfx.exe -s1 -p -t5 song.wav BH_song.amb
```

For other bit depths and more info you can enter

```
copysfx.exe
```

and hit ENTER and a key is displayed. Thanks to Bill Houston for the copysfx.exe instructions!

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