

CHALK RIVER GRAPHICS

# CrgSim Documentation

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## Application Note Sounds

**Chalk River Graphics**

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## Why Add Non Engine Sounds

We use our flight simulators for a number of purposes: enjoyment, learning, temporary escape, .... Everyone has their own reasons for turning on the computer and starting up a flight simulator.

One word heard frequently with respect to simulators is immersion. That is: how close to the “real thing” is the experience. The airlines have simulators that provide a great deal of immersion and are very close to the “real thing”. Unfortunately I'm having trouble locating a spare 30 or 40 million dollars to buy one of them. So what can be done to improve immersion short of a very large sum of money?

Well, sound is one aspect of the flight simulator to look at. FSX provides a set of sounds for the default airplanes. Sounds that go with engine noise, flaps up/down, gear up/down, and certain cockpit warnings. I suspect I'm not the only person who has heard “Pull UP!” or “Sink Rate!”.

CrgSim can enhance the sound experience with the sound module.

## ATC Chatter

The CrgSound module is delivered with two mp3 files of ATC chatter courtesy of [www.liveatc.net](http://www.liveatc.net). If you are a pilot chances are that you will have headphones on and there will be some ATC transmissions on the frequency you are tuned to. So - some ATC chatter sound in the background is expected. Let's cover the ATC sounds first.

## Installation Planning

CrgSound is designed to run on almost any windows computer attached to your local network. When started CrgSound will automatically look for the ComMgr and connect to it. Then based on your configuration it will start playing sound files. Two ATC sound files can quickly get tiresome so the first thing to do is to go to [www.liveatc.com](http://www.liveatc.com) and download a number of ATC files matching your interests (Shanghai, Seattle, Keflavik, ... your choice). Copy these files to your CrgSound directory, modify the configuration file and you are good to go. Since ATC is not high fidelity you can play these files through a very inexpensive amplifier and inexpensive speakers attached to your sound computer.

You can, of course, use the main FSX computer to play these ATC files but CrgSound can be used on a spare low CPU powered computer (many of us have one in the closet) for additional control over volumes and playing time.

## In-Flight Announcements

Want to add announcements as you are climbing to altitude? CrgSound configuration has the ability to play a sound based on timing, climbing through an altitude, or descending through an altitude. There are many announcement recordings available on the net.

## Status Callouts

There is another class of sounds we haven't covered yet: Altitude callouts on descent, 80 knots, V1 and rotate callouts in the cockpit. Also certain alarms and optional (and perhaps non-prototypical) callouts (gear up/down, auto thrust on, autopilot on, ...). All of these announcements are delivered by CrgSound

One of the duties of CrgSound is to generate cockpit announcements based on input from the simulator. These sounds are in the **.wav** format. You can replace any of these sounds with your own, either generated by you or downloaded from the net. And if you do not care to hear a specific recording just delete the sound file or rename the file to something else (for example: rename 80kts.wav to 80ktsX.wav). It will still be there if you change your mind later. The altitude and status call outs will be played at the same time as the other ATC sounds you have playing. If CrgSound is executing on the FSX computer all of the sounds will play together just as in the real thing.

## Link a Frequency to an MP3 File

A new feature in the sound module is the ability to link Com frequencies to MP3 ATC chatter files. Want to play 30 minutes of KSFO approach when you tune Com1 to 119.3. You can do it. How about playing 30 minutes of Chicago approach when you tune Com1 to 119.325. Also possible. Here is how it is done:

- First go to [www.liveatc.com](http://www.liveatc.com) and decide what you want to hear from their vast library of aviation recordings. Downloading 10 files doesn't take very long and it gets you started.
- Copy the files to the computer that will run the CrgSim Sound module. They don't need to be in a single directory but that makes things a little easier.
- Now decide which frequencies will be use to play which ATC file.
- Open the sound module configuration file "crgsound.cfg" and enter one line for each ATC file that you have. Each line will start with the word **channel** followed by the frequency followed by the fully qualified file name in quotes.
- For example the following line assigns 120.500 to the sound file located at [g:\ATC](#) Files\KSFO\Approach.mp3:
- **channel 120.500 "g:\ATC Files\KSFO\Approach.mp3"**
- If you use Com1 as the com radio to start the sound files it is a good idea to turn voice off in FSX, not necessary, but one ATC dialog should be enough for most people. The default radio is Com2 but with the "atcsrc" option you can over ride with Com1.

Now when ever you want to start the KSFO approach audio file just set Com2 to 120.50 in FSX or with whatever radio you may be using.

So if you go to another Com2 channel for a few minutes and then return to channel 120.500 does it pick up where you left off? No, it acts like the real world, if you were away for 5 minutes the audio picks up where you were when you dialed away plus about 5 minutes further into the audio just like the real world.

Want to use a non ATC MP3 file? Treat it the same as an ATC file: assign a frequency to it and add it to the sound module configuration file. Due to the way the audio is selected it is best to have at least one minute of audio in the file.

The current limit is 40 channel entries in the configuration file. This gives you the ability to assign 40 Com frequencies to 20 hours of ATC (or music) if the MP3 files are 30 minutes long.

This is a new feature so the configuration parser is a little fragile and not sure how variable bit rate MP3 audio is tolerated by the routines. Please let us know if you like and use this feature.

## **Use Com1**

If you want to use Com1 as the radio to start the sound files then include the following line in the sound configuration file:

```
atcsrc com1
```

## **Summary**

For most of us the added flight sounds (announcements, warnings, and ATC chatter) will add to the flying experience immersion. That is most likely a good thing.