

INSTEDIT : An Instrument Bank File editor for Windows 3.0

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Instedit allows you to modify the parameters used to define an instrument using FM synthesis. You will be able to modify any instrument found in a BNK file. BNK files are files in a format created by Adlib Inc. for storing large numbers of instrument names and the parameters that define them. These files may be found on online services such as CompuServe, or the various privately-supported Bulletin-board systems around the world. The saving features are disabled in this demo version so don't worry about wrecking your BNK files.

INSTEDIT Instructions:

InstEdit is fairly straightforward. You directly manipulate the settings that change the sounds. The best way to learn what the various controls do is either to just play around with them, or to simply know your way around music synthesizer hardware. The former is easier.

Menus

File Menu-

New. This option allows the user to create a new BNK file to fill with newly-created instruments.

Open... This opens a new bank file for editing.

Save. This would save changes made to the current bank file, but is disabled for this demo version.

Save As... This option would be used to save the current BNK file with a user-supplied file name. Again, it is disabled in the demo.

Exit. This quits InstEdit.

About... This selection shows information about the editor.

Instrument menu-

New. This option creates a new, blank instrument.

Open... This option selects an instrument from those in the currently-selected bank file.

Save. This option saves the current instrument back to the bank file, but does not save the bank file back to disk.

Save As... This menu item would save the current instrument to the bank file with the given instrument name, but not save the bank file to disk.

Controls

The InstEdit controls represent the various variables involved in the description of an instrument. An instrument is, in most cases, made up of two 'operators'. These operators interact with each other to form the sound that comes out of the sound board.

The first operator, the carrier, is the basic form of the sound. It determines the volume, shape, etc. of the sound.

The second operator is the modulator, which, in Frequency Modulation mode, modifies the characteristics of the carrier. In Additive Synthesis mode, the carrier and the modulator are both played simultaneously and independently. This is how older organs used to create sound, and there is limited flexibility in this mode.

Percussive instruments are the exception to the general rule of two operators per instrument. Except for the Bass Drum, the Percussive instruments (Tom, Cymbal, Snare, and Hi Hat) use only one operator: the Modulator. In these cases, the modulator modifies a wave generated by an internal noise generator.

The controls are fairly easy to get used to. This file is no place for a lengthy discussion of acoustics, so only a couple of non-obvious notes will be made here.

The Voice control differentiates between intended voices. Because the FM boards treat each of the percussive instruments differently, you must specify which instrument you intend to use. An instrument designed as a tom, for example, could not be used in the snare voice of the Visual Composer.

Oddly enough, there seems to be little difference between the Melodic mode and the Bass Drum mode. Instruments created for the Melodic mode may be useable in the Bass Drum voice in many cases, and vice versa. You should experiment with this relationship a bit if you need this interchangeability of voices.

The Feedback parameter is another area of confusion. If you are not familiar with the phenomenon of feedback, you can just play with this control and see the effects. When this control is turned up, a bit of the carrier signal is fed into the modulator, creating an effect similar to distortion on electric guitars.

The Waveform controls affect the basic shape of the operators. These, too, should be played with to see their effects. A sine wave is the smoothest-sounding, while a pulse-sine is similar to a triangle wave.

The Test Note bar controls the pitch of the notes generated by the Testing buttons on the lower right of the InstEdit window. The note is indicated by its letter designation, a sharp, if present, and an octave number. There are various buttons on the right side of the InstEdit window that give, in appropriate modes, some chords that are a good indication of how the instrument will sound in music.

There is also some confusion over the nomenclature of Vibrato and Tremolo. Vibrato is variation in volume, and Tremolo is variation in pitch.

New in version 1.0:

-Instedit now does a better job of keeping Windows memory management clean.

-There are now several different test buttons to choose from. I am not a musician, but those I have asked say that these chords should give a fairly comprehensive indication of how the instrument should sound in use.

-The right mouse button, if pushed while on the InstEdit window, will repeat the last test button operation. This allows rapid testing of slight variations in the controls.

-The Test Note indicator now shows a meaningful note name, rather than a Windows note number.

-The Instrument Load... dialog box now includes a *Test* button, to quickly test the voices you have in the bank file.

Reaching the Author:

I am available on Internet at (dgiller@oxy.edu), and on any other service or network that allows e-mail to the Internet. Check your service for details. So far this has proved an excellent medium for exchanging information; It is very easy for me to respond to your questions, and I have thus far been able to respond to all of them (at least, all that got to me!). Questions and suggestions are all very welcome.

In case you can't contact me that way, Letters are still welcome at

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Please keep in mind that these are my in-school addresses; I can't get at them during the summer.