Megalomania 1.0.2 beta

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Introduction

The application allows the user to design "effects" that process MIDI data in real—time. The user designs an effect by connecting icons. An icon represents a simple computation (delay, transposition, etc...) and the connections represent the flow of MIDI data.

MIDI files can be read and processed with serial input. The resultant MIDI data stream can then be recorded and stored as a MIDI file and/or be sent as serial output.

This package includes the application, documentation, and example files.

This is a program I wrote for my compositions. Thus, some features lean toward my idiosyncratic tastes as opposed to being formally complete and general. But, others have found the program to be exciting and useful so I offer it to you in the interest of provoking new thoughts and music—making.

To use the program you will need to have a MIDI interface on the modem or printer port of your Macintosh and one or more MIDI compatible synthesizers. The program is compatible with System 4.2 and up. The program may not be compatible with previous versions. Also, the program must be used with a Mac Plus or later models. The program will not run on a Mac with less then 1M of RAM. The program does behave with MultiFinder but is not compatible with the MIDI Manager.

Examples

Patch 1 transposes notes, delays them, changes their duration, changes their velocity, and sends them out on the channel they came in. Many parameters in this patch are changed by "graphs" (see ahead). After one plays several notes on a MIDI controller a flurry of notes will be created with lots of fifths and ninths. The processing power of the program may be taxed when large chords are sent to the program.

The other patches demonstrate other primitives, including several multi—channel configurations. If you can, set up one or more synthesizers to play different sounds on channels 1 through 4.

Usage

When first using the program the user should set the MIDI configuration. This is done through the Setup Midi dialog, which is accessed through the Edit Menu. The program will use the modem port, the printer port, or the Midi Manager. The modem port and the printer port can be set to operate at 0.5, 1, and 2 MHz.

When the program starts it presents a window within which the design of a process occurs. Left of the design—pad window is a tool palette and a transport window. A new primitive is installed in the pad window by selecting a primitive from the Fx menu and clicking in the pad window with the install tool (see diagram 1).
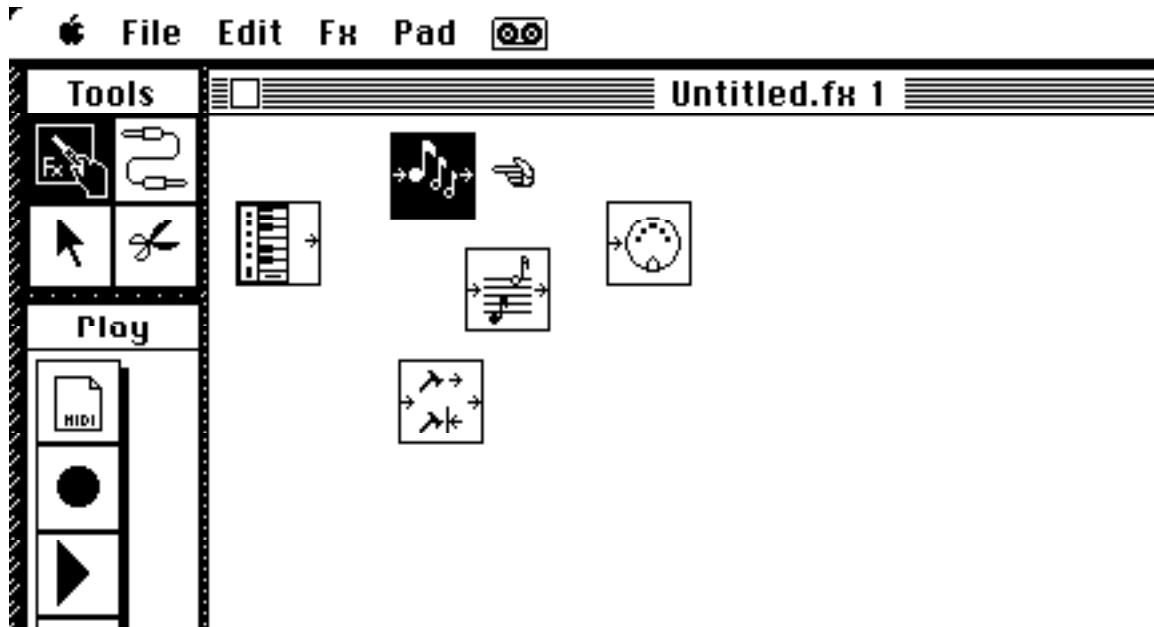

Diagram 1

Diagram 1 shows the Midi In, Midi Out, Delay, Transpose, and Velocity Filter icons. A variety of other icons not shown also may be selected from the Fx menu. Each type of icon may be installed as many times as memory will allow. The icons are connected with the wiring tool. Each icon may have multiple outputs and the delay icon may feed—back (see diagram 2). Connections are severed with the scissor tool.
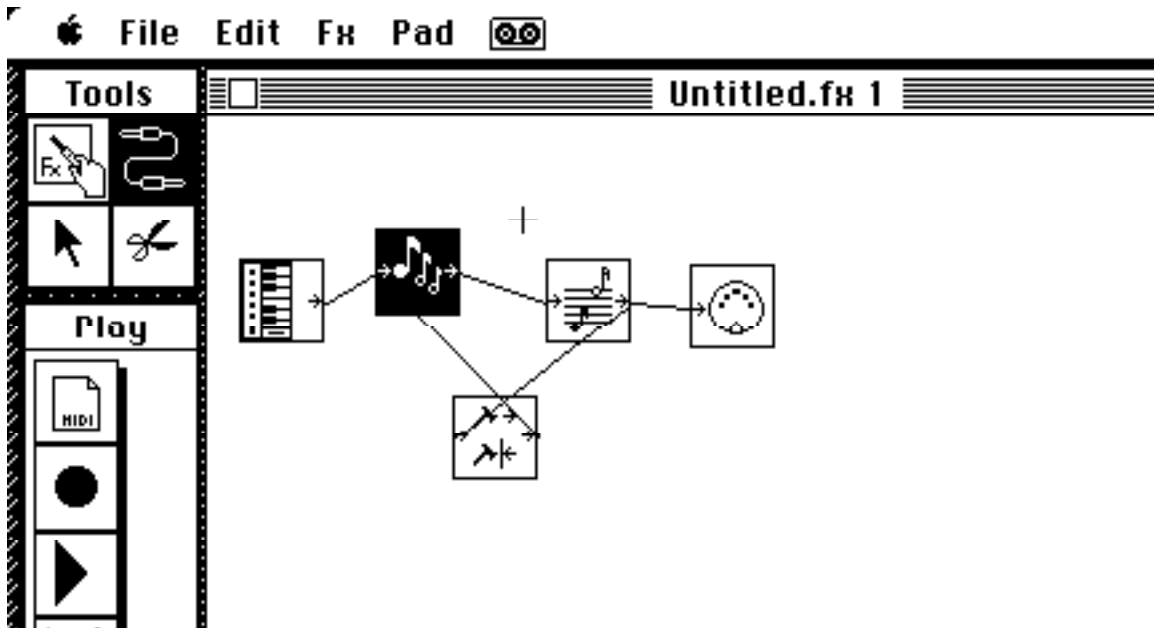
Diagram 2

Associated with each icon is a window that will allow the parameters for that icon to be edited. Double clicking on the icon causes this window to open. This parameter window uses standard macintosh controls and also a control in the spirit of the "numerical".

The numerical can be adjusted in one of three ways. Clicking on the numerical will cause it to scroll in either ascending or descending values. If the "Use MIDI Value" command is selected then the numerical will assume the value of any MIDI input for the icon. For instance, if the numerical is a velocity value, then it will assume the value of the velocity of the next incoming note. If the command key is down while clicking then a small entry box for keyboard input is used for input.

To the right of some numericals there is a graph button. This button causes a new window to open, displaying a table of numerical values (see diagram 3). In the table, the x—axis represents time and the y—axis represents the values that the numerical can take on. When the graph is active the values of the associated numerical cycle through the table values.
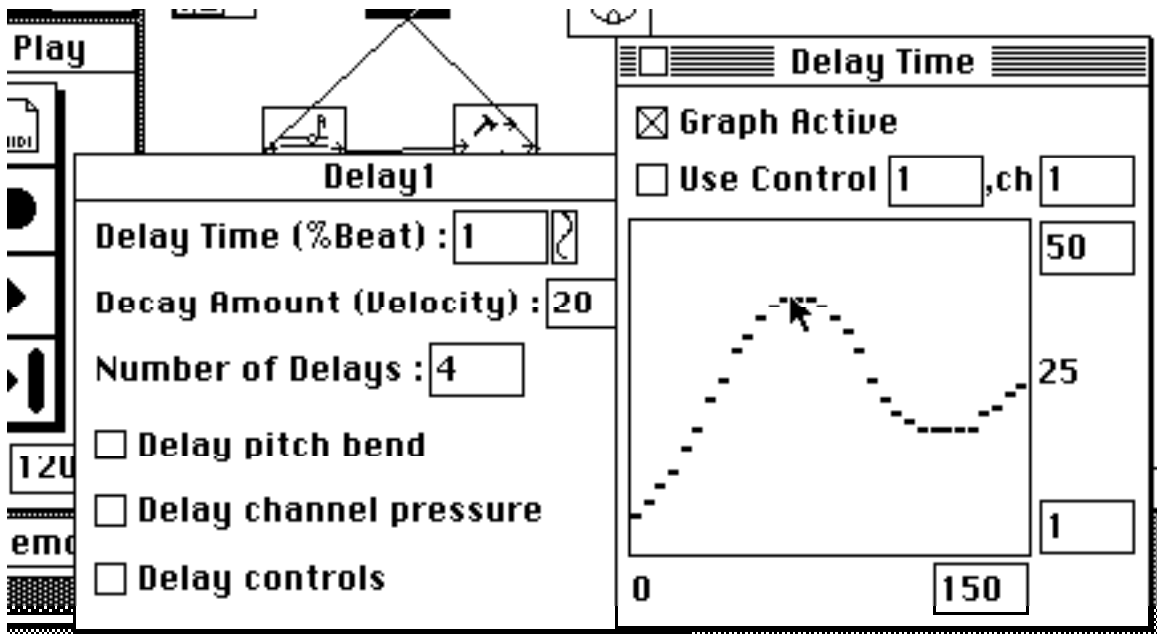
Diagram 3

The user adjusts the period of the table with the x—axis numerical. The view of the table is adjusted with two y—axis numericals. All time values are in percent of beat. Tempo is adjusted with a control at the bottom of the transport window.

The graph window has a check box called Use Control. When this control is checked then the values of the graph are superseded by the control value of the specified control on the specified channel. The value of the controller is scaled to the values represented by the two y—axis numericals. For example, the modulation wheel of a keyboard could be used to vary the delay time between the values of 1% and 50% of a beat.

After the user has developed a network of icons then they may begin work on a new design while keeping previous designs in memory. Pad windows may be swapped during performance by clicking on the inactive pad window. This causes the MIDI data stream to enter the now active design without halting any processing, such as delays, that may be unfinished in the now inactive design.

IMPORTANT NOTE ABOUT GRAPHS:

Since graphs vary parameters over time it is possible to misalign note—off commands with respect to their associated note—on commands. For instance, the target note in the transpose icon may be varied with a graph. If the transposition changes between a note on & off then the note will hang. There is no book keeping to prevent this since it is computational expensive. Hanging notes can be prevented by placing a Duration Assign icon at the output of any icon that may misalign note—ons & note—offs via the use of a graph. This will force an aligned note—off to occur.

IMPORTANT NOTE ABOUT TRANSPORT CONTROLS:

Processing begins when the start control is engaged. This is done by clicking on the start button or pressing the space bar. Similarly, recording begins when the record control is engaged. This is done by clicking on the record button or pressing the return key. Processing is stopped by clicking on the stop button or pressing the space bar again. When the stop control is engaged the program waits for the processing network to flush itself of data. The stop button remains dark during this time. The program can be forced to halt the flush by pressing the space bar again.

The program will read MIDI files (version 0.06 MIDI files). The file will play back through the network while the user performs if the file button is selected before the play button is engaged. Performances also may be recorded and stored as MIDI files. To record a performance the process must send MIDI data to a Midi Record icon. This allows the user to select what MIDI information will be recorded. Recording occurs when icons are connected to the Midi Record icon and the record button is engaged in the transport window.

Author Contact Information:

Eric Huffman

1401 W. Jarvis St. #1
Chicago, IL 60626

CIS 71530,545
71530.545@compuserve.com
eric@music.nwu.edu