major malfunction
.mangle, glitch & fsu in ableton live.

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Overview

Major Malfunction is a Macintosh audio plugin specifically created for use in Ableton Live. It allows you to easily mangle, glitch, slice, and dice your real-time audio. You can use it as either a VST or as an AU plugin in Live.

Requirements

- Mac G4 667 MHz or better; both PowerPC and Intel architectures supported

  (Universal Binary)
- Mac OS 10.3.9 or greater
- Ableton Live, v4 or greater (earlier versions may work fine, but not tested)
- Cycling '74 Pluggo, Pluggo Jr, or Pluggo Runtime, v3.6.1 or greater (Pluggo Jr and Pluggo Runtime are both free)

Installation

Be sure to download the correct installer file; if you already have installed Cycling '74's Pluggo, Pluggo Jr, or Pluggo Runtime, version 3.6.1 or greater, then you do not need the installer that includes the Pluggo Runtime. If you don't have any Pluggo installation, be sure to download and run the installer that includes the Pluggo Runtime.

Locate the Major Malfunction file you downloaded, and double click it to mount the disk image. Then double click on the installer file located in that disk image to begin the install process. You will need to provide the Mac's Administrator password for the installation. At the end of the installation, Pluggo's Audio Unit Scan application will automatically launch and run. This will ensure that you can use Major Malfunction as either a VST or an AU plugin within Live.

Authorization

If you're trying the demo version of Major Malfunction, you can start to use it immediately after installing. If you are installing the full version of Major Malfunction, you'll need to authorize it before being able to use it. Go to /Applications/Major Malfunction, and double click the Authorize Major Malfunction application located there. Supply the requested information, and click Authorize. You should now be able to start up Ableton Live, and use the Major Malfunction plugin.

To verify your authorization status, you can either start the Authorize Major Malfunction application, where your status will be displayed, or alternatively click the Major Malfunction logo in the Major Malfunction plugin; your authorization info will be revealed directly within the plugin as seen below:
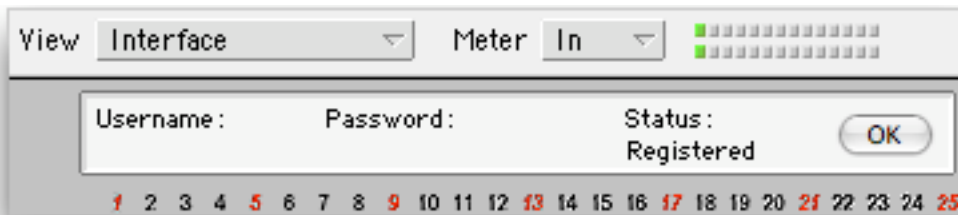
Demo Limitations

The Major Malfunction demo is feature complete; the only difference between it and the full version is that emits a beep every 20 seconds.

Usage

Major Malfunction is used as insert effect on an audio track. It sequentially cycles through the number of steps in your grid (up to a max of 64 steps). As it progresses through the steps, you can invoke an effect at any step, and that effect will continue until it reaches the next effect. A black indicator appears under the number of the step you are currently at. The cycle is restarted at step 1 when Live is restarted at step 1 of its sequence as well. The currently active effect will also have a green indicator active next to its name in the effect section.

Example: The grid to the right is 8 steps long; for steps 1 through 4, the retrigger effect will be applied to the audio. For steps 5 through 6, the reverse effect will be applied. For steps 7 through 8, the original audio will pass through unaltered, since the pass "effect" is selected. The image shows Major Malfunction currently at step 2; since the retrigger effect is active, the green indicator is active in the retrigger effect section:

General Controls

View

The View menu allows you to change what is displayed in the plugin window. The *Interface* view displays the main plugin window, allowing you to interact with the plugin. The *Major Malfunction Info* view displays version, copyright, and contact information, as well as acknowledgments. The *Pluggo Info* view displays information about Pluggo and other Cycling '74 information.
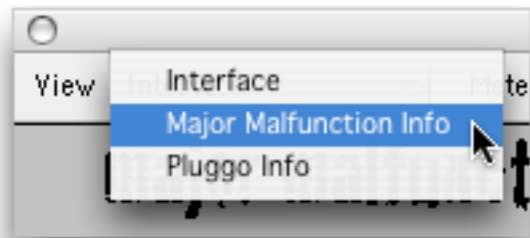
Meter

The Meter menu allows you to change whether the displayed meters show incoming audio levels (*In*), outgoing audio levels (*Out*), or whether they are not displayed at all (*Off*).
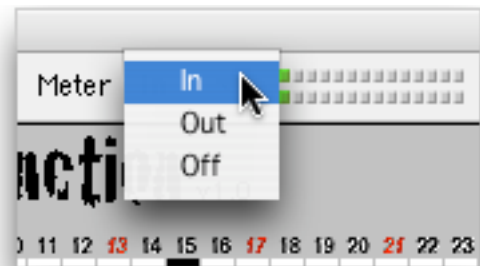
Master Volume

Controls the master volume output of the entire plugin.

Percent Wet

Adjusts the wet/dry mix of the audio that is output. A setting of 0 is equivalent to sending the completely dry signal from the plugin. 100 is completely wet.

Total Steps & Clear Grid

Adjust the maximum number of active steps in the grid, within the range of 1 through 64. You can increase or decrease the steps one at a time by clicking on the up or down arrows; you can also move four steps at a time by Ctrl-clicking on the up or down arrows. You can also click and drag up or down on the number itself to increase or decrease the number of steps. Clear Grid removes all effects from the grid.
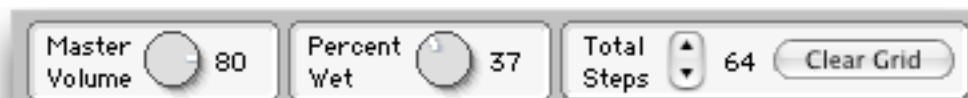
Hints

Major Malfunction has multiple sections of its user interface which have embedded hints, sometimes known as tooltips, which appear when you hover your mouse over the interface element for a second or two, as in the example below:
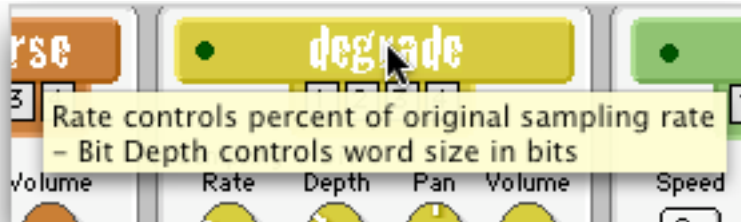
Individual Effects

Each of the colored rows in the grid has a similarly colored corresponding effect section below the grid:

Retrigger

This effect retriggers the first part of the incoming audio at regular intervals. The length of the initial chunk of audio that it retriggers is controlled by the *Length* parameter. The frequency at which it retriggers that audio is controlled by the *Speed* dropdown menu; the number selected there indicates how many repetitions will be heard per beat (4 steps). You can successively alter this speed during the effect's period of activation using the *Speed Change* control; positive values will make the retriggers come faster, negative numbers will slow them down. You can also alter panning and volume of the audio as desired.

Reverse

This effect divides the number of steps that it is active for in two; during the first ½ of the steps, it plays the incoming audio forward; during the second ½ of the steps, it plays that same audio in reverse. You can also alter panning and volume of the audio as desired.

Degrade

This effect degrades the incoming audio, by altering both the sample rate and the bit depth. The *Sample Rate* parameter is the percentage of the original sampling rate; the *Bit Depth* parameter controls the word size of the audio, in bits. You can also alter panning and volume of the audio as desired.

Gate

This effect turns the audio on and off, or gates it, at specified intervals. The *Speed* dropdown indicates how many gates will occur per beat (4 steps). You can also alter panning and volume of the audio as desired.

Delay

This effect passes the incoming audio through, as well as a copy of that audio delayed by a specific number of milliseconds, controlled by the *Time* parameter. You can specify an exact number of milliseconds using the *Time* dial, or you can choose presets from the *Time* dropdown menu; the number chosen in the dropdown indicates the delay time in steps. The Time dial will update if you make a selection from the Time dropdown menu. You can control the amount of delay feedback using the *Feedback* control. You can also alter panning and volume of the audio as desired.

Pass

This "effect" just passes the incoming audio through to the output. You can alter the panning and volume of the audio as desired.

Random

When this "effect" is selected, a random effect from the list above (Retrigger, Reverse, Degrade, Gate, Delay, and Pass) will be selected for each cycle through the grid.

Automation

Major Malfunction allows for automation within Live, including all Effect controls, as well as Master Volume, Percent Wet, and Total Steps. The screen shot to the right shows a partial listing:
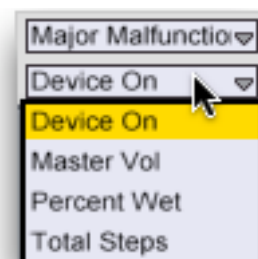
Presets

You can use presets at both the individual effect level, as well as at a global plugin level. There are four individual effect presets (numbered 1 through 4) for each preset, and eight master presets (numbered 1 through 8). In both cases, the presets are used in the same way:
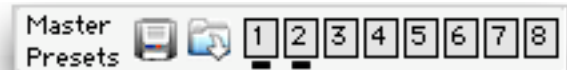
- Click to recall preset
- Shift-Click to store preset (overwrites an existing preset that may have been in that slot)

- Ctrl-Shift-Click to clear preset slot

There are reminders about these conventions in the tooltips in each respective preset section:

If a preset is being used, an indicator will appear below it; in this example, presets 1 and 2 are in use:

You can store sets of Master presets to disk, and load them manually at a later time if desired. Click the disk icon in the Master Preset section to store the current set of eight presets – you will be prompted for a file name and location to store them. The default file name is *mainstorage.xml*; you can rename this to whatever you desire, but preserve the .xml suffix. To load a set of presets, click the folder icon, and locate the desired preset file in the file dialog that appears. You cannot currently store individual effect presets to disk.

Known Bugs and Limitations
- When using the VST version of the plugin on Intel Macs, the retrigger, gate, and delay effects all calculate their time intervals very slightly off – this is a Max/MSP/Pluggo bug that Cycling '74 has been informed of. The workaround currently is to just use the AU version of the plugin, which does not exhibit this behavior. Both the VST and AU versions work correctly on PowerPC Macs.
- Tooltips don't work in the VST version, only in the AU version – this is a Max/MSP/Pluggo bug that Cycling '74 has been informed of.
- If you only have one active effect in the entire grid, and then click on it to clear it (or by using the Clear Grid button), then that effect occasionally still continues to play.
- If you only have one active effect in the entire grid, and then click on it to clear it (or by using the Clear Grid button), the green indicator light of that effect stays on, even though the grid has been cleared.
- The state of Major Malfunction's grid and other settings are *not* saved by Live when saving a Set.
- Major Malfunction only supports 4/4 time.

Acknowledgements and Thanks

Major Malfunction is written using Cycling '74's Max/MSP software. In addition, it uses (with permission) some 3rd party external objects:

- cpPan~, by Nathan Wolek (http://www.nathanwolek.com/nathanwolek)
- LBag, LBuild and LSame, by Peter Elsea
(http://arts.ucsc.edu/ems/music/research/lobjects.readme.html)

I was also influenced by a matrixctrl image originally created by Anders Dahl (http://www.cycling74.com/twiki/bin/view/Share/AndersDahl), as I created one of my own matrixctrl images.

Major Malfunction was inspired in part by:

- Glitch, by dblue (http://illformed.org/glitch)
- Livecut, by mdsp (http://mdsp.smartelectronix.com/2005/07/livecut.php)
- BBCut , by Nick Collins (http://www.cus.cam.ac.uk/%7Enc272/bbcut2.html)

Thanks also to beta testers Andrew Pask, Ali Momeni, Kelvin Russell, Nathan Kil.

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Version History

Version 1.0 (January 13, 2007)
- First official release

Version 1.0 beta 1 (July 14, 2006)
- First beta release to beta testers

Version 1.0 alphas (January - July 2006)
- Internal development