

DEVIL'S MUSIC (1985)
NICOLAS COLLINS
Software recreation rev. 2.5
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SETUP

You will need:

- A Macintosh computer, running OSX, using either the built-in audio input & output, or an external audio interface.
- OR: a PC running some form of Windows, with audio input and output.
- A radio of some sort (AM, FM, SW, etc.), with line output or headphone output.
- If possible, a small mixer that lets you cue the radio signal before it goes to the computer; if this is not available the program lets you dedicate specific channels of the audio interface for a cue send (see below).
- Audio cables to run from the radio to the computer, and from the computer to a sound system.
- A headphone for cuing audio.

Drag the appropriate folder (Mac or PC format) from the CDR to the hard drive of your computer. The folder contains two files: the program itself ("DevilsMusic2.5.app", for example) and a resource file needed for saving presets ("devilsettings.xml"). Double click on the "DevilsMusic" icon to run the program.

Connect radio to the either the Left or Right audio input channel of the computer. Connect computer outputs to the sound system (see OUTPUT ROUTING below). Click DSP SETUP to open the panel to configure sound input/output options if necessary (i.e., if you are using a multi-channel sound card). The DSP and COMPRESSOR should turn on automatically after starting the program; otherwise you can turn them on/off with the buttons on the **DSP** panel.

Adjust INPUT LEVEL and BOOST so that the meter shows a normal audio level, and so the indicators under the legend RETRIGGER THRESHOLD on the **CHANNEL** panels blink – IT IS ESSENTIAL THAT THE INDICATORS BLINK, OTHERWISE THE AUTO-RETRIGGER/REVERSE FUNCTION OF THE PIECE WILL NOT WORK! On a Macintosh you may need to open the Sound panel in System Preferences and check that the Input Volume is in the center of its range and the Input Level meter shows the audio signal in a normal range.

Use the OUTPUT ROUTING pull-down in the **DSP** panel to map output assignments:

- If your mixer has a cue channel you can use to monitor the radio signal before it passes on to the computer (i.e., a DJ mixer or other board with Pre-Fader Auxiliary Send) leave the OUTPUT ROUTING in the default position, "Devil 1&2, Input Monitor 3&4". Connect the ch. 1 & 2 (Left and Right) outputs to the PA.
- If your mixer does not have a cue channel but you have a multi-channel audio interface, you can assign one pair of outputs for the Devil's Music sounds to the PA, and one pair for pass-through monitoring of the radio. If you set the pull-down to "Devil 1&2, Input Monitor 3&4" connect outputs 1 & 2 to the PA, and monitor outputs 3 & 4 with your headphone. Alternatively you can select "Devil 3&4, Input Monitor 1&2", send 3 & 4 to the PA and monitor on 1 & 2 (on some interfaces ch. 1 & 2 are assigned to a headphone jack as the default Left and Right outputs, which makes them more suitable for a cuing channel.)
- If your mixer does not have a cue channel and you are using the built-in stereo audio interface you can use the Right output for a mono mix to the PA, and monitor the incoming radio with the Left output – select "Devil (mono) R – Input Monitor L".

There are three independent samplers (CHANNELS 1-3), each capable of recording up to 10 seconds of sound. Once a sample has been recorded it can play back in a simple LOOP, be re-triggered automatically from the start (STUTTER), or scratched back and forth (BACK&FORTH) response to the ongoing rhythm of the radio signal connected to the computer input. Adjusting the SLEW causes turntable-like pitch glissandi when in the BACK&FORTH mode. Pitch can be adjusted with an on-screen fader or commands from the computer keyboard. The mix can be adjusted with faders, and channel muting can be toggled on and off. A sampler can be set to RESAMPLE the output of the other two, so that new samples can be layered on top of a copy of a previous mix.

The program boots to USER settings for most on-screen controls. A typical setup might be: sampler 1 samples the radio INPUT and goes to the LEFT output; sampler 2 samples the radio INPUT and goes to the RIGHT output; sampler 3 RESAMPLES the outputs of samplers 1 & 2 and sends out a STEREO signal on left and right. The performer can save her/his USER settings by clicking the SAVE button under PRESEST on the DSP panel before quitting the program.

These settings are saved in an xml file titled "Devilsettings". If presented a "Save" dialog by the computer on quitting the program, save this file in the same folder as the *Devil's Music* program (this may occur the first time you run the software.) The first time you run the program the xml file may be empty, in which case you may need to adjust the settings you want - DEFAULT restores a standard setup and can be used as a point of departure.

In case of distortion:

- Turn DSP off & on.
- Turn COMPRESSOR off & on.
- Try various settings in your DSPstatus panel.
- Disconnect & reconnect audio input to computer.
- Quit and re-start program.

CONTROL PANELS

DSP PANEL

Enables and configures audio DSP functions of Macintosh, adjusts audio input level to samplers, and routes outputs.

- ON/OFF - turn ON and OFF the audio processing.
- AUDIO DRIVER - double-click DSPstatus to open control panel for computer sound settings (i/o devices, etc.)
- INPUT BOOST - preamp to boost level coming into computer.
- COMPRESSOR - compressor on/off (smoothes out volume differences between stations.)
- INPUT LEVEL - fader to trim input level.
- METER - to monitor input level.
- OUTPUT ROUTING - to assign output channels for monitoring and cuing the radio (see above).
- PRESETS - for saving and recalling user settings or default settings.
 - SAVE (red) saves current settings.
 - USER (green) recalls your saved settings.
 - DEFAULT (blue) recalls default settings.

SAMPLER PANELS 1-3

There are three independent stereo samplers (CHANNELS 1-3), each capable of recording up to 10 seconds of sound, each with identical controls.

- INPUT SELECT:
 - INPUT – computer input (radio) to sampler buffer.
 - RESAMPLE - records stereo mix of other two samplers outputs.
- RECORD - click to start recording, release to stop (RECORD function also accessible from keyboard -- see KEYBOARD SHORTCUTS panel.) Display indicates current sample duration (10 sec. max.)
- CLEAR SAMPLE - erase sample buffer.
- RETRIGGER THRESHOLD - sensitivity for auto-retriggering sample attack in STUTTER mode or direction reversal in BACK&FORTH mode (with light indicating response.)
- LOOP PLAY DIRECTION - indicates current direction; manual over-ride via pull-down menu.
- RETRIGGER MODE:
 - LOOP - regular loop, direction set with LOOP PLAY DIRECTION.
 - STUTTER - retrigger from sample start on each peak in input rhythm.
 - BACK&FORTH - change playback direction on each peak in input rhythm.
- PITCH - adjust sample playback pitch (1.0 = unison.) (can be nudged up & down with keyboard).
- UNISON - click to reset pitch to unison.
- SLEW - smoothes pitch change; in BACK&FORTH mode higher slew rates produce turntable-style scratching pitch glissandi.
- OUTPUT:
 - LEFT - hard pan left of sampler buffer output.
 - RIGHT - hard pan right of sampler buffer output.
 - STEREO - left buffer to left channel, right buffer to right channel.
- FADER - adjusts output level.
- ON/OFF - button toggles channel on and off (also from KEYBOARD SHORTCUTS).

KEYBOARD

The computer keyboard has been mapped to some of the main sampler commands.

- CHANNEL RECORD - Keys "1", "2" and "3" enable recording in SAMPLERS 1-2 respectively.
- RETURN - records in all three SAMPLER CHANNELS simultaneously (useful for creating three phasing loops of the same audio material.)
- OUTPUTS ON/OFF - Keys "7", "8" and "9" toggle output muting on and off for SAMPLERS 1-2 respectively.
- MUTE ALL CHANNELS – "Space Bar" toggles output muting on and off for all channels.
- RESET - "Delete" key resets all SAMPLER CHANNELS to default settings and clears sample buffers.
- PITCH CHANGE:
 - Sampler1: "q"=increment pitch, "a"=reset pitch to unison, "z"=decrement pitch.
 - Sampler2: "w"=increment pitch, "s"=reset pitch to unison, "x"=decrement pitch.
 - Sampler3: "e"=increment pitch, "d"=reset pitch to unison, "c"=decrement pitch.

(Occasionally when the program is first run on a PC the keyboard is not active until you perform the functions once using the on-screen buttons.)

HELP

Double-click on the buttons in the **HELP** panel for on-screen summary of this read-me file.

PERFORMING

Performing “Devil’s Music” is essentially doing a DJ set with an unpredictable live radio instead of a collections of known recordings. While one sample or a set of samples are running through automatic variations you scan through the radio dial listening for the right next sound, to be dropped in at the right time. The mix can go from thin (one sample playing) to thick (three copies of the same sample) to thicker (three different samples) to silent. The samples can be long enough to be identifiable, or so short as to be drones and ratchets. Pitch shift can also be used to render sources unrecognizable (and take advantage of any subwoofers.) Samples can also be cut in and out rhythmically by means of the mute commands.

Just as DJ cues a record before bringing it up in the mix, it is important to be able to listen to the radio that is feeding the samplers, so make sure you have made some provision for monitoring this signal.

SOFTWARE UPDATES

When available software updates can be found on my website, <http://www.nicolascollins.com>.

Caveat: this software was developed on a Macintosh, and most beta-testing has taken place on a Macintosh. Please report bugs and complaints to ncollins@saic.edu.

