Monichromitor

monochrome monitor simulator

Intro

Monichromitor and *Monichromitor Sound Module* are respectively a Processing sketch and a PureData patch created to simulate a computer automatically writing on a monochrome monitor.
It gives you the possibility to have this virtual computer printing any text on the screen according to what you put inside a script file.
You can also use special script command to make the computer make special operation like cleaning the screen or waiting idle for some time.

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General

In order to make M*onichromitor working* you have to run both the **Processing** sketch and the **PureData Extended** patch.

The Processing sketch will simulate the visual aspect of a virtual monochrome monitor while the PureData patch will handle the sound synthesis.

Processing and PureData needs to communicate via OSC protocol in order to reproduce sounds: to do this the Processing sketch is using the great **oscP5** library by Andreas Schlegel (http://www.sojamo.de/libraries/oscP5/) while the PureData patch is using the **mrpeach** library by Martin Peach, already included in PureData Extended version.

To install the oscP5 library simply follow the instructions you find in this link .

Script

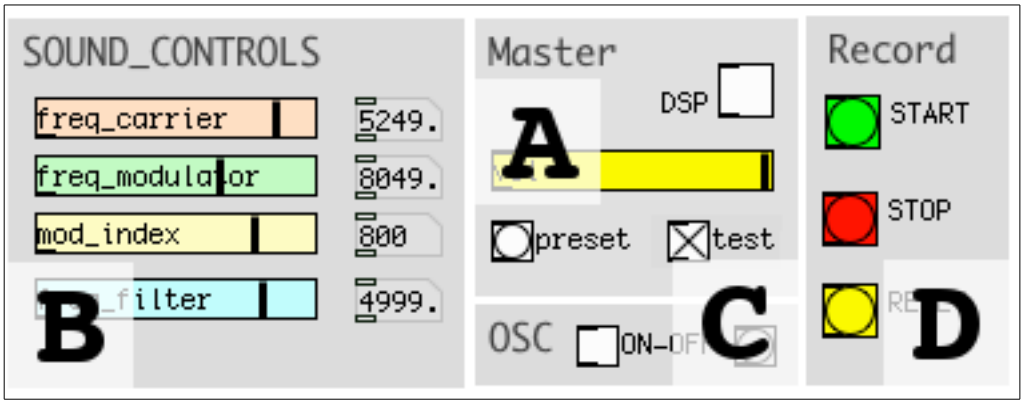
To make the computer automatically write on the virtual screen, you have to write text inside a script file. This file is called "script.txt" and is contained inside the 'data' folder.

Script can also contain commands to make the computer do special movements and functions.

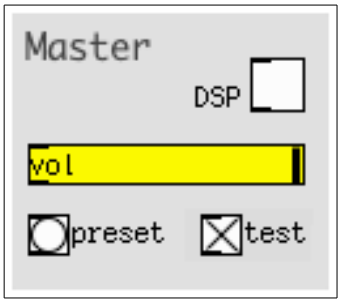
Each command appears in its own separated row, preceded by a '#' character.

comando	funzione
wait	This command takes a number as argument. This represent the number of seconds the computer has to wait before executing the next operation;
clear	Use this command if you want the virtual screen to be cleared completely and to start writing a new text line from the upper left corner of the screen.
clearline	This command makes the current text line – the line the cursor is currently on - to be cleared completely.
linefeed	This command is a linefeed and carriage return command.
restart	This command makes the program to read the script from the start.

Quickstart



1. Turn the audio computation on by clicking the corresponding toggle inside *Master* section (**A**). Turn up the volume usign the yellow horizontal slider. Click on the *Test* toggle inside *Master* section if you want to hear a series of test sounds.
2. Click on the OSC *ON-Off* toggle inside *OSC* section to activate OSC message receiver module (**C**).
3. Click on *Start* button in *Record* section if you want to start a new sound recording (**D**).



Master section

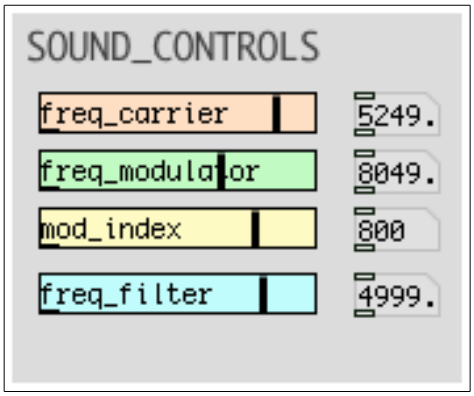
The *Master* section allows you to start the DSP computation and master output volume.

Click on `DSP_ON` toggle to activate/deactivate DSP computation.

Adjust the master output volume by dragging the `Vol` horizontal slider cursor.

Click on the `preset` button to refresh default settings.

Click on the test toggle to hear a series of test sounds so to easy setup sound parameters in *Sound Controls* section without having to run the Processing sketch.



Sound Controls section

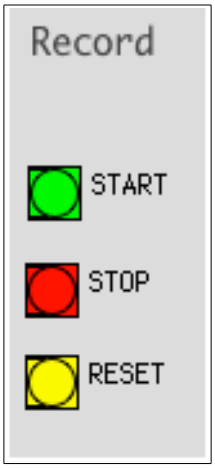
Sounds are generated usign classic FM synthesis technique. You can change parameter modifying the carrier and modultor frequencies and the modulation index.

In this section you can also change an hi-pass filter frequency to cut-off the low frequency aliases.

OSC section

From this section it is possible to activate and deactivate OSC message receiver.

When a new OSC message is received, the right button will blink.



Record section

The *Record* section allows you to record the patch audio output on audio files.

These files will be mono .wav audio files. These files will be saved as "X_mono.wav" where, "X" stands for a number that is the progressive id of the recording.

Before starting the recording, be shure you have created the "sounds" folder at the same level of the *Monichromitor* patch in your file-system.

Sampling rate of the recorded files will be the same as the DSP one.

Click on the `START` button to start a new recording.

Click on the `STOP` button to stop the recording and consequentely to create the corresponding audio files inside the "sounds" folder.

In case you want to create consecutive recordings it suffices to click the `START` button several times: the `START` button will actually stop the previous recording, automatically creatiting the corresponding audio files, and starting a new recording at the same time.

Use the `RESET` button to reset the recordings counter to 0.

Note: A new recording, started just after a reset, could overwrite other "0_mono" named audio files inside the "sounds" folder.

Note: recording volume will not be influenced by the the `Vol` control in the *Master* section, this is a listen control only.

References

PureData OSC: http://en.flossmanuals.net/pure-data/ch065_osc/