

ARGOPd est constitué de modules de synthèse et de traitement sonore et visuel fonctionnant en temps réel sous Pure Data.

ARGOPd est conçu pour des utilisateurs qui n'ont jamais programmé Pure Data

Pour MacOSX, Linux, Windows.

ARGOPd est un logiciel libre et ouvert.

ARGOPd is made of real-time sound and visual synthesis modules. A module is a Pure Data patch.

ARGOPd is conceived for users who have never programmed Pure Data

For MacOSX, Linux, Windows.

ARGOPd is an OpenSource freeware.

The screenshot displays the ARGOPd Pure Data patch interface. On the left, two video windows show a 3D rendered scene of a rocky landscape with a vertical pole and a high-contrast, black-and-white filtered version of the same scene. The main patch area includes several modules: 'GEM-Film' (rendering 'Suede-3489-320x240.mp4' at 50 frames/sec), 'GEM-Movement2' (with a 'Zero' parameter), 'GEM-CenterGravity' (containing a grid for R, Y, B, Alpha, and Gliss(ms)), 'PinkNoise', two 'Ampli' modules (-9dB and 6dB), two 'Fit-BP' modules (329.628 Hz), 'Freeverb', another 'Ampli' (0dB), and 'GEM-Direct'. Performance indicators on the right show 'GEM' at >10 Frames/sec, '>14 CPUPeak' and '>14.8 CPUMean', and a 'Record' indicator at >650 sec.

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<http://pagesperso-orange.fr/Paresys/ARGOPd/>

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## Installation

ARGOPd exige l'installation de Pd-0.41.4-extended minimum. Pd-0.41.4-extended est une version étendue de Pure Data (Pd). [http://fr.wikipedia.org/wiki/Pure\\_Data](http://fr.wikipedia.org/wiki/Pure_Data) Pd est un logiciel libre. Pd existe pour MacOSX, Linux, Windows.

ARGOPd requires the installation of Pd-0.41.4-extended mini. Pd-0.41.4-extended is an extended version of Pure Data (Pd). [http://en.wikipedia.org/wiki/Pure\\_Data](http://en.wikipedia.org/wiki/Pure_Data) Pd is free software. Pd exist for MacOSX, Linux, Windows.

1 Télécharger Pd-0.41.4-extended depuis l'adresse:

<http://puredata.info/downloads>

1 Download Pd-0.41.4-extended from:

2 Installer Pd-0.41.4-extended

2 Install Pd-0.41.4-extended

3 Télécharger ARGOPdv05.zip depuis l'adresse:

<http://pagesperso-orange.fr/Paresys/ARGOPd/>  
ou / or

<http://gerard.paresys.free.fr/ARGOPd/>

3 Download ARGOPdv05.zip from:

4 "Dézipper" le fichier ARGOPdv05.zip

4 "Unzip" the file ARGOPdv05.zip

5 Le dossier "ARGOPdv05" contient  
- un dossier "MM": tous les MiniModules  
- un dossier "ExMM": exemples  
- un dossier "Ancien-Ancient":  
ArgoPdv04...

5 The folder "ARGOPdv05" contains  
- a folder "MM": all the MiniModules  
- a folder "ExMM": Examples  
- a folder "Ancien-Ancient":  
ARGOPdv04...

Pour les connaisseurs:

Un MiniModule (MM) est un "Graph-on-parent subpatch".  
Un "ExMM" est un "patch" constitué de plusieurs MM connectés.  
Dans "Ancien---Ancient"  
les modules de ARGOPdv04 sont des patches.

For the experts:

A MiniModule (MM) is a "Graph-on-parent subpatch".  
An "ExMM" is a "patch" consists of several connected MM.  
In "Old---Ancient"  
the modules of ARGOPdv04 are patches.

## Début / Beginning

Lancer l'application Pure Data  
Ouvrir le dossier ARGOPdv05  
Ouvrir le dossier MM  
Ouvrir All-ARGOPdMM.pd

Launch Pure Data application  
Open ARGOPdv05 folder  
Open MM folder  
Open All-ARGOPdMM.pd

Un fichier Pure data a l'extension .pd

A Pure Data file has the extension .pd

Attention: sous Linux ou Windows: ne pas ouvrir par 2 x clic sur un fichier .pd mais en faisant Menu File puis Open. Sinon une nouvelle instance de Pure data est lancée à chaque ouverture.

Caution: under Linux or Windows: do not open by 2 x click a .pd file but by Menu File then Open. Otherwise a new instance of Pure data opens each time.

ARGOPdMiniModules

ARGOPd est constitué de modules de synthèse et de traitement sonore et visuel fonctionnant en temps réel sous Pure Data (Pd).

ARGOPd is made of real-time sound and visual synthesis modules functioning in real time under Pure Data (Pd).

Ce patch "All-ARGOPdMM.pd" permet d'ouvrir les autres patches (placés dans le même dossier) regroupant tous les MiniModules ARGOPd.

This patch "All-ARGOPdMM.pd" opens the other patches (located in the same folder), grouping all ARGOPd MiniModules.

Le dossier ExMM contient plus de 100 exemples de patches Pd utilisant des MiniModules.

ExMM folder contains more than 100 examples of Pd patches using MiniModules.

Le mieux, pour se familiariser avec ARGOPd est d'ouvrir ces ExMM.

The best way to become familiar with ARGOPd, is to open these ExMM.

Par exemple: Ouvrir ExMM1a-Sinus.pd puis ExMM1b-Sinus.pd..

For example: Open ExMM1a-Sinus.pd then ExMM1b-Sinus.pd ..

Un MiniModule (MM) est un "Graph-on-parent subpatch"

A MiniModule (MM) is a "Graph-on-parent subpatch"

Audio-Player	Help
Audio-PlayerVarySpeed	
Audio-Generator	MIDI
Audio-Effect	GEM-Control
Audio-Filter	GEM-In
Audio-FFT	GEM-Transform
Audio-Ampli	GEM-Out
Audio-Control	
Audio-Control2D	PDP-Control
Audio-Display	PD-In
Audio-In	PDP-Transform
Audio-Detect	PDP-Out
Audio-Switch	
Audio-Simple	OSC
Audio-Out	Arduino
Audio-Record	Beta
Patch-Model-Mono	GEM-Example
Patch-Model-Stereo	Audio-Example

fait par / made by Gerard Paresys

<http://pagesperso-orange.fr/Paresys/ARGOPd/>  
<http://gerard.paresys.free.fr/ARGOPd/>  
gerard.paresys@ens.fr

Compatible MacOSX, Linux, Windows (except PDP...)

Construit sous / Build under Pd 0.41.4-extended  
Voir/Look at: <http://puredata.info/downloads>

pd Problems

pd AFaire-ToDo

15 3 2010

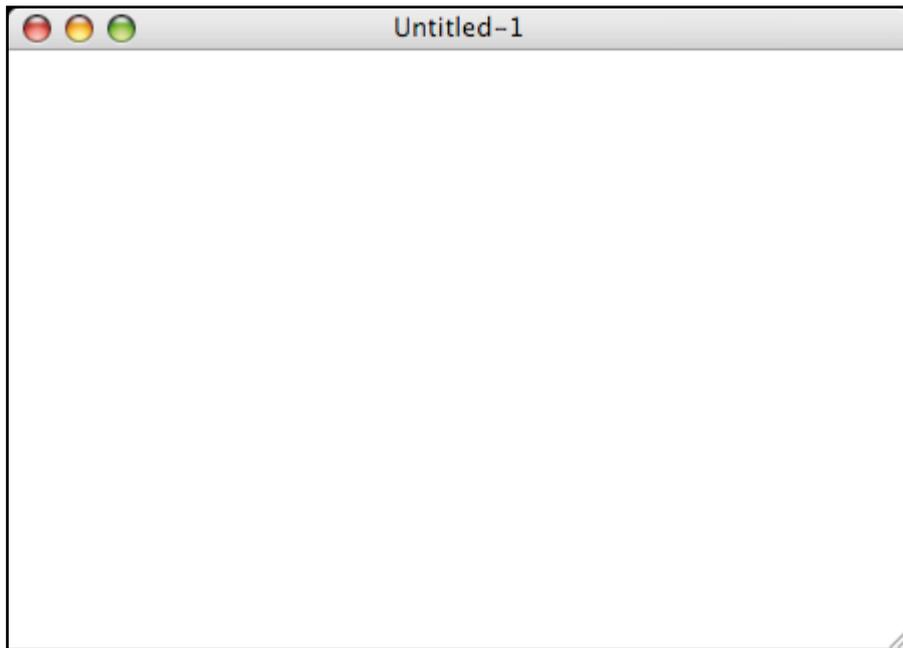
Cette fenêtre (un "patch" Pure Data) est une palette qui rassemble tous les "MiniModules".

This window (a Pure Data "patch") is a palette that gathers all the "MiniModules".

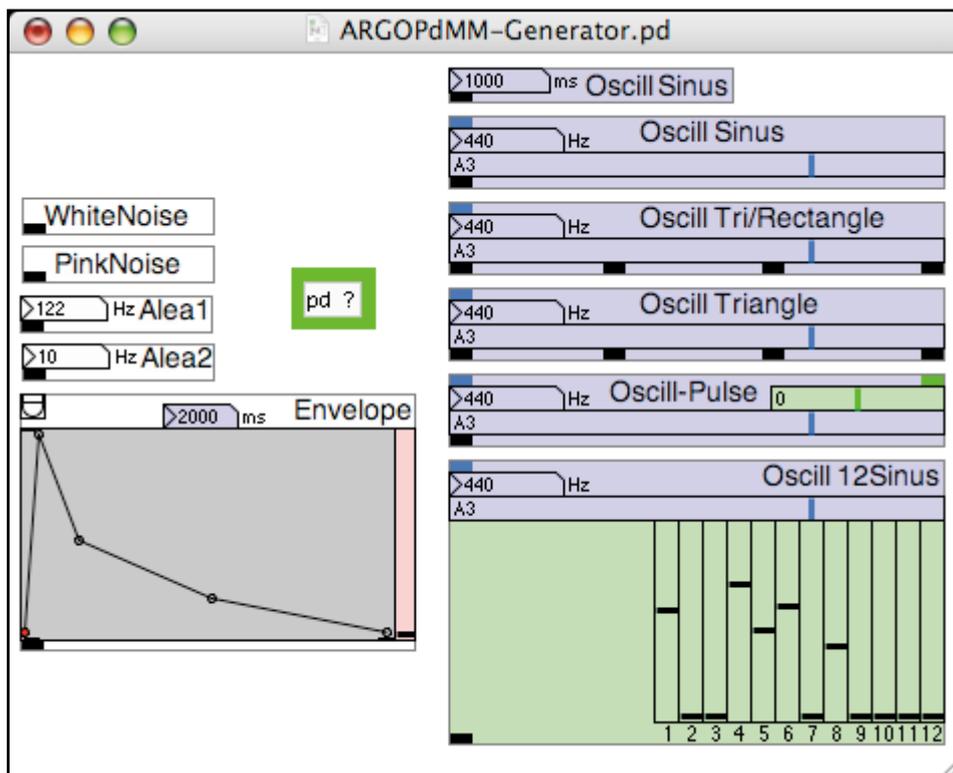
Un premier patch Audio.

A first Audio patch.

Menu File -> New



All-ARGOPdMM.pd -> Click ->



Passer en mode Edit:

Menu Edit -> Edit mode

Go to the Edit mode:

(ou Ctrl E ou Pomme E sous MacOS)

(or Ctrl E or Apple E under MacOS)

Copier ->



<- Copy

Fermer la fenêtre

Close the Window

Coller dans la fenêtre Untitled-1

Paste in the window Untitled-1

L'autre mode est le mode Run

The other mode is the mode Run

On y revient de la même manière

Same way to go.

Curseur de la souris ->

Mode Run -> 

<- Mouse cursor

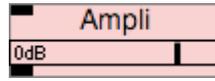
Mode Edit -> 

All-ARGOPdMM.pd -> Clic ->



<- Click <- All-ARGOPdMM.pd

Passer en mode Edit -> Copier ->



<- Copy <- Mode Edit

Fermer la fenêtre

Close the window

Coller dans la fenetre Untitled-1

Paste in Untitled-1 window

All-ARGOPdMM.pd -> Clic ->



<- Click <- All-ARGOPdMM.pd

Passer en mode Edit -> Copier ->



<- Copy <- Mode Edit

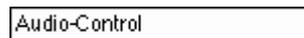
Fermer la fenêtre

Close the window

Coller dans la fenetre Untitled-1

Paste in Untitled-1 window

All-ARGOPdMM.pd -> Clic ->



<- Click <- All-ARGOPdMM.pd

Passer en mode Edit -> Copier ->  
(Attention, prendre les 2 éléments)



<- Copy <- Mode Edit  
(Warning: take the 2 elements)

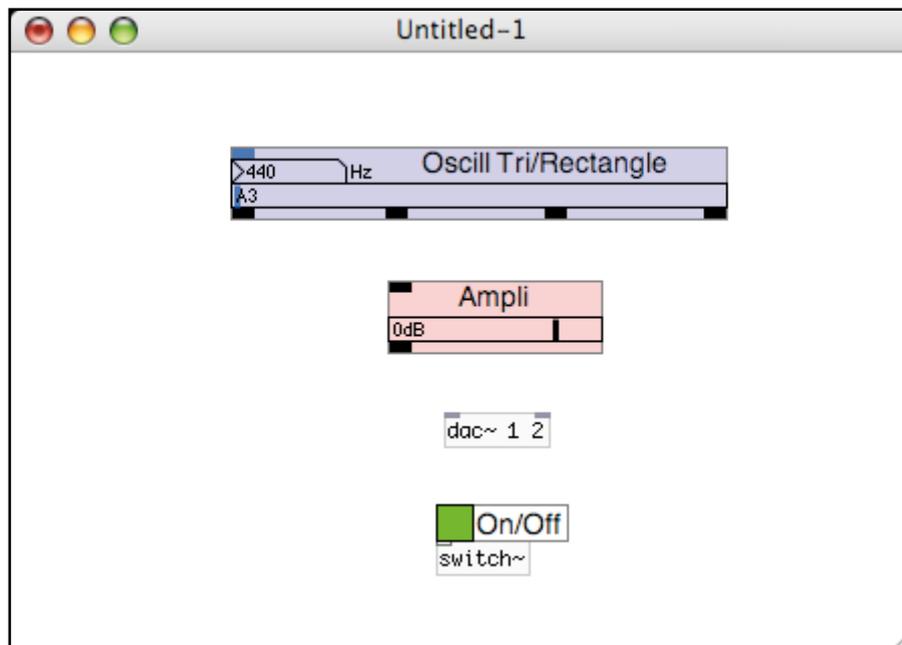
Fermer la fenêtre

Close the window

Coller dans la fenetre Untitled-1

Paste in Untitled-1 window

On obtient ->



<- We obtain

On peut changer la position  
des 4 éléments...

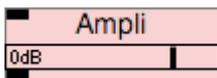
You can change the position  
of the 4 elements ...

Les entrées et sorties Audio ->



<- The Audio inputs and outputs

Les entrées sont en haut ->



<- The inputs are on top

Les sorties sont en bas ->

<- The outputs are on bottom

En mode Edit

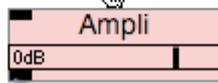
In Edit mode

Déplacer les MiniModules

Move the MiniModules

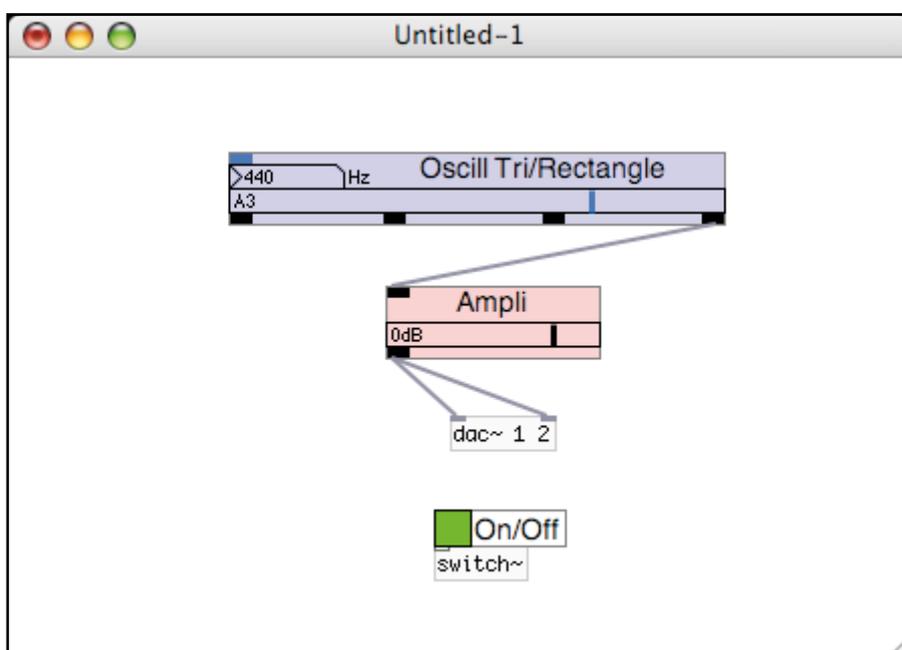


Relier les sorties aux entrées ->



<- Connect the outputs to the inputs

on obtient ->

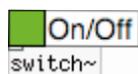


<- we obtain

Quitter le mode Edit:

Quit the Edit mode

Clic ->



<- Click

On entend un signal triangulaire de fréquence 440 Hz de niveau 0 dB

We hear a triangular signal of frequency 440 Hz of level 0 dB

Sauver le patch:

Save the patch:

Ctrl S (ou pomme S sous MacOS)  
Par exemple "Patch1.pd"

Ctrl S (or Apple MacOS S)  
For example "Patch1.pd"

ATTENTION:

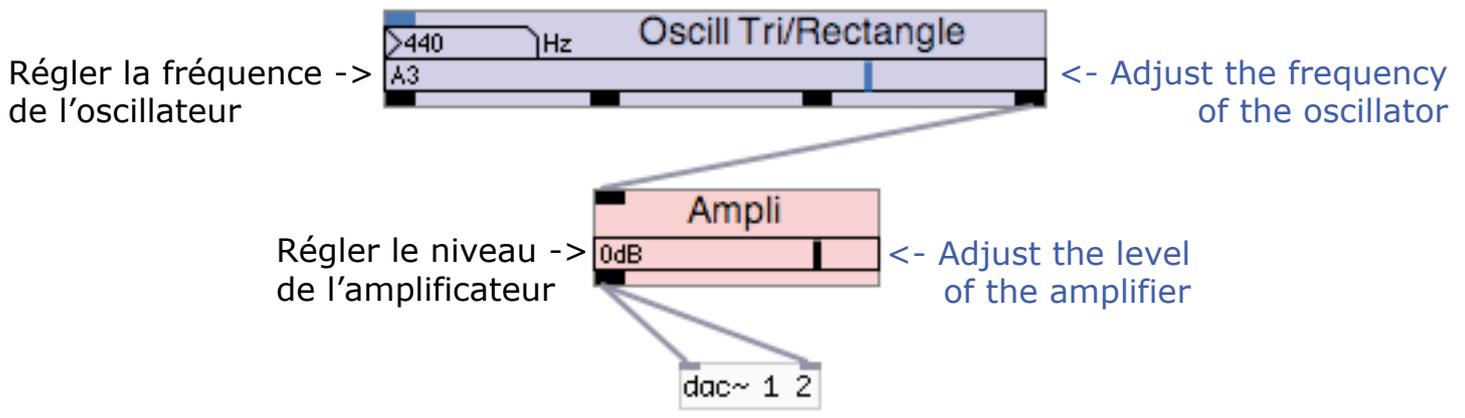
WARNING:

L'extension du nom du fichier doit être .pd

The extension of the filename should be .pd

Régler la fréquence  
Régler le niveau

Adjust the frequency  
Adjust the level



ATTENTION: certains curseurs ne bougent pas quand le patch est Off

WARNING: some sliders do not move when the patch is Off

6 méthodes pour régler la fréquence de l'oscillateur:

- Glisser le curseur
- Glisser le curseur en maintenant la touche Majuscule du clavier pour régler finement
- Glisser la souris sur le nombre
- Glisser la souris sur le nombre en maintenant la touche Majuscule du clavier pour régler finement
- Clic le nombre +  
Taper un nouveau nombre au clavier +  
Taper la touche Entrée
- Entrer un signal dans



6 methods to adjust the frequency of the oscillator:

- Drag the slider
- Drag the cursor while holding the Shift key on the keyboard to fine tune
- Drag the mouse over the number
- Drag the mouse over the number while holding down the Shift keys to fine tune
- Click the number +  
+ Enter a new number on the keyboard  
+ Type the Enter key
- Enter a signal

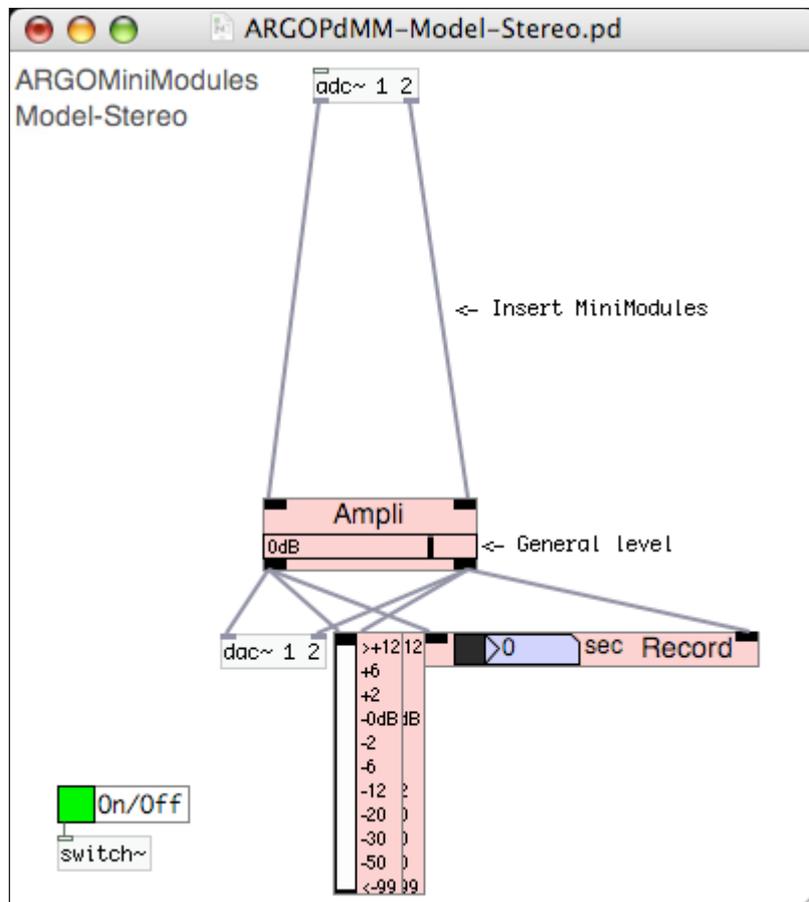
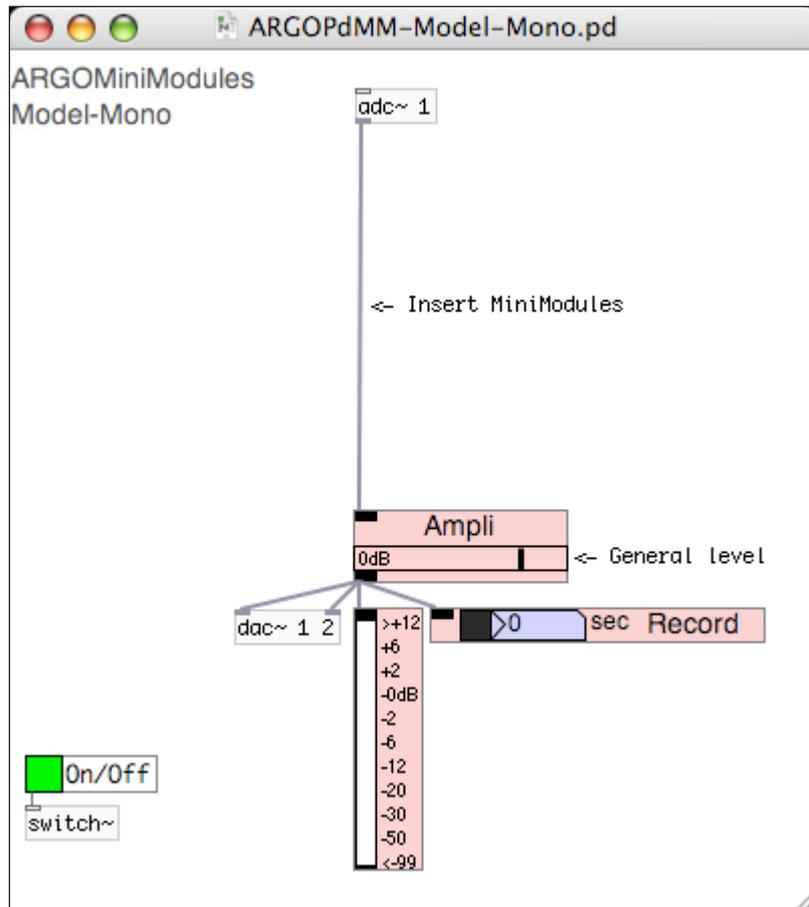
La note (par exemple A3) la plus proche de la fréquence (par exemple 440 Hz) s'affiche.

The note (eg A3) closest to the frequency (eg 440 Hz) is displayed.

## Audio-Model

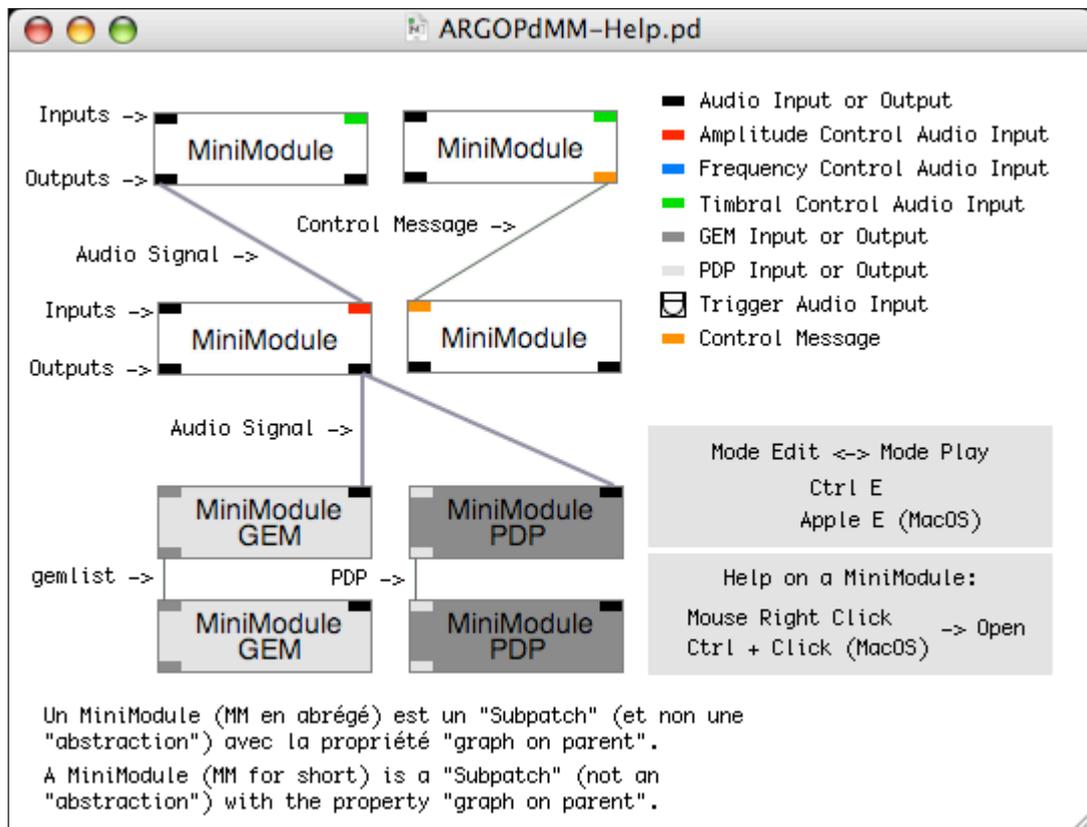
Une autre méthode pour construire un patch Audio est de démarrer avec un modèle:

Another method to build an Audio patch is to start with a model:



## Couleur / Color

Hauteur - Fréquence - Temps		Pitch - Frequency - Time	
Timbre - Forme		Timbre - Shape	
Energie	Amplitude	Energy	
Entrée - Sortie		Input - Output	
MIDI			
OSC			
GEM			
PDP			



# MM-Audio

ARGOPdMM-Player.pd

Audio player 2 channels 1 output

Audio player 2 channels 2 outputs

Audio player 4 channels 4 outputs

Audio player 8 channels 8 outputs

pd ?

pd Help

ARGOPdMM-Filter.pd

>440 Hz Fit-LP

>440 Hz Fit-HP

>440 Hz Fit-BP

>440 Hz Fit-BP

>440 Hz Fit-Comb

>1 ms Gliss

ARGOPdMM-PlayerVarySpeed.pd

Play

Speed

Reverse

Play

Speed

Reverse

Play3

RecordPlay

Speed

Reverse

Normalize

Save

ARGOPdMM-Generator.pd

>1000 ms Oscill Sinus

>440 Hz Oscill Sinus

>440 Hz Oscill Tri/Rectangle

>440 Hz Oscill Triangle

>440 Hz Oscill-Pulse

>440 Hz Oscill 12Sinus

WhiteNoise

PinkNoise

>122 Hz Alea1

>10 Hz Alea2

>2000 ms Envelope

ARGOPdMM-Contro...

Visible Control-2D

Visible Control-2D

ARGOPdMM-Effect.pd

Tanh

>1 Overdrive

>240 Quanta

Delay

1000ms

Zhzxx

Tone=158

Freeze Freeverb

WaveShaping

Cheby

ReverbConvolution

PhaseVoc

ReverbFdn

ARGOPdMM-Control.pd

On/Off switch

Sig

Bang

>0.83	>0.05	>1.38
>1	>1	>1
>1	>5	>0.92
>1	>10	>0.9
>1	>20	>0.88
>1	>40	>0.84
>1	>99	>0.8
>0	>0	>0

ARGOPdMM-FFT.pd

ATTENTION: placer 1 fois et 1 seule Init-FFT dans un patch comportant 1 ou plusieurs MiniModules FFT

Init-FFT

FFT-Compression

FFT-Expansion

FFT-NoiseGate

FFT-BrickWallFilter

FFT-Simple1

FFT-Simple2

FFT-Simple3

FFT-Vocoder

FFT-Convolution1

FFT-Convolution2

FFT-Convolution3

FFT-CrossSynthesis1

FFT-CrossSynthesis2

Reset FFT-Reverb

pd Doc

ARGOPdMM-Ampli.pd

Ampli

AmpliLin

Mix

Pan

Ampli

AmpliLinAbs

Ampli

Spatial

Spatial

Spatial-Fit

Spatial-Fit

VBAP-2D-1-8

1 x In mono -> Stereo

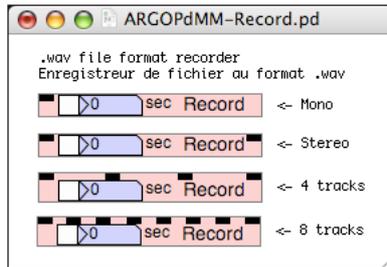
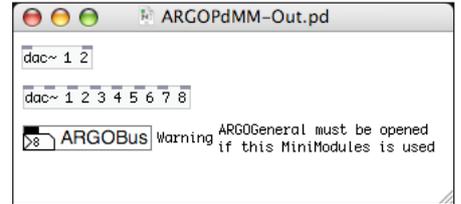
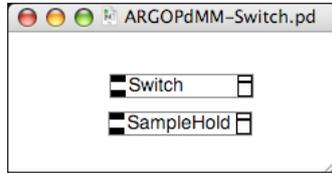
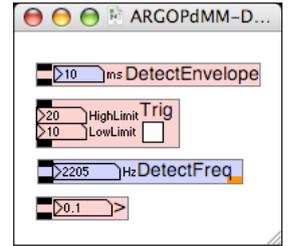
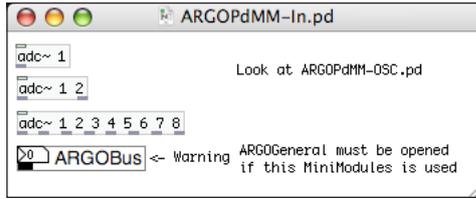
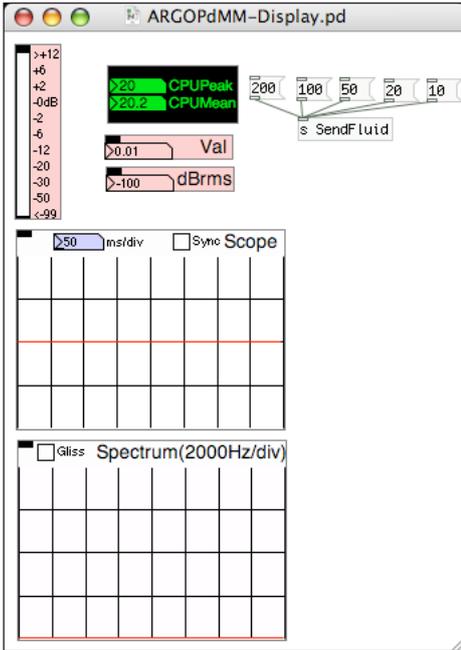
2 x In mono -> Stereo

2 x In mono -> Stereo

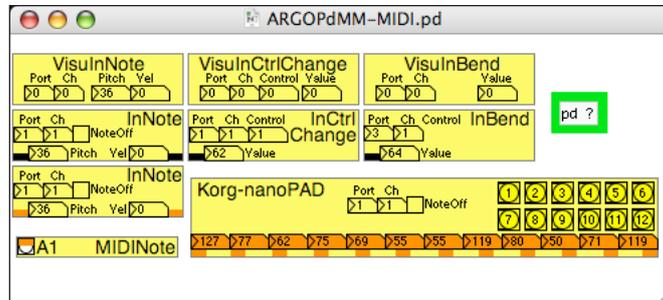
4 x In mono -> Stereo

1 x In mono -> 8 channels

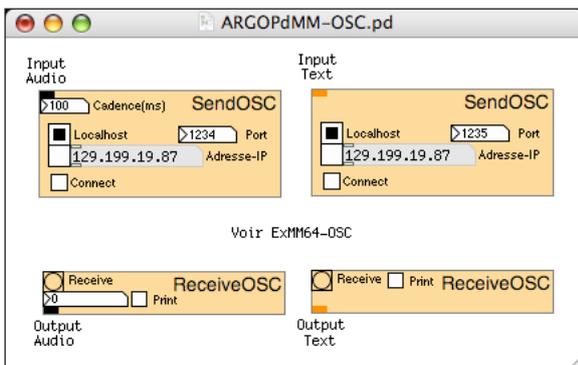
## MM-Audio



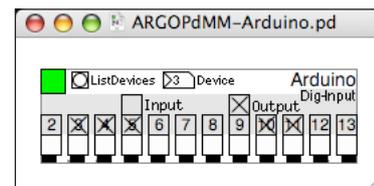
## MM-MIDI



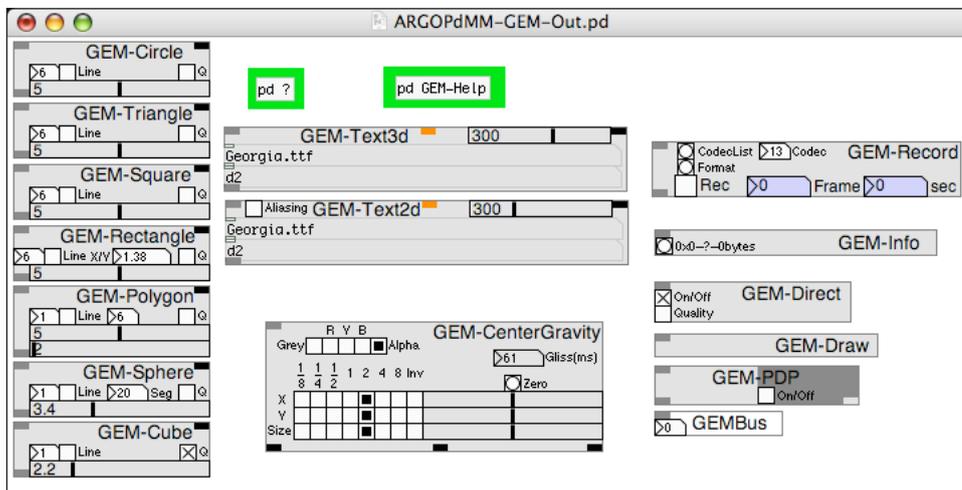
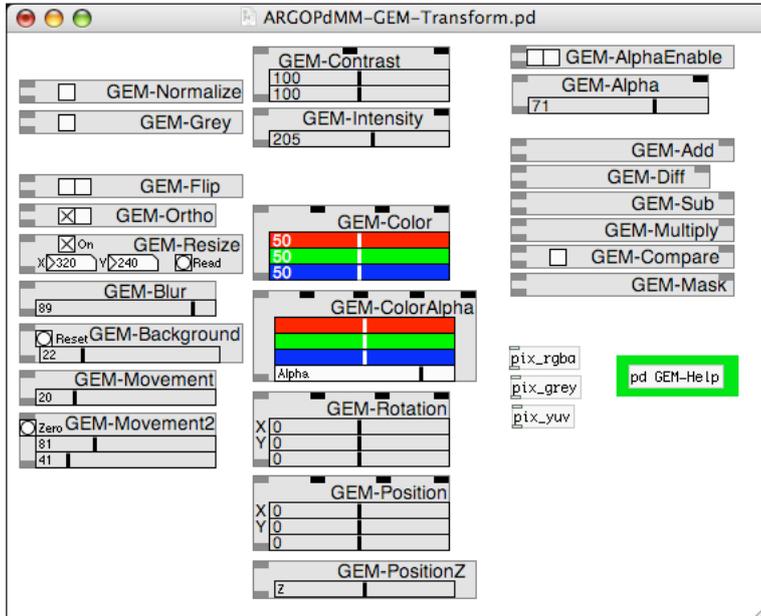
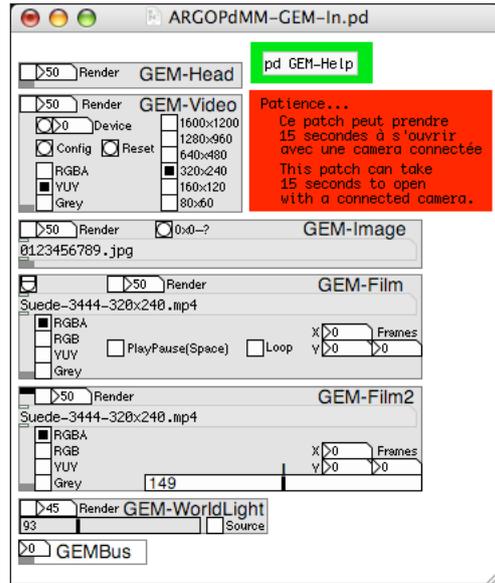
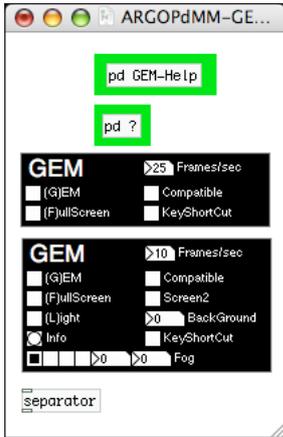
## MM-OSC



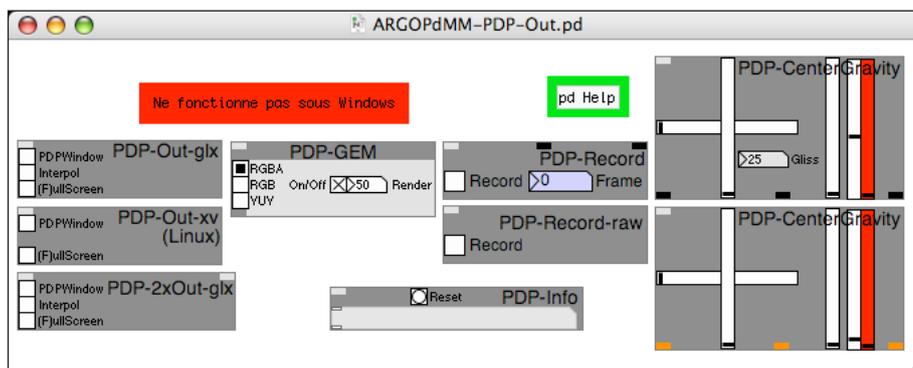
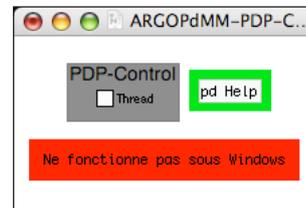
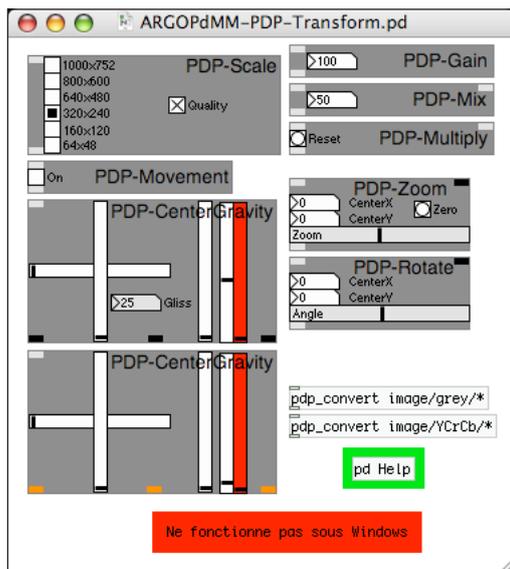
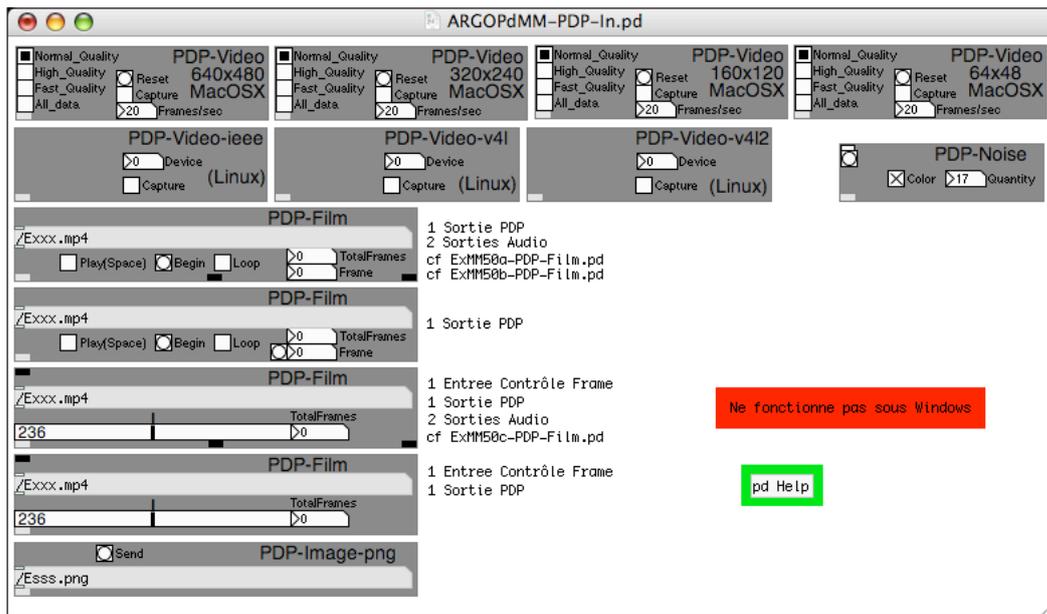
## MM-Arduino



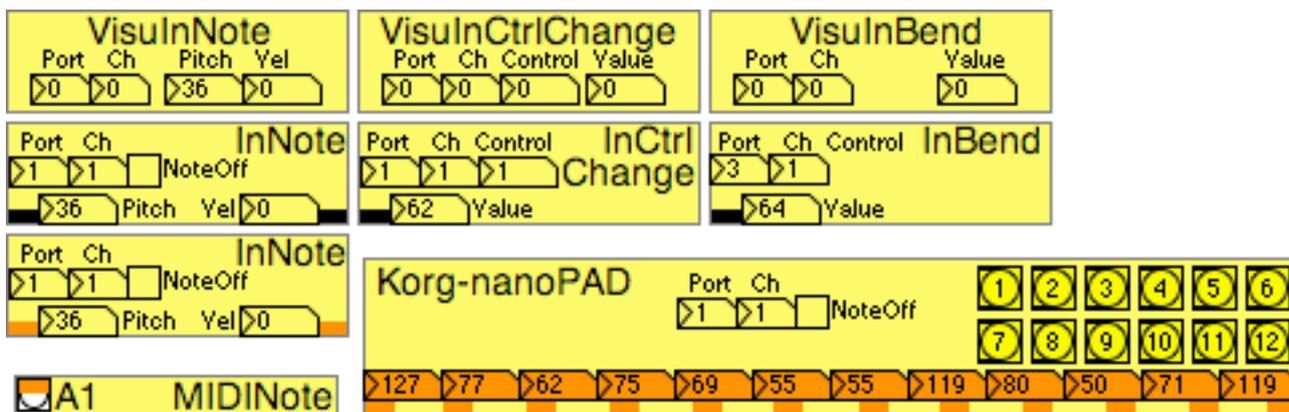
# MM-GEM



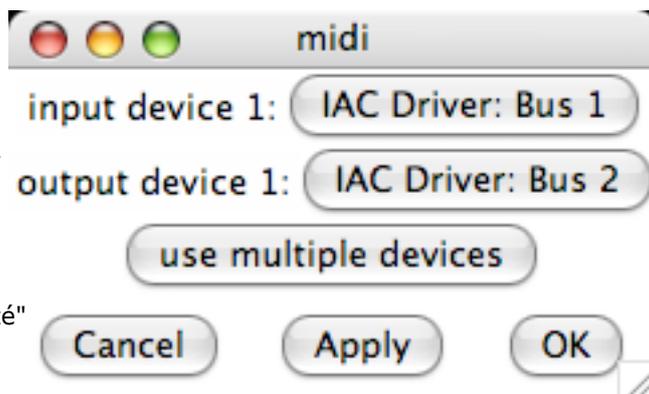
# MM-PDP



## MIDI

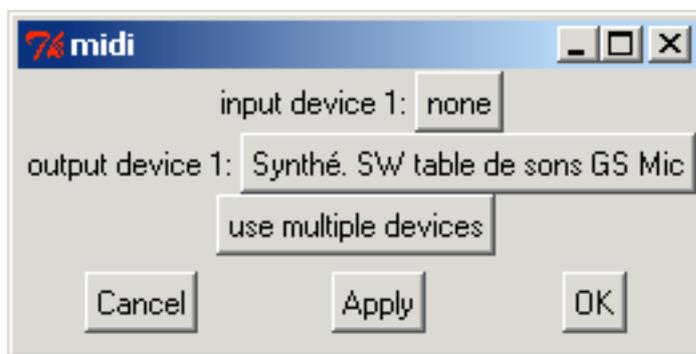


MacOSX -> Pd -> Menu Pd-extended ->  
-> Preferences -> MIDI settings... ->



MacOSX -> Dossier Applications -> Dossier Utilitaires ->  
-> Configuration audio et MIDI.app -> Périphériques MIDI ->  
-> IAC Driver -> 2 x clic -> Cocher "le périphérique est connecté"  
-> Ports -> Ajouter un port -> Bus 2

WindowsXP -> Pd -> Menu Media ->  
-> MIDI settings... ->



Linux -> Pd -> Menu Media ->  
-> MIDI settings... ->



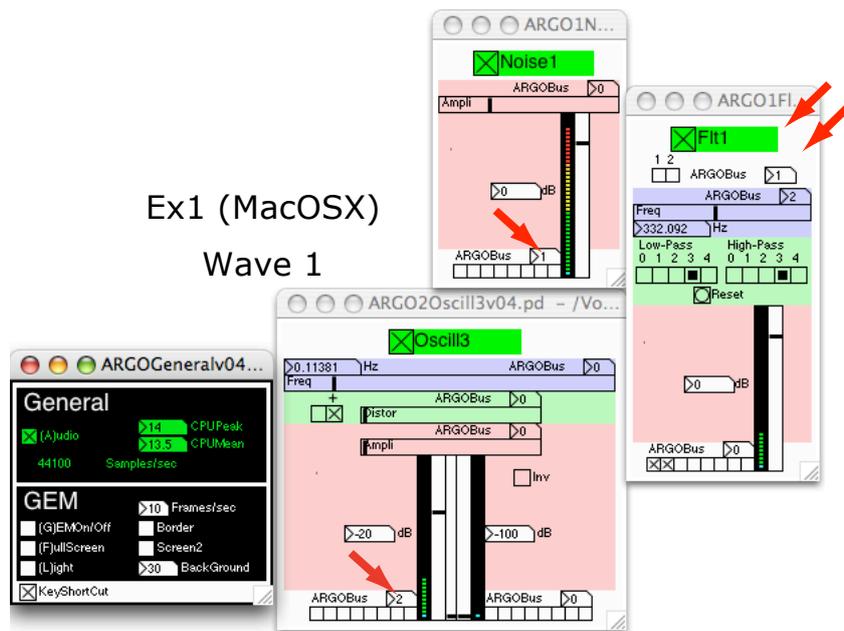
## ARGOPdv05 & ARGOPdv04

Dans ARGOPdv05, un "patch" est constitué de plusieurs MiniModules (MM) connectés.

In ARGOPdv05 a "patch" consists of several connected MiniModules (MM).

Dans ARGOPdv04 chaque module est un patch Pure data. Ces modules sont reliés par des sortes de cables virtuels: les ARGOBUS et les GEMBUS. Par exemple:

In ARGOPdv04 each module is a Pure data patch. These modules are connected by a kind of virtual cables: the ARGOBUS and the GEMBUS. For example:



Dans cet exemple, 4 modules, donc 4 patches sont ouverts. Les ARGOBUS 1 & 2 sont utilisés. Un module "ARGOGGeneral" et un seul doit être ouvert (il gère les ARGOBUS).

In this example, 4 modules therefore 4 patches are open. The ARGOBUS 1 & 2 are used. A module "ARGOGGeneral" and only one must be open (it manages ARGOBUS).

Un patch ARGOPdv05 (constitué de MM reliés entre eux) peut être relié aux modules ARGOPdv04 grâce à 2 MiniModules:

A patch ARGOPdv05 (consisting of connected MM) can be connected to ARGOPdv04 modules thanks to 2 MiniModules:



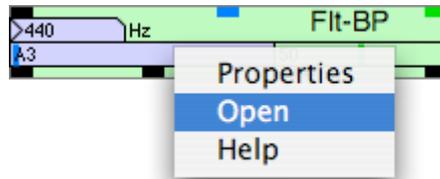
## Ouvrir - Open

Pour ouvrir un MiniModule:

- Clic droit sur le MiniModule  
(ou Ctrl + clic sous MacOSX avec une souris à 1 bouton)

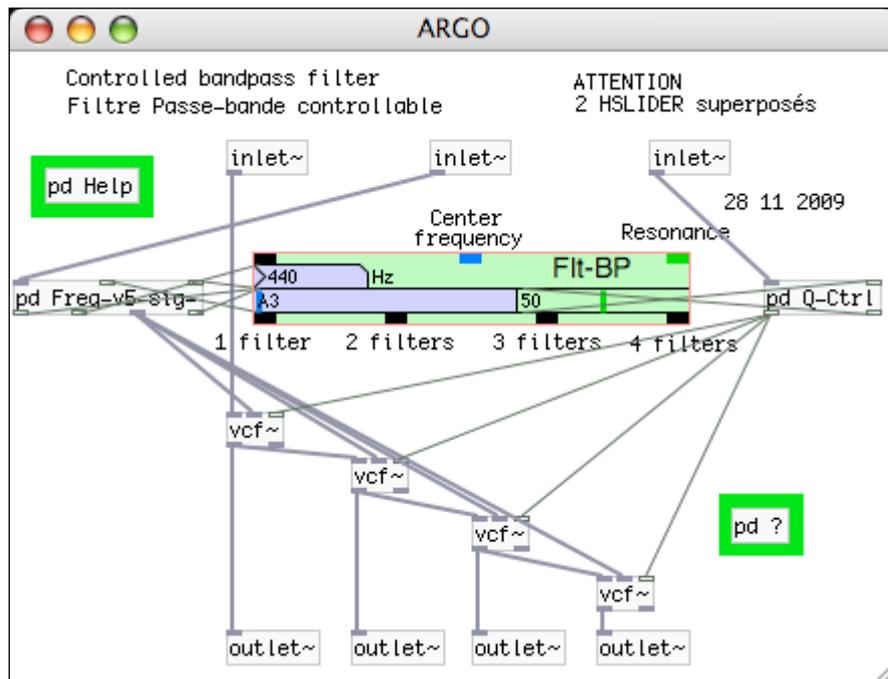
To open a MiniModule:  
- Right click on the MiniModule  
(or Ctrl + click with a one button mouse on MacOSX)

- Un menu s'affiche ->



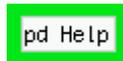
<- A menu appears

- Clic Open ->

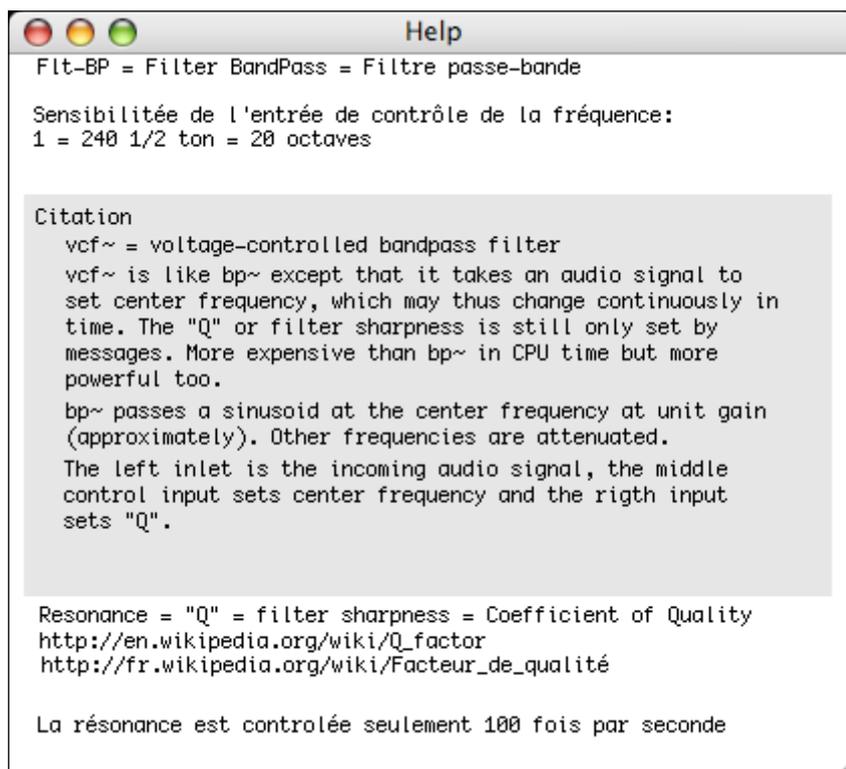


<- Click Open

- Clic Pd Help ->



<- Click Pd Help



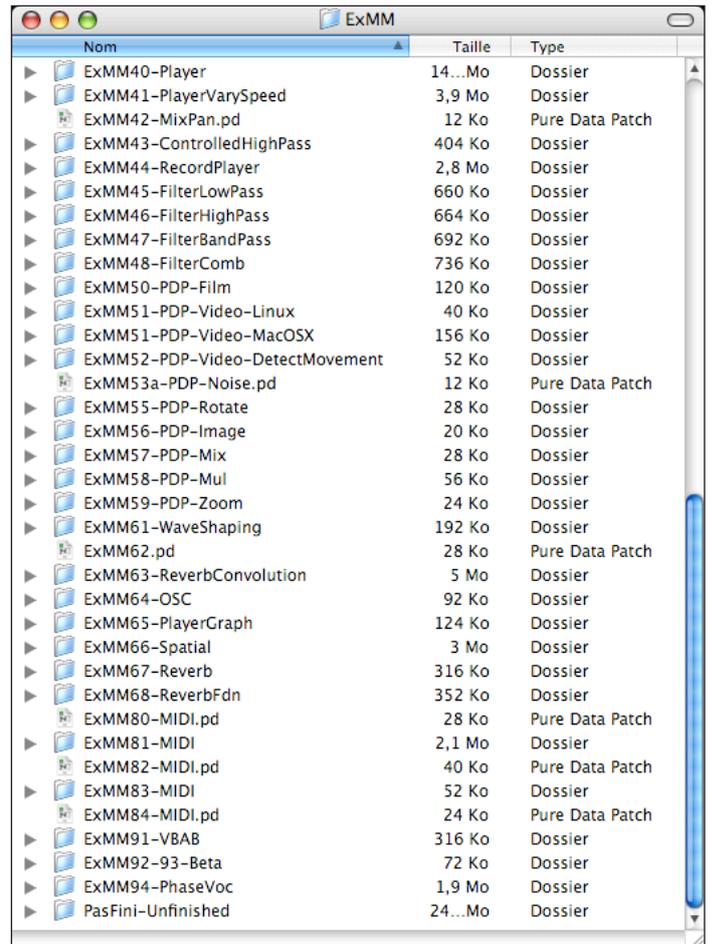
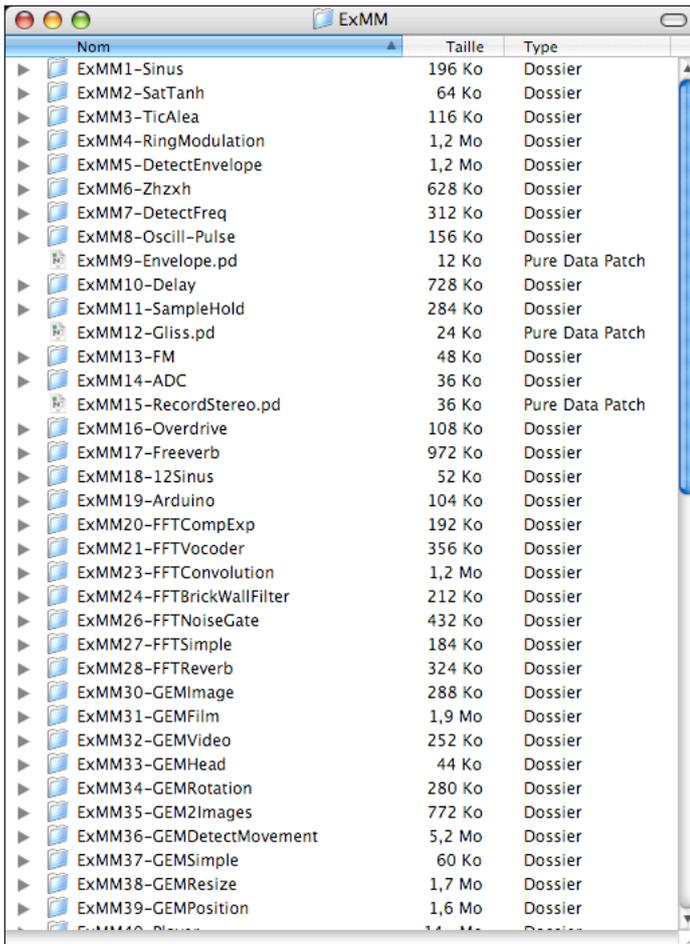
## Les exemples ExMM The examples

Le mieux, pour se familiariser avec ARGOPd est d'ouvrir les "ExMM".

Lancer l'application Pure Data  
Ouvrir le dossier ARGOPdv05  
Ouvrir le dossier ExMM

The best thing to do, if you want to get used to ARGOPd is to open the "ExMM".

Launch Pure Data application  
Open ARGOPdv05 folder  
Open ExMM folder



## Les exemples ExMM The examples

Le mieux, pour se familiariser avec ARGOPd est d'ouvrir les "ExMM".

Lancer l'application Pure Data  
Ouvrir le dossier ARGOPdv05  
Ouvrir le dossier ExMM  
Ouvrir le dossier ExMM11-SampleHold

Un fichier Pure data a l'extension .pd

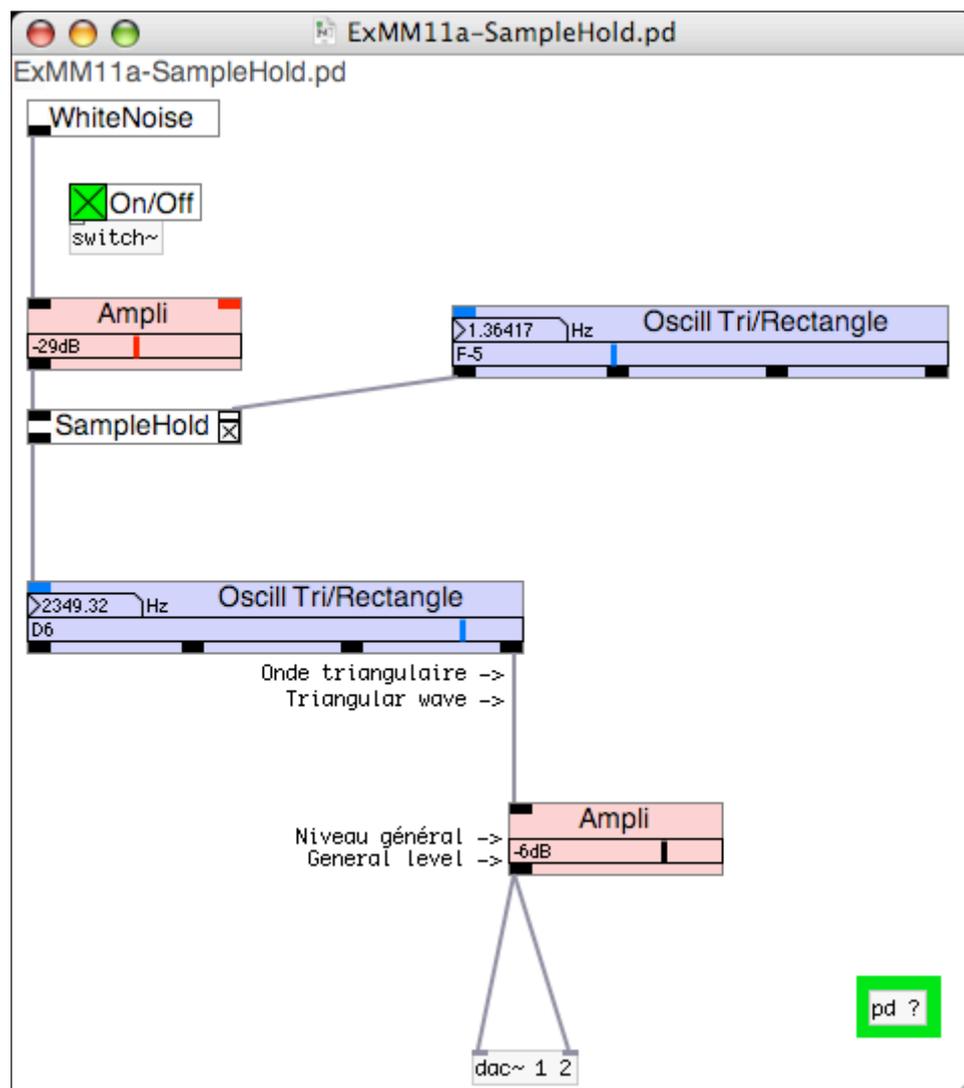
Attention: sous Linux ou Windows: ne pas ouvrir par 2 x clic sur un fichier .pd mais en faisant Menu File puis Open. Sinon une nouvelle instance de Pure data est lancée à chaque ouverture.

The best thing to do, if you want to get used to ARGOPd is to open the "ExMM".

Launch Pure Data application  
Open ARGOPdv05 folder  
Open ExMM folder  
Open ExMM11-SampleHold folder

A Pure Data file has the extension .pd

Caution: under Linux or Windows: do not open by 2 x click a .pd file but by Menu File then Open. Otherwise a new instance of Pure data opens each time.



## Les exemples ExMM The examples

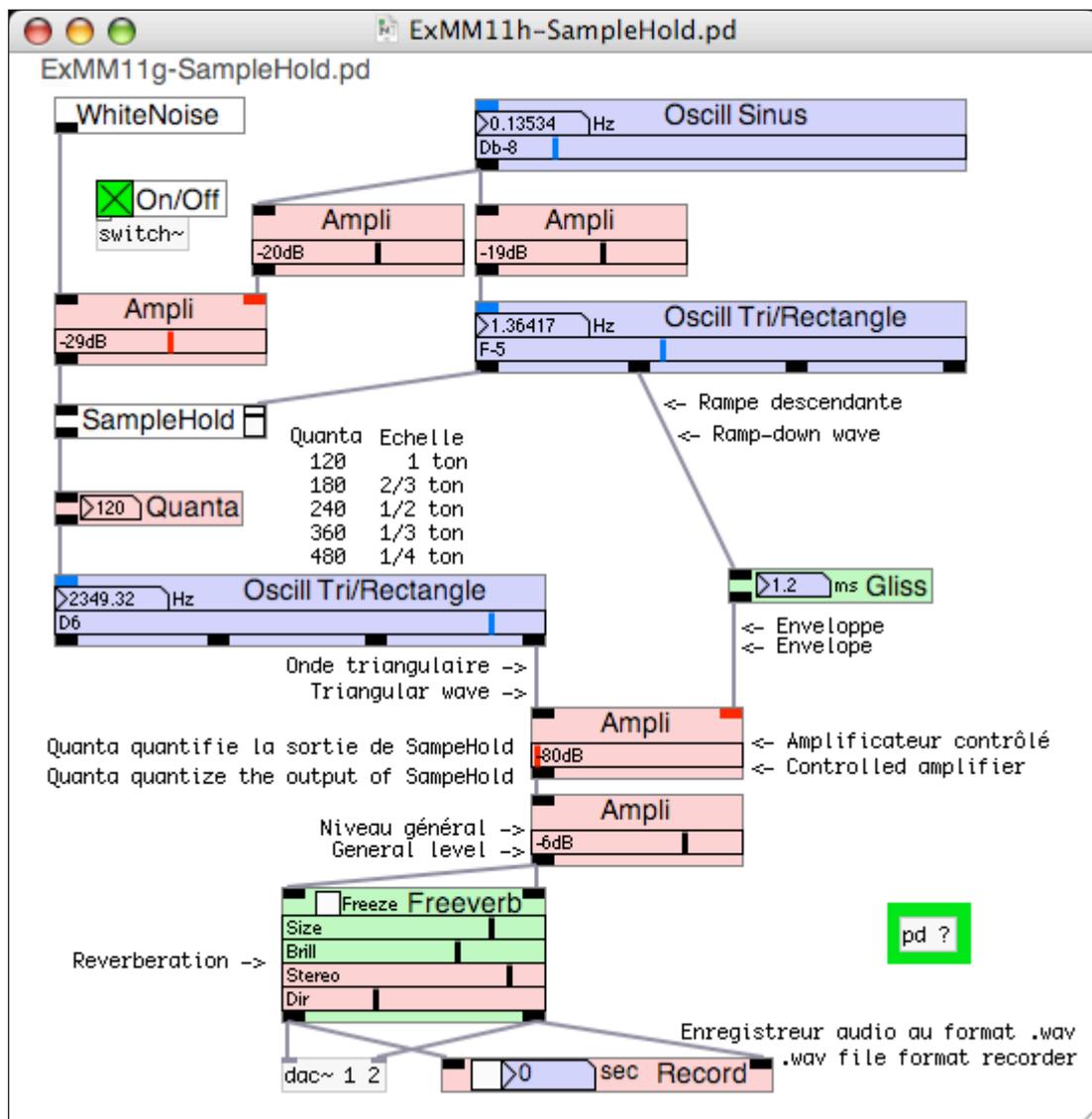
La plupart des exemples est sous la forme d'un dossier contenant plusieurs patches.

Many examples are in the form of a folder containing several patches.

ExMM11-SampleHold	284 Ko	Dossier
ExMM11a-SampleHold.pd	24 Ko	Pure Data Patch
ExMM11b-SampleHold.pd	24 Ko	Pure Data Patch
ExMM11c-SampleHold.pd	28 Ko	Pure Data Patch
ExMM11d-SampleHold.pd	36 Ko	Pure Data Patch
ExMM11e-SampleHold.pd	36 Ko	Pure Data Patch
ExMM11f-SampleHold.pd	40 Ko	Pure Data Patch
ExMM11g-SampleHold.pd	44 Ko	Pure Data Patch
ExMM11h-SampleHold.pd	44 Ko	Pure Data Patch

La complexité augmente depuis:  
ExMM11a-SampleHold.pd  
jusqu'à:  
ExMM11h-SampleHold.pd

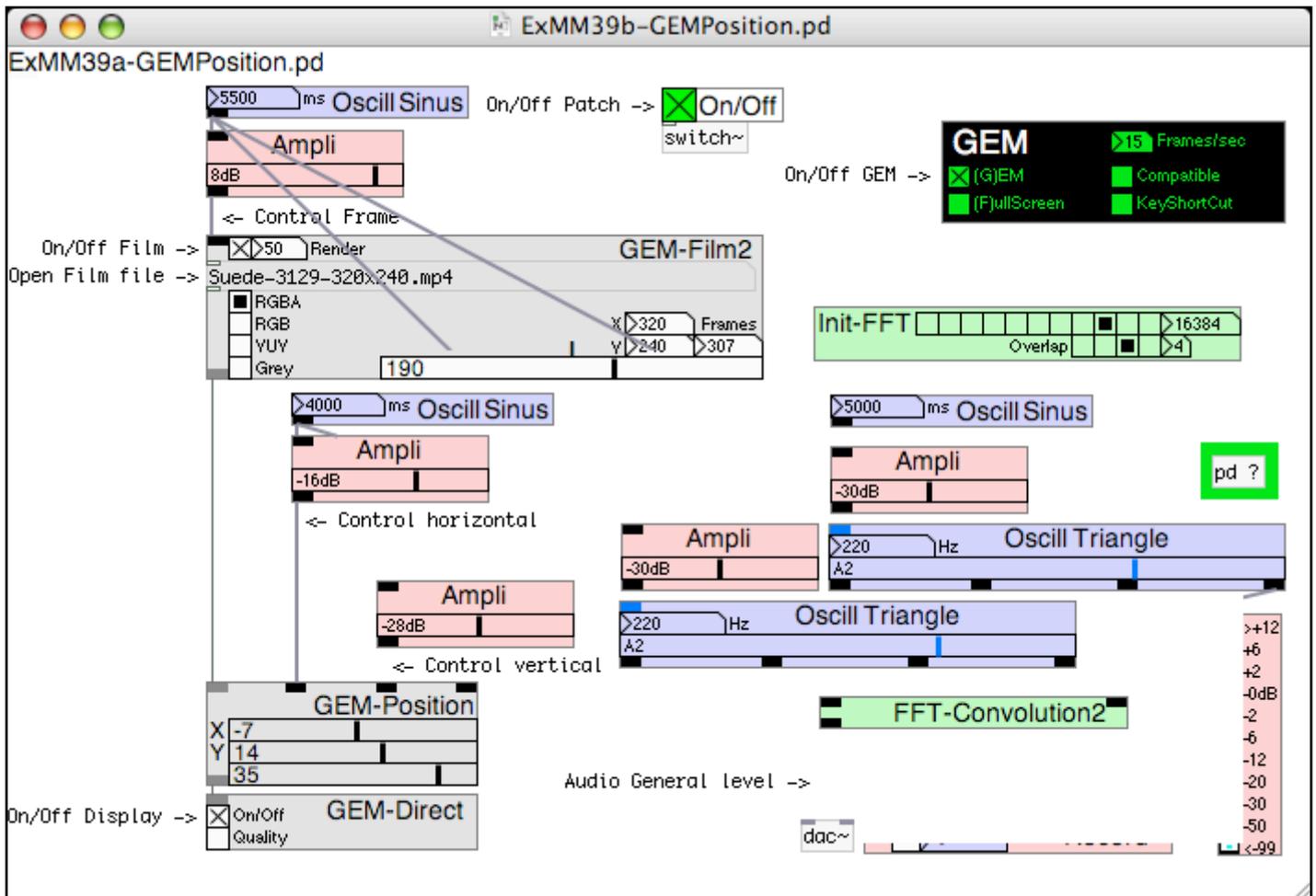
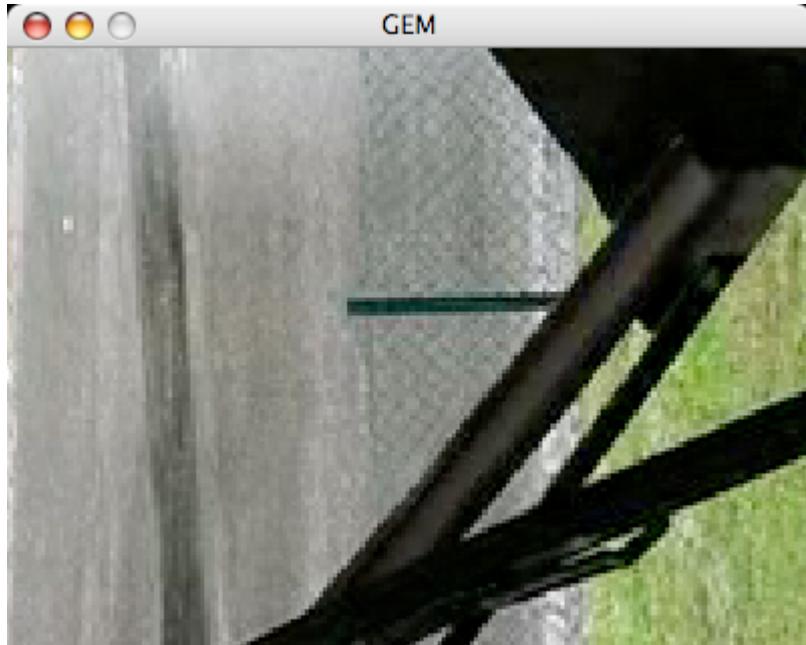
The complexity increases from:  
ExMM11a-SampleHold.pd  
until:  
ExMM11h-SampleHold.pd



## Les exemples ExMM The examples GEM

Dans cet exemple, les mêmes MiniModules contrôlent le mouvement du son et le mouvement l'image.

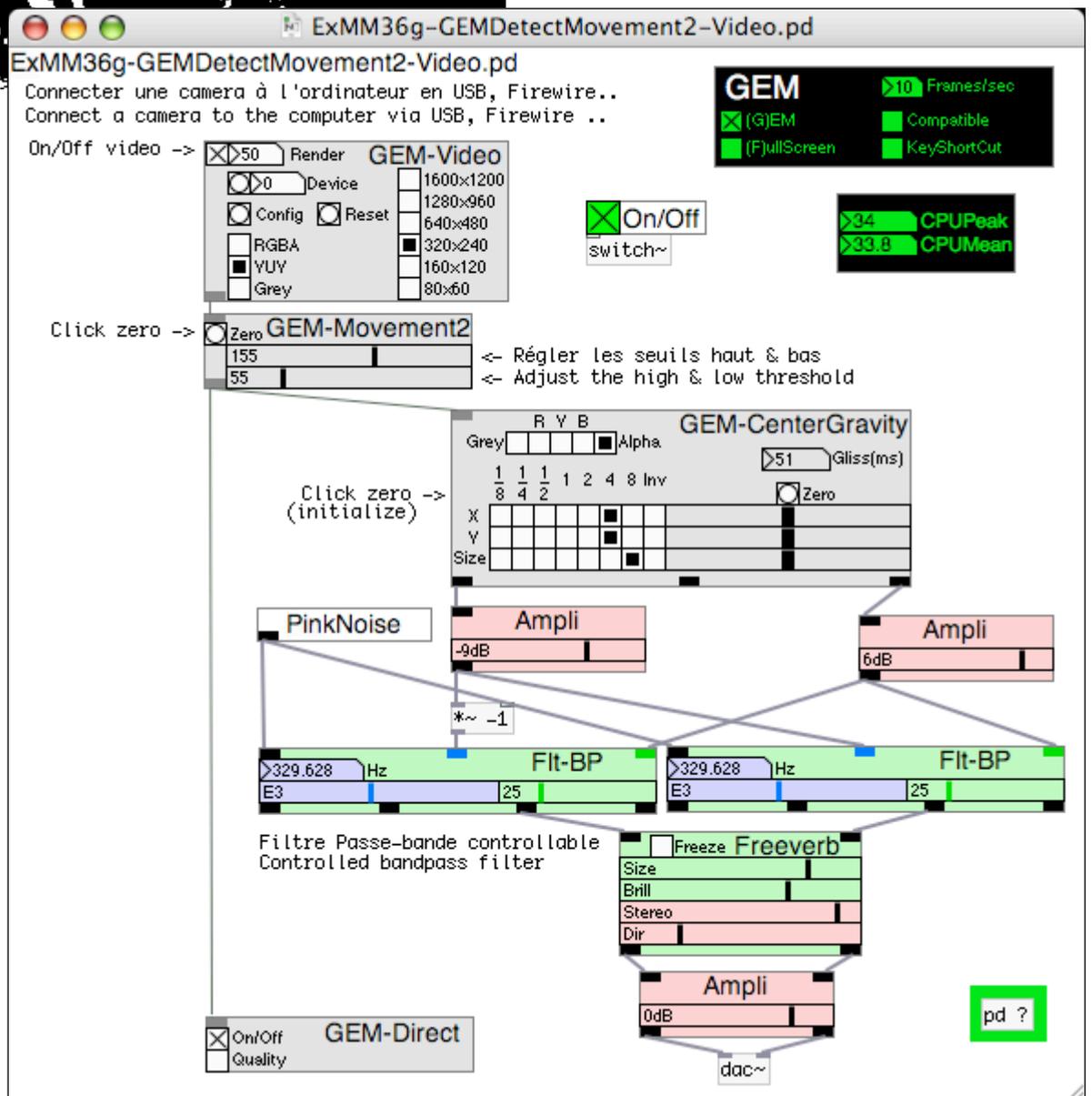
In this example, the same MiniModules control the movement of sound and the movement of image.



## Les exemples ExMM The examples GEM

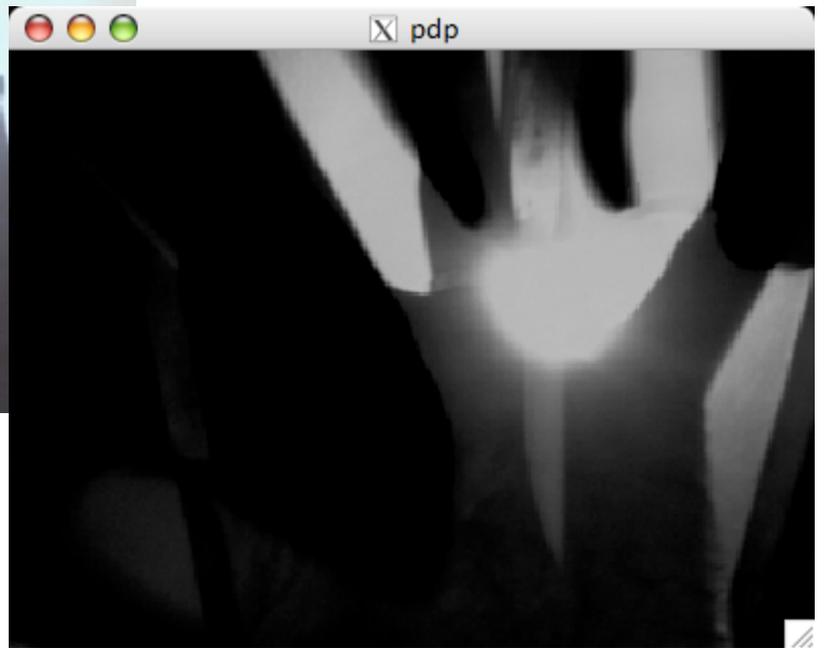
Dans cet exemple, le mouvement dans l'image d'une camera est detecté et contrôle la synthèse sonore.

In this example, the movement in the image of a camera is detected and control sound synthesis.



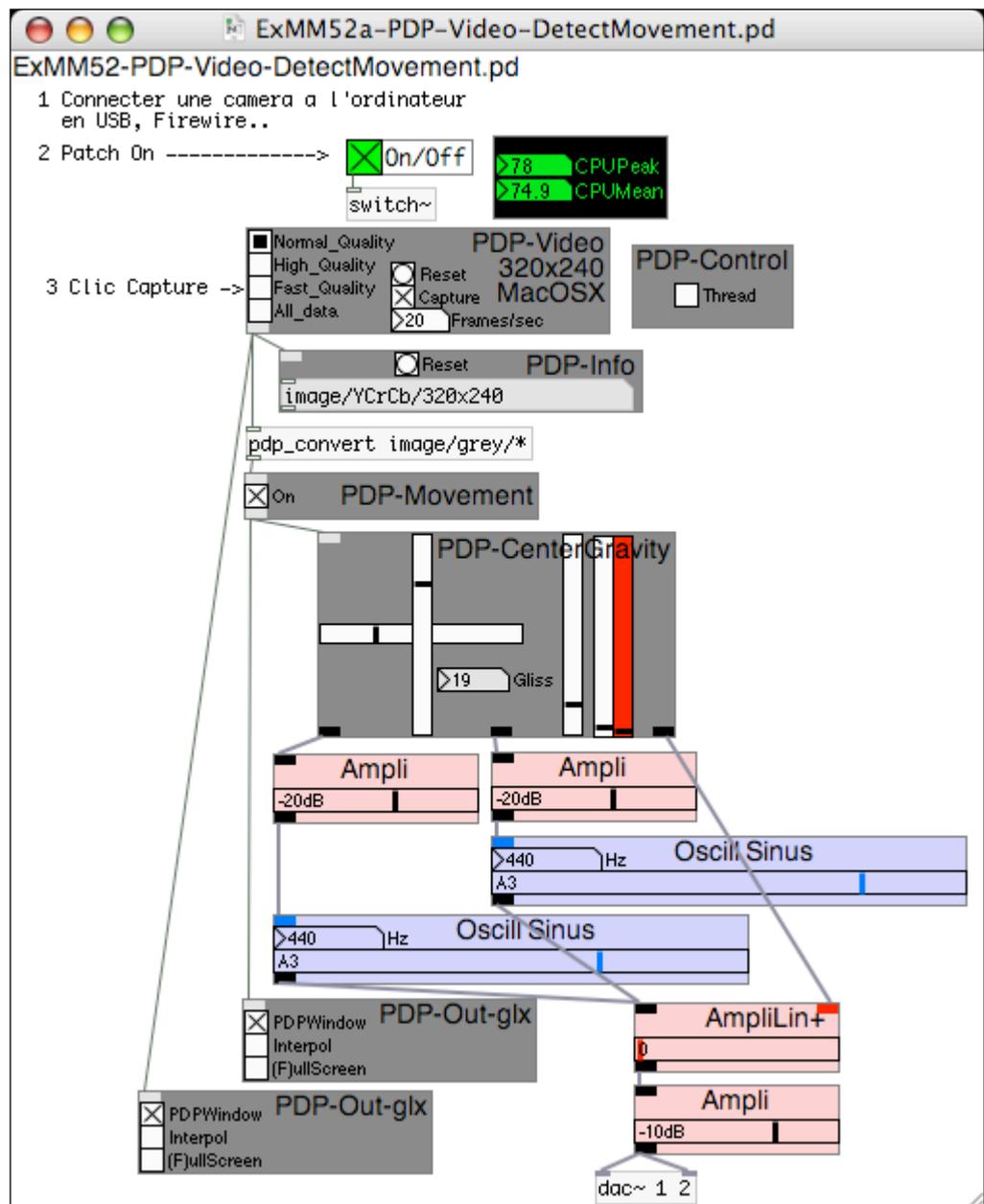


Les exemples ExMM The examples  
PDP



Dans cet exemple,  
le mouvement dans  
l'image d'une camera  
est detecté et contrôle  
la synthèse sonore.

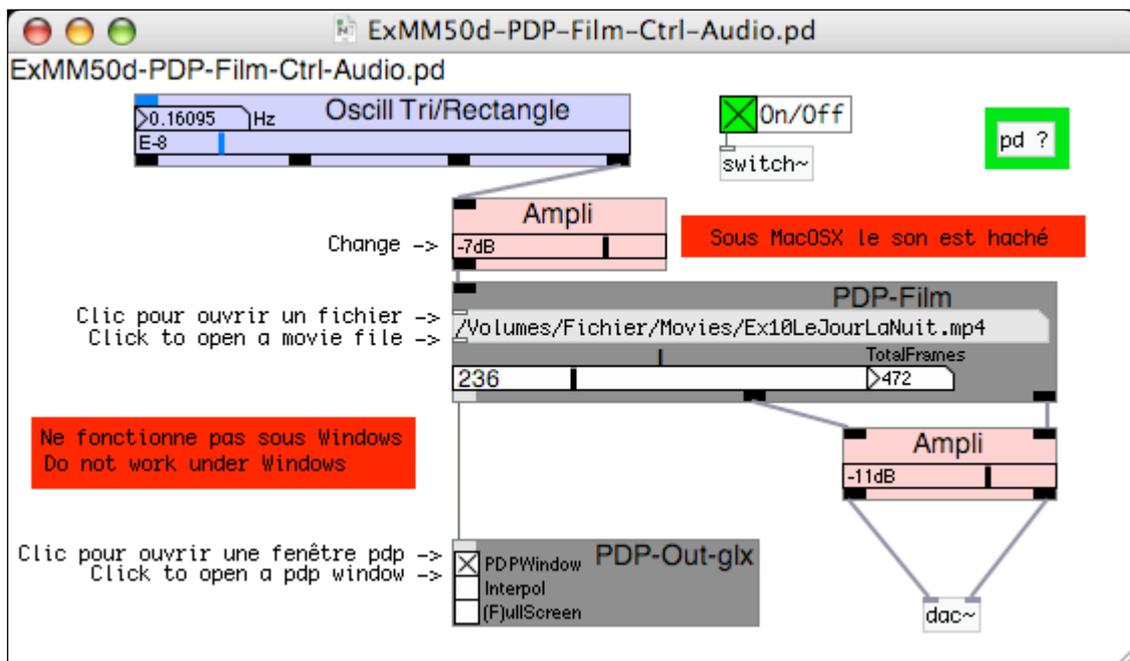
In this example,  
the movement  
in the image of a camera  
is detected and control  
sound synthesis.



Les exemples ExMM The examples  
PDP

Dans cet exemple,  
le déroulement d'un film est contrôlé.

In this example,  
the sequence of a film is controlled.



## Liens /Links

- [Wikipedia/PureData \(français\)](#) [Wikipedia/PureData \(english\)](#)
- Miller Puckette site (Pd Vanilla installer...) <http://www-crcs.ucsd.edu/~msp/software.html>
- Pd-extended installer [Pure Data Downloads](#) & (if you like the risk) [auto-build/latest/](#)
- puredata.info = puredata.org <http://puredata.info/>
- 3 tutorials in english
  - [The Theory and Technique of Electronic Music](#) by [Miller Puckette](#)
  - [FLOSS Manual](#) by [Derek Holzer](#), [Adam Hyde](#) etc..
  - [loadbang \(Programming Electronic Music in Pd\)](#) by [Johannes Kreidler](#)
- 2 apprentissages en français
  - [Tutoriel Pure Data](#) de [Raphael Isdant](#)
  - [PureData Initiation fr.pdf](#) de [Jérôme Abel](#)
- 1 tutorial en español
  - [Manual Oficial](#)
- 1 tutorial em Português
  - [TutorialPd.zip](#) por [Alexandre Porres](#)
- 2 tutorials on GEM in english
  - [Gem Manual](#) by [IOhannes m zmölnig](#)
  - [GEM Tutorial](#) by Chris Clepper?
- Mailing list Pd <http://lists.puredata.info/listinfo/pd-list> or <http://www.mail-archive.com/pd-list@iem.at/> (in english)
- Mailing list GEM <http://lists.puredata.info/listinfo/gem-dev> or <http://markmail.org/browse/at.iem.gem-dev> (in english)
- Forum codelab <http://codelab.fr/> (en français)
- Forum~ Pure Data <http://puredata.hurlleur.com/> (in english)
- Pdpedia <http://wiki.puredata.info/>
- PureDataVideopedia [http://www.youtube.com/profile\\_play\\_list?user=PureDataVideopedia](http://www.youtube.com/profile_play_list?user=PureDataVideopedia)
- A book + DVD [bang bangbook.pdf free download](#) (7.4M) (in english)
- Tom Erbe UCSD class blog <http://music.ucsd.edu/~tre/classblog.php>
- Centre de Ressources Art Sensitif (CRAS) <http://www.craslab.org/> (formation Pd...)
- Compagnie Prométhée <http://www.ciepromethee.org/> et Naxos Bobine <http://www.naxosbobine.org/> (Formation Pd...)
- Obiwannabe <http://obiwannabe.co.uk/>
- idecibel <http://artengine.ca/~idecibel/> (en français...n'existe plus)

## Opinion

- 2000 Roland Cahen (français) [Le billet d'humeur du maxeur...](#)
- 2002 Miller Puckette (english) [Max at Seventeen...](#)
- 2004 Miller Puckette Max, Pd... (english) [Who owns our software? ...](#)
- 2006 Hans-Christoph Steiner (english) [Pd as a programming platform](#)
- 2006 Max Mathews (english) "Max and Pd allow almost anyone to synthesize uninteresting timbres..." [Foreword](#)
- 2009 Johannes Kreidler (english) [Programming Electronic Music in Pd \(Abstract\)](#)
- 2009 IOhannes m zmölnig [Reflection in Pure Data.pdf](#) and [Slides](#)