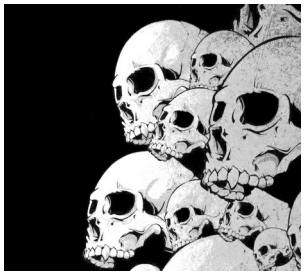
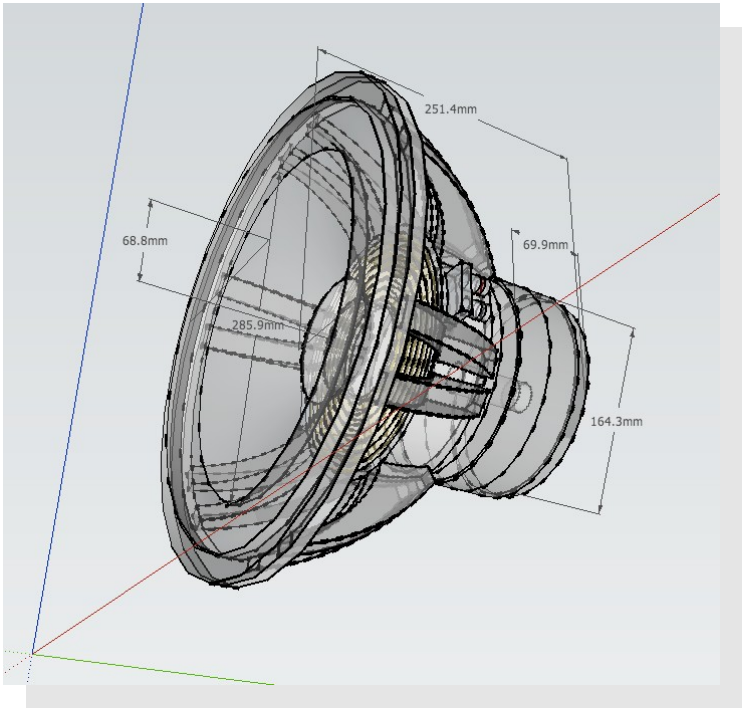
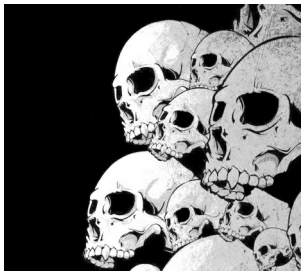


QJackCtl



Y. Collette (ycollette.nospam@free.fr)
https://audinux.github.io



Main interface

Transport area

Jack Information

Software version information

Jack launch configuration

Close QJackCtl

Automatic application connection between them

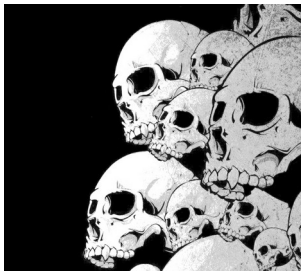
Launch of an application group

Jack stop

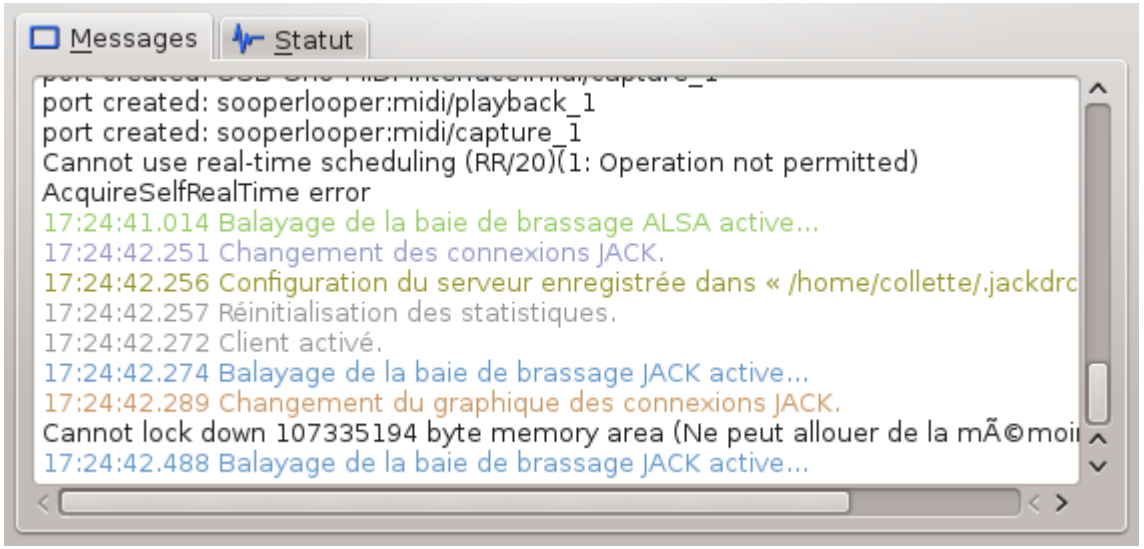
Manual connection of applications between them

Message area concerning Jack

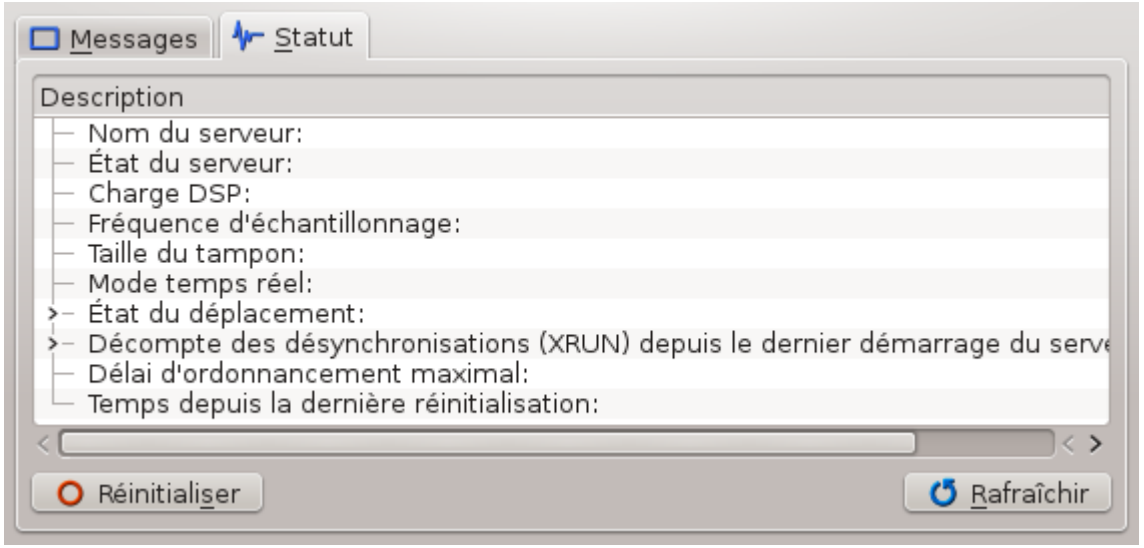
Jack start



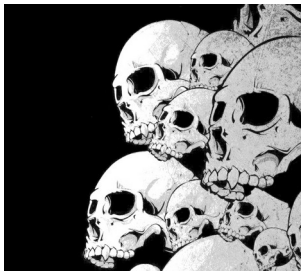
Jack messages area



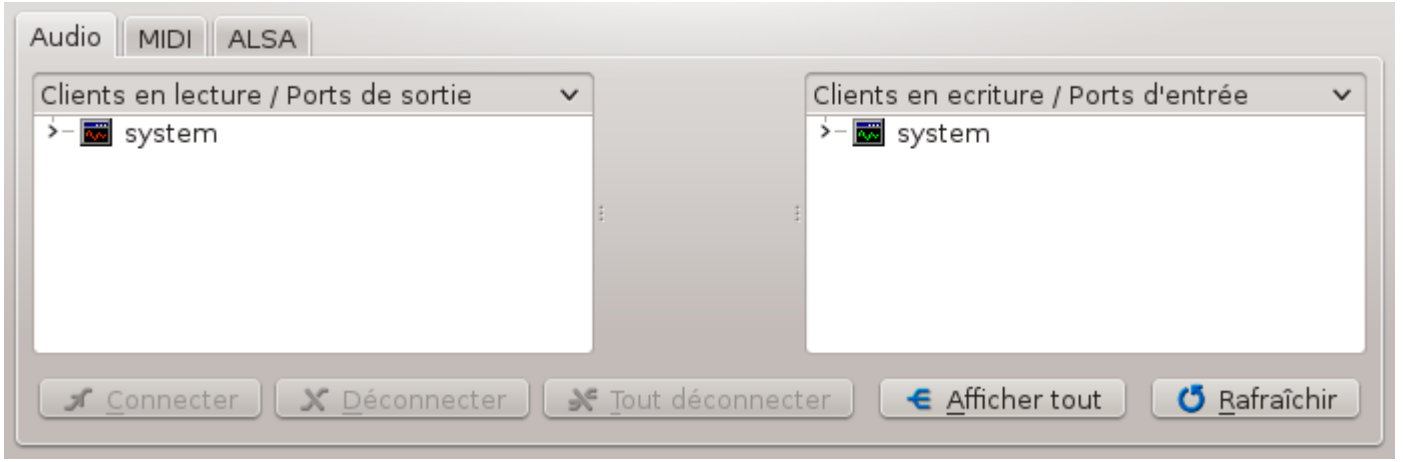
This first window displays Jack Starting Messages



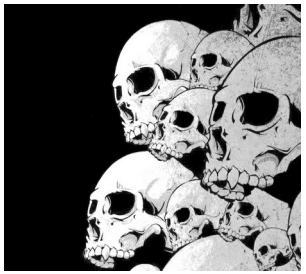
This second window displays the message relating to Jack's condition



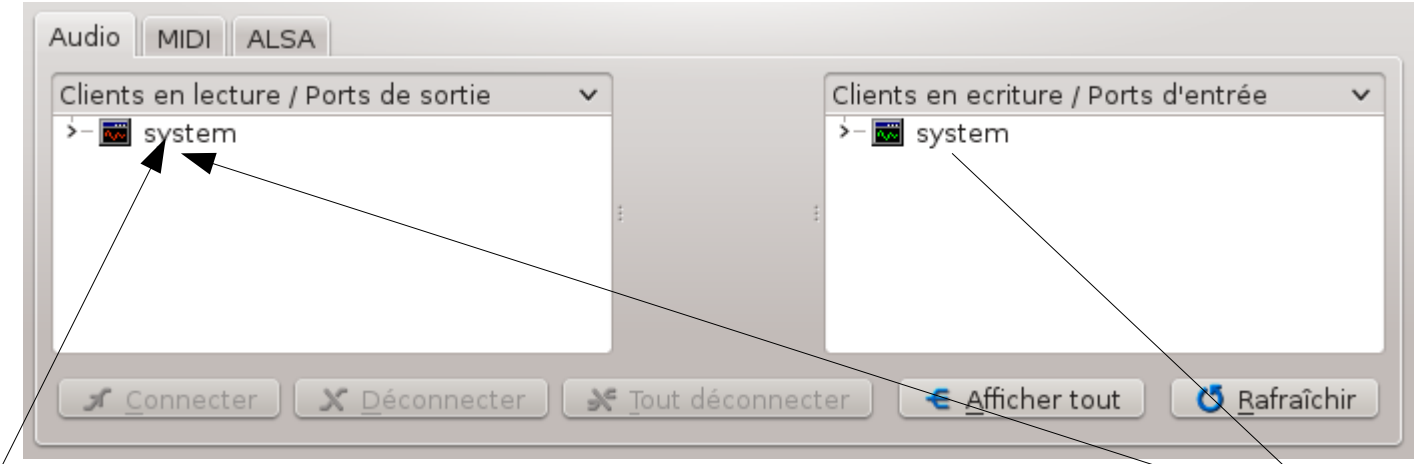
The connection window 1/6



Application input / output connections area.
The 'System' input corresponds to the microphone and / or the input of the sound card.
The 'System' output corresponds to the speaker and / or the line output.
Some sound cards can have several mono / stereo inputs and several mono / stereo outputs



The connection window 2/6



Focusrite Saffire Pro24 (firewire)

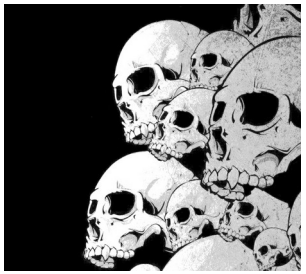
Entrances 1/4 ”/XLR

Gain from preamps

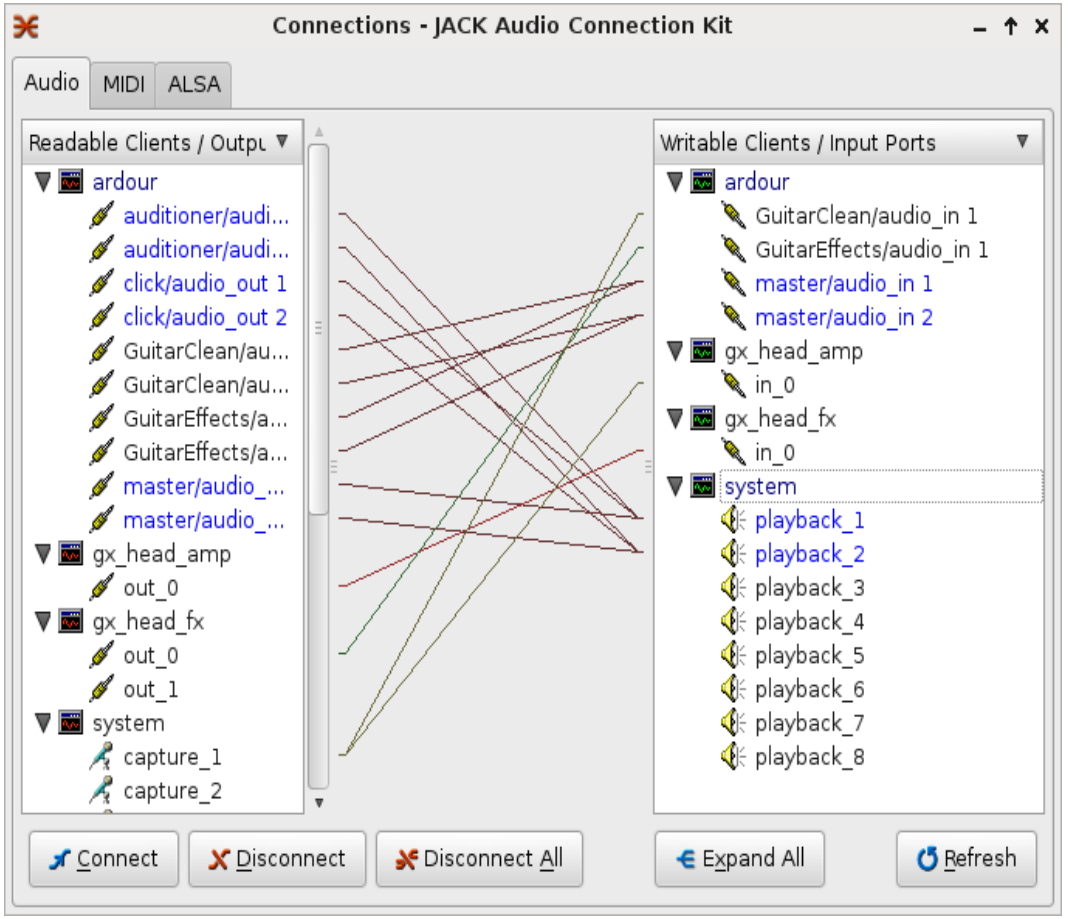
Volume of exit

MIDI

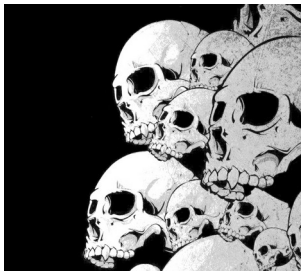
Other entries 1/4 ”outputs



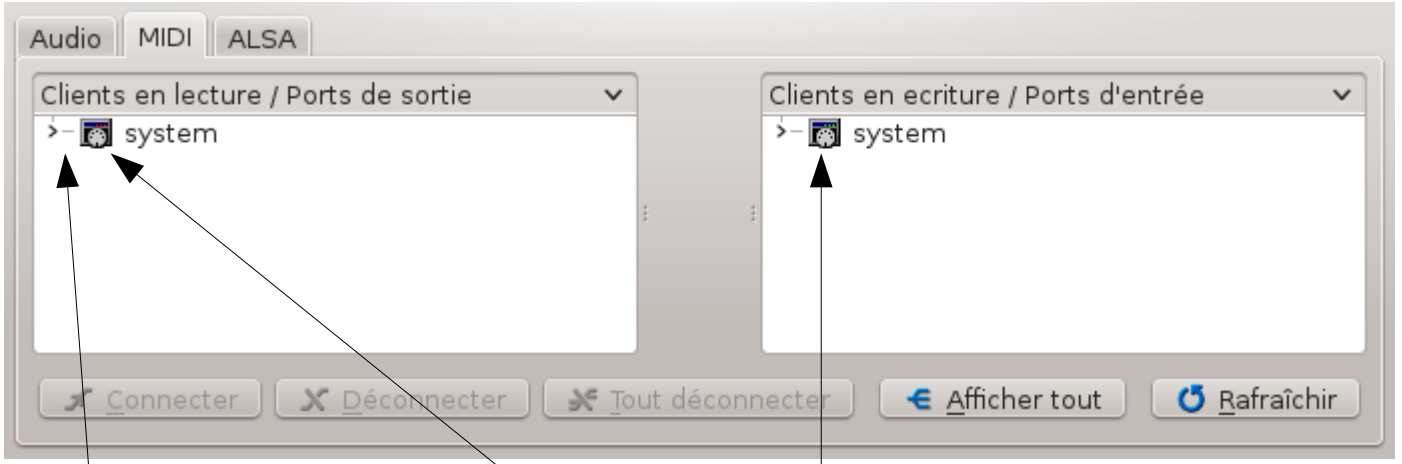
The connection window 3/6

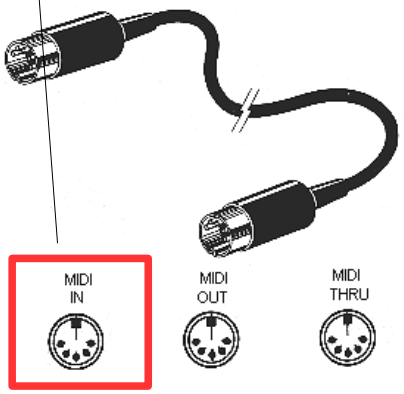


An example of a connections window with several applications including, Guitarix, Ardour

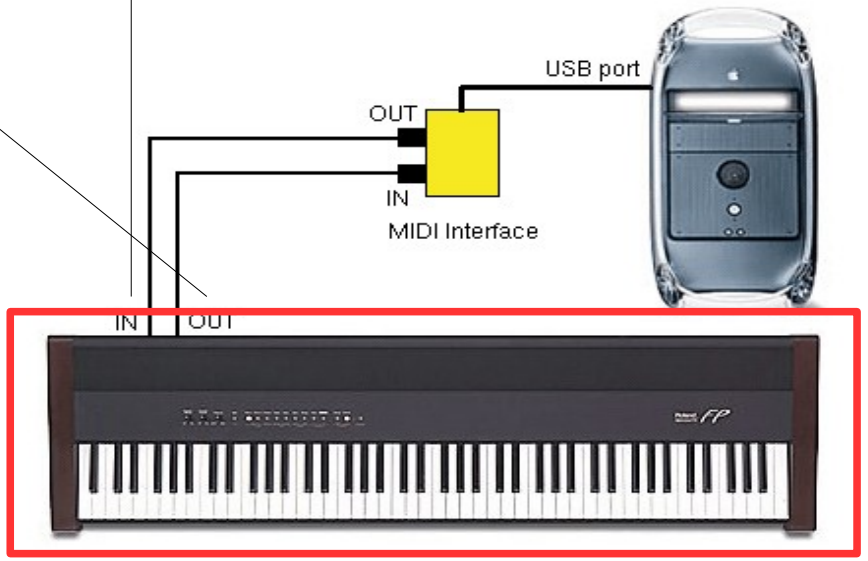


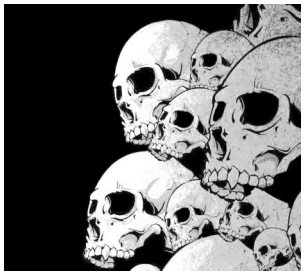
The connection window 4/6



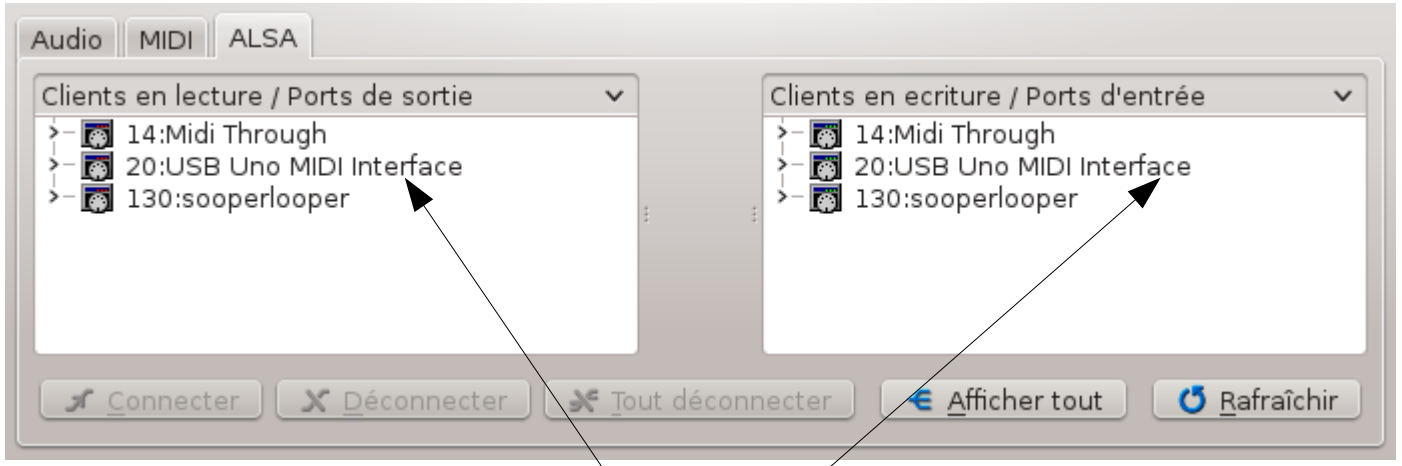


Standard MIDI cable



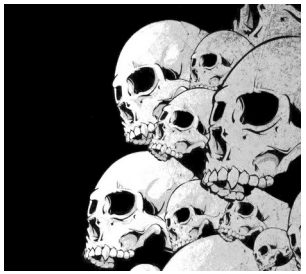


The connection window 5/6

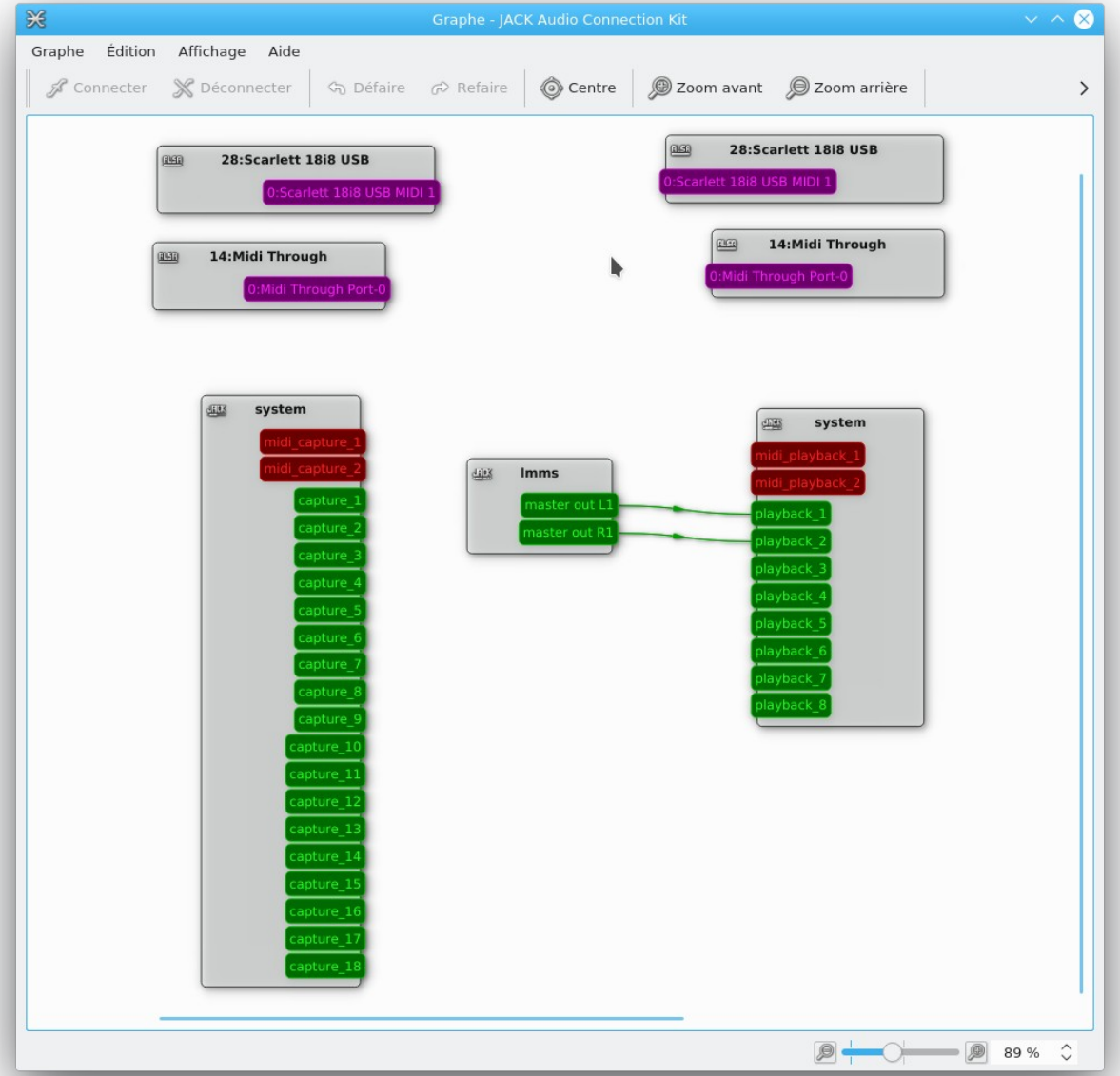


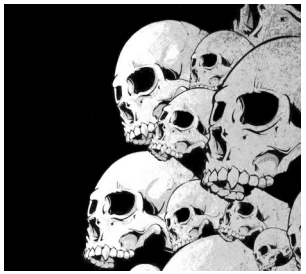
M-AUDIO USB UNO 1X1
MIDI Interface connector

MIDI FCB 1010 crankset

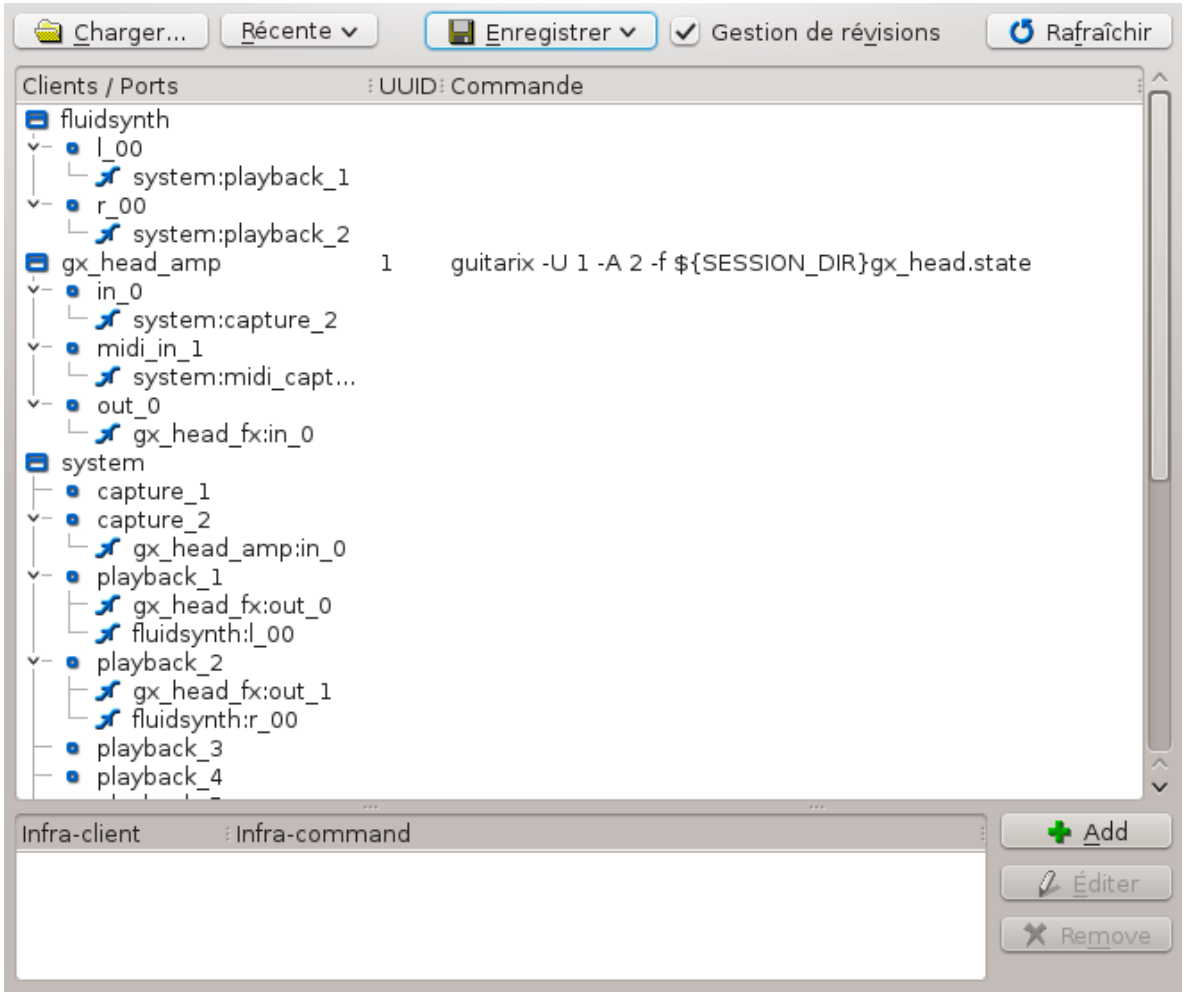


The connection window 6/6





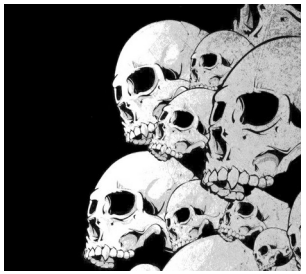
The 1/2 session window



To see this information, you must first select a backup directory via 'save → save'.

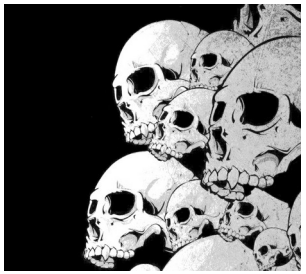
Then, we see all the applications which the state will be saved during Qjackctl exit.

During a future start, it will be enough to select the session directory to automatically reload all the applications and find them in the state where they had been left.

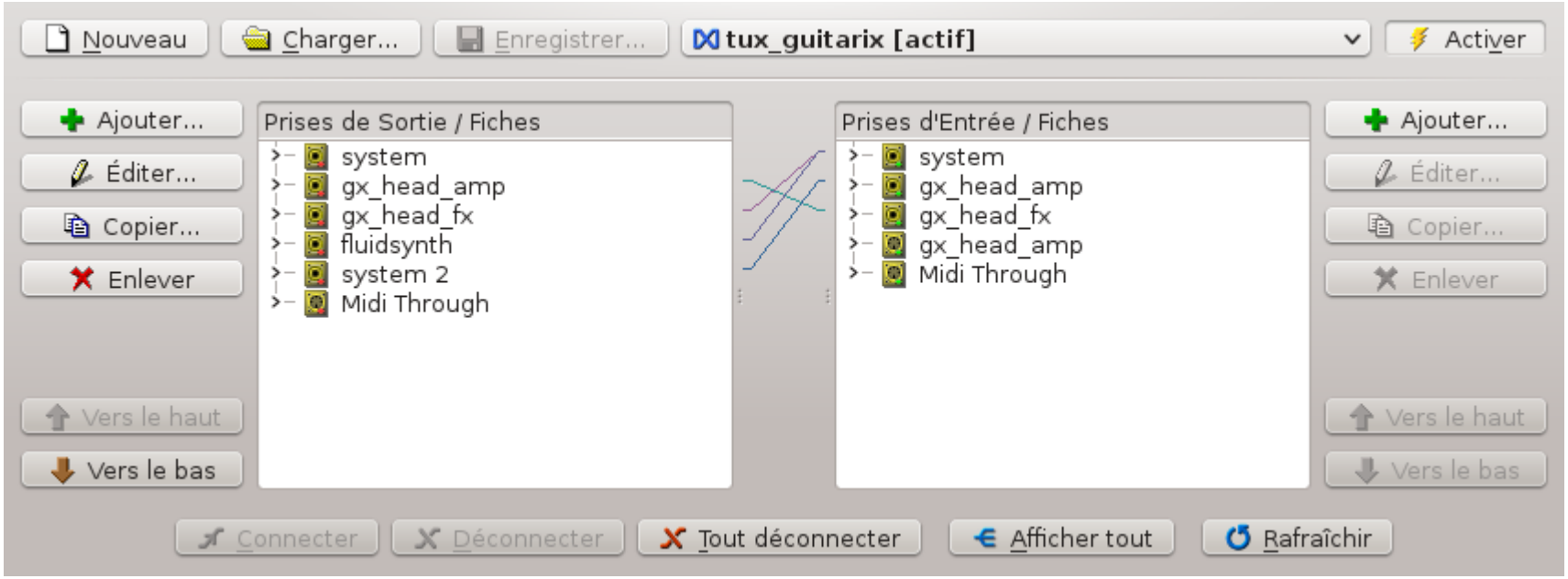


The 2/2 session window

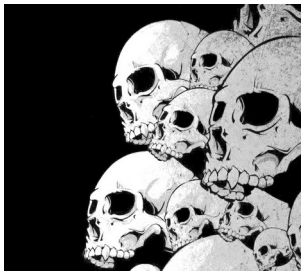
In the bottom area, applications that do not manage session can be recorded.
These applications cannot be detected automatically by Jack.
To add one of these applications, you must identify the name of this application in the session.
For example, TuxGuitar will appear under the name "Fluidsynth":
We click on add;
We give the name that appears in the session in the infra-client column (fluidsynth in the case of TuxGuitar);
We give the access path to the application in the infra-command column (/usr/bin/txguitar in the case of TuxGuitar).



The connection window



The connection window automatically connects applications between them. Unlike the session window, this window does not manage the automatic launch of applications.



The configuration window 1/4

Under VirtualBox: 1024
Under Linux: 256 or less

Paramètres | Options | Affichage | Divers

Nom du préréglage : (par défaut) — Enregistrer — Effacer

Paramètres

Préfixe Serveur : pasuspender -- jackd — Nom : (par défaut) — Pilote : alsa

- [x] Temps réel
- [ ] Pas de verrouillage mémoire
- [ ] Déverrouiller la mémoire
- [ ] Mode logiciel
- [ ] Écoute de contrôle
- [x] Forcer 16bit
- [ ] Écoute de contrôle matérielle
- [ ] Mesure matérielle
- [ ] Ignorer matériel
- [ ] Messages bavards

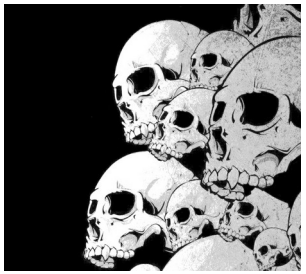
Priorité : ar défaut)
Échantillons/Période : 256
Fréquence d'échantillonnage (Hz) : 48000
Périodes/Tampon : 2
Résolution (bit) : 16
Attente (en µs) : 21333
Canaux : ar défaut)
Nombre de port maximal : 256
Décompte (en ms) : 500

Interface : (par défaut)
Bruit de dispertion (dither) : Aucun
Audio : Duplex
Périphérique d'entrée : hw:SB
Périphérique de sortie : hw:SB
Canaux E/S : ar défaut) ar défaut)
Latence E/S : ar défaut) ar défaut)
Pilote MIDI : seq

Suffixe Serveur : — Retard du démarrage : 2s — Latence : 10.7 ms

Latency = (Frames / period) * (period / buffer) / sample rate

OK — Annuler



The configuration window 1/4 - Bis

Pasuspender - Jackd

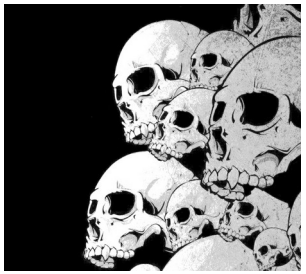
Pulseaudio is not recommended:
- Too large latency
- consumes CPU resources

When you start Jack (Jackd), you stop Pulseaudio.
nouspender allows you to temporarily stop pulseaudio when Jack starts.
Pulseaudio will restart when Jack stop.

Under Fedora, at the outlet of Jackd, the pulse system can block. To remedy this problem, you can reset pulseaudio. It is necessary between the command line:

```
pulseaudio --kill; pulseaudio --clean
```

In the 'Options' tab of the adjustment window, in the 'execute a script after extinction':



The configuration window 2/4

Paramètres | Options | Affichage | Divers

Scripts

- [ ] Exécuter un script au démarrage :
- [ ] Exécuter un script après le démarrage :
- [ ] Exécuter un script à l'extinction :
- [x] Exécuter un script après l'extinction : pulseaudio -k && pulseaudio --start

Statistiques

- [x] Capturer la sortie standard

Regex de détection des désynchronisations (XRUN) : xrun of at least ([0-9|\.]+) msecs

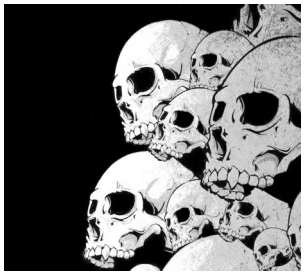
Connexions

- [x] Activer la persistance de baie de brassage : /home/collette/Documents/tux_guitarix.xml

Journalisation

- [ ] Fichier de journal des messages : qjackctl.log

OK | Annuler



The configuration window 3/4

Paramètres | Options | Affichage | Divers

Horloge

- (•) Code temporel (Timecode) du déplacement
- ( ) MTB (mesure:temps.battement) du déplacement
- ( ) Temps écoulé depuis la dernière réinitialisation
- ( ) Temps écoulé depuis la dernière désynchronisation (XRUN)

Format du temps : hh:mm:ss

Grande horloge : Sans Serif 12 — Police...

Affichage normal : Sans Serif 10 — Police...

- [x] Afficher un effet de vitre éclairée brillante
- [x] Clignotement de l'indicateur de mode serveur

Fenêtre de messages

Sans Serif 10 — Police...

- [x] Limite des messages : 1000

Fenêtre de connexions

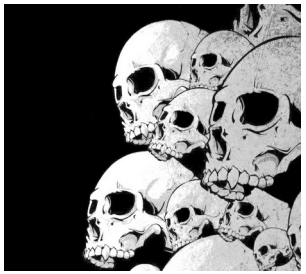
Sans Serif 10 — Police...

Taille des icônes : 16 x 16

- [ ] Dessiner les lignes de connexion et de baie de brassage en courbes de Bezier
- [ ] Activer les aliases de client/port
- [ ] Activer l'édition (renommage) des aliases de client/port

Alias de client/port JACK : Par défaut

OK | Annuler



The configuration window 4/4

Paramètres | Options | Affichage | Divers

Autres

- [ ] Démarrer le serveur audio JACK au démarrage de l'application
- [x] Confirmer la fermeture de l'application
- [ ] Garder les fenêtres filles au premier plan
- [ ] Activer l'icône de notification système
- [ ] Démarrer minimisé dans la zone de notification système
- [ ] Retarder le positionnement de la fenêtre au démarrage
- [x] Instance d'application unique
- [x] Enregistrer la configuration du serveur audio JACK dans :
  - .jackdrc
- [ ] Configurer comme serveur temporaire
- [x] Confirmer l'extinction du serveur
- [x] Activer la prise en charge du séquenceur ALSA
- [ ] Activer l'interface D-Bus
- [x] Arrêter le serveur audio JACK lors de la sortie de l'application

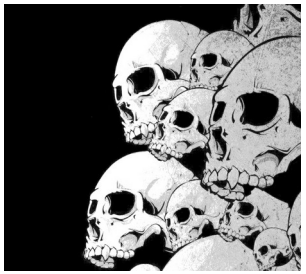
Boutons

- [ ] Cacher les boutons de gauche de la fenêtre principale
- [ ] Cacher les boutons de droite de la fenêtre principale
- [ ] Cacher les boutons de déplacement de la fenêtre principale
- [ ] Cacher le texte des boutons de la fenêtre principale

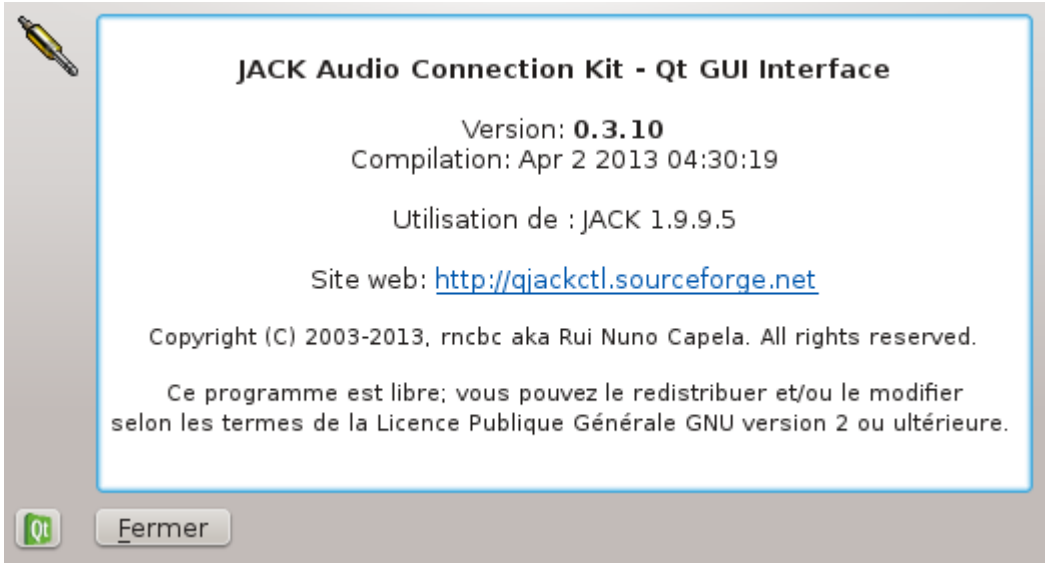
Par défaut

Taille de police de base : (par défaut)

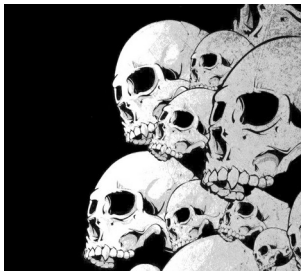
OK | Annuler



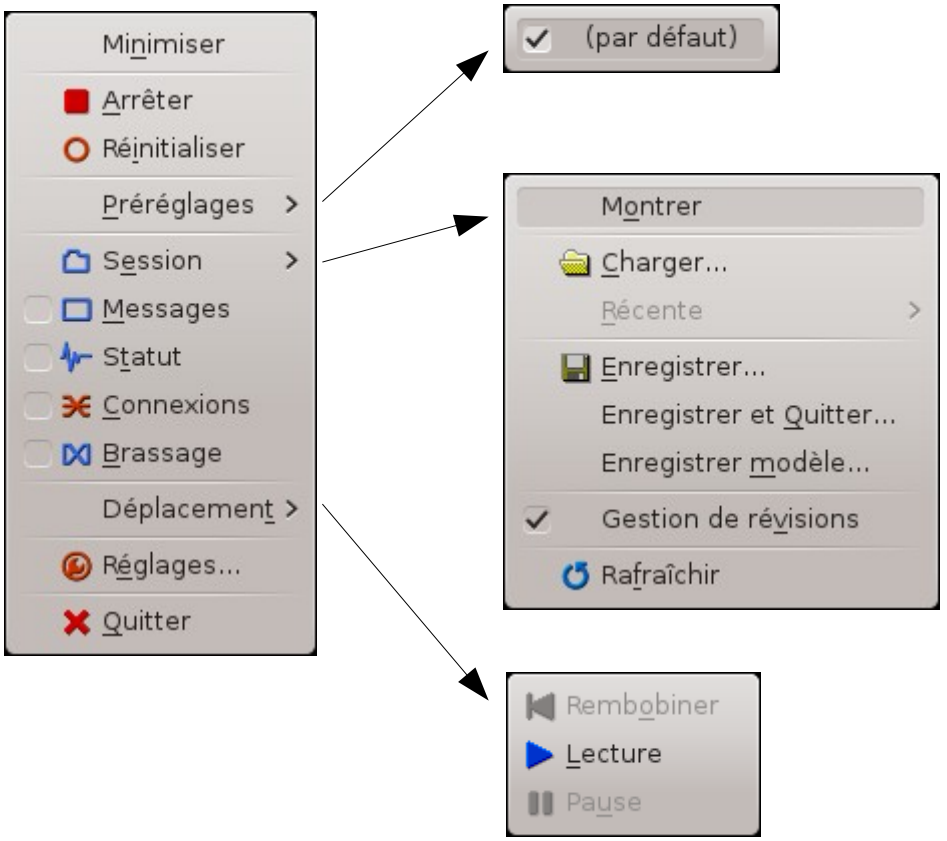
The information window



This window displays the version information of Jack (1.9.9.5) and Qjackctl (here version 0.3.10).
The Qjackctl site: https://qjackctl.sourceforge.io/
The Jack site: https://jackaudio.org/

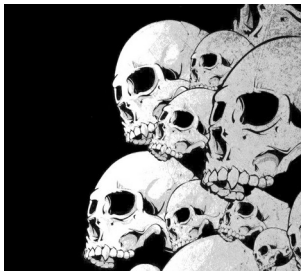


Context menu



This menu is accessible by a right click in any place in the graphical interface.

We find all the functions accessible by the other buttons.



Connect several cards audio

To connect the output of another sound card:

```
$ alsa_out -d hw:1
```

We connect everything while using Qjackctl.
It is likely that we hear the reorganization if we use the default values.
By adjusting the 'Catch_Factor' between 10,000 and 100,000 you can get a better quality sound.

```
$ alsa_out -d hw:1 -f 30000
```

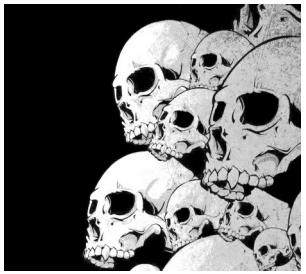
And to connect an input:

```
$ alsa_in -d hw:1 -f 30000
```

It is convenient to connect an internal sound card of a PC together with a USB or Firewire sound card.

List of options :

-j <jack name> give a name to a connection
-d <alsa_device>
-c <channels>
-p <period_size>
-n <num_period>
-r <sample_rate>
-m <max_diff>
-t <target_delay>
-f <catch_factor>



Alsa MIDI to Jack MIDI

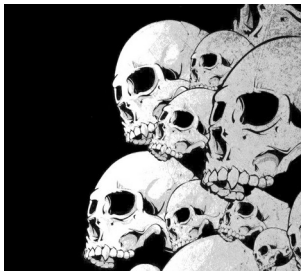
For each Alsa-MIDI port you get the equivalent port in Jack-MIDI, to do this, it could not be simpler, we use the A2J_Control command.
To list all the options:

```
$ a2j_control
```

To start and stop:

```
$ a2j_control start
$ a2j_control ehw
$ a2j_control stop
```

```
exit                    - exit a2j bridge dbus service
start                   - start bridging
stop                    - stop brdiging
status                  - get bridging status
gjcn                    - get JACK client name
ma2jp <client_id> <port_id> - map ALSA to JACK playback port
ma2jc <client_id> <port_id> - map ALSA to JACK capture port
mj2a <jack_port_name>       - map JACK port to ALSA port
ehw                     - enable export of hardware ports
dhw                     - disable export of hardware ports
```



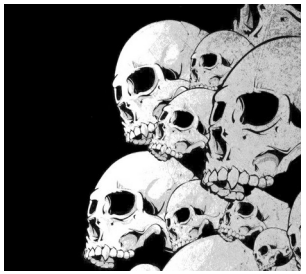
Alsa MIDI to Jack MIDI

You can also use Zita-A2J to do the same thing, but better.
Zita-A2J is not supported by all distributions (no package under Fedora).

http://kokkinizita.linuxaudio.org/linuxaudio/index.html

Another advantage of Zita-A2J: these 2 tools advantageously replace Alsa_in and Alsa_out

```
$ modprobe snd-aloop # Loading the ALSA Aloop module
                     # For the creation of an interface
                     # of a Loopback interface
$ zita -a2j -l -d hw: loopback # in a first terminal
$ zita -j2a -l -d hw: loopback # in a second terminal
```



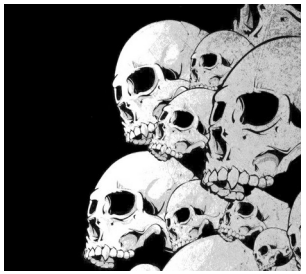
Jack Network
First approach

On the Master Machine:
We start Qjackctl normally.
We then start the connection with the slave n ° 1:

$ jack_netsource -h <ip of the slave machine> -p 3000

We check that the UDP 3000 port is open to the firewall
We connect the netjack input to the Jack output via Qjackctl.

On the slave machine:
We start Qjackctl with the Netone driver. That's it.
You just have to check that the UDP 3000 port is also open to the slave machine firewall.



Jack Network
Second approach

On the Master Machine:
We start Qjackctl normally.
We then start the NetManager driver:

$ jack_load netmanager -i '-a <ip du master> -p 3000'

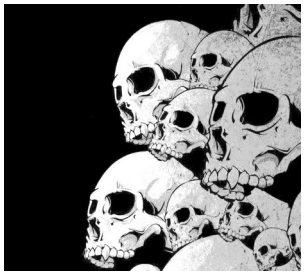
We open the Port 3000 UDP on the Master Firewall.

On the slave machine:
We start Qjackctl with the net driver. That's it.
You can start it on the command line:

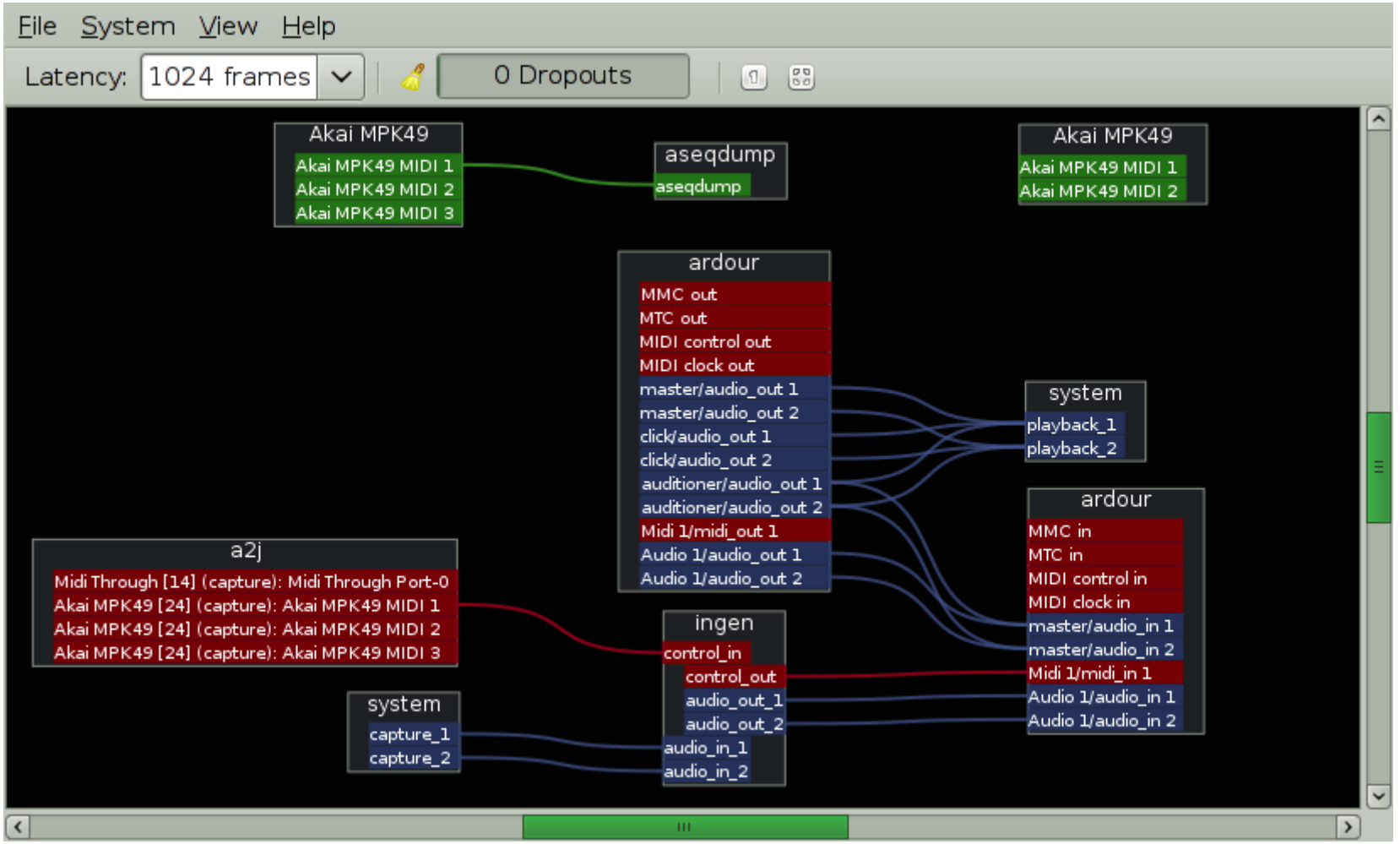
$ jackd -d net -a <IP Master> -P 3000 -C 2 -P 2 (with 2 input ports and 2 output ports).

We open the Port 3000 UDP on the slave firewall.

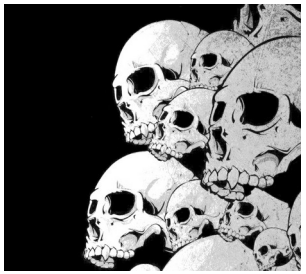
In both approaches, you have to pay attention to the version of Jack which turns on the slave and the master. A version difference can cause difficult to flush out bugs.



Alternative : Patchage



https://gitlab.com/drobilla/patchage



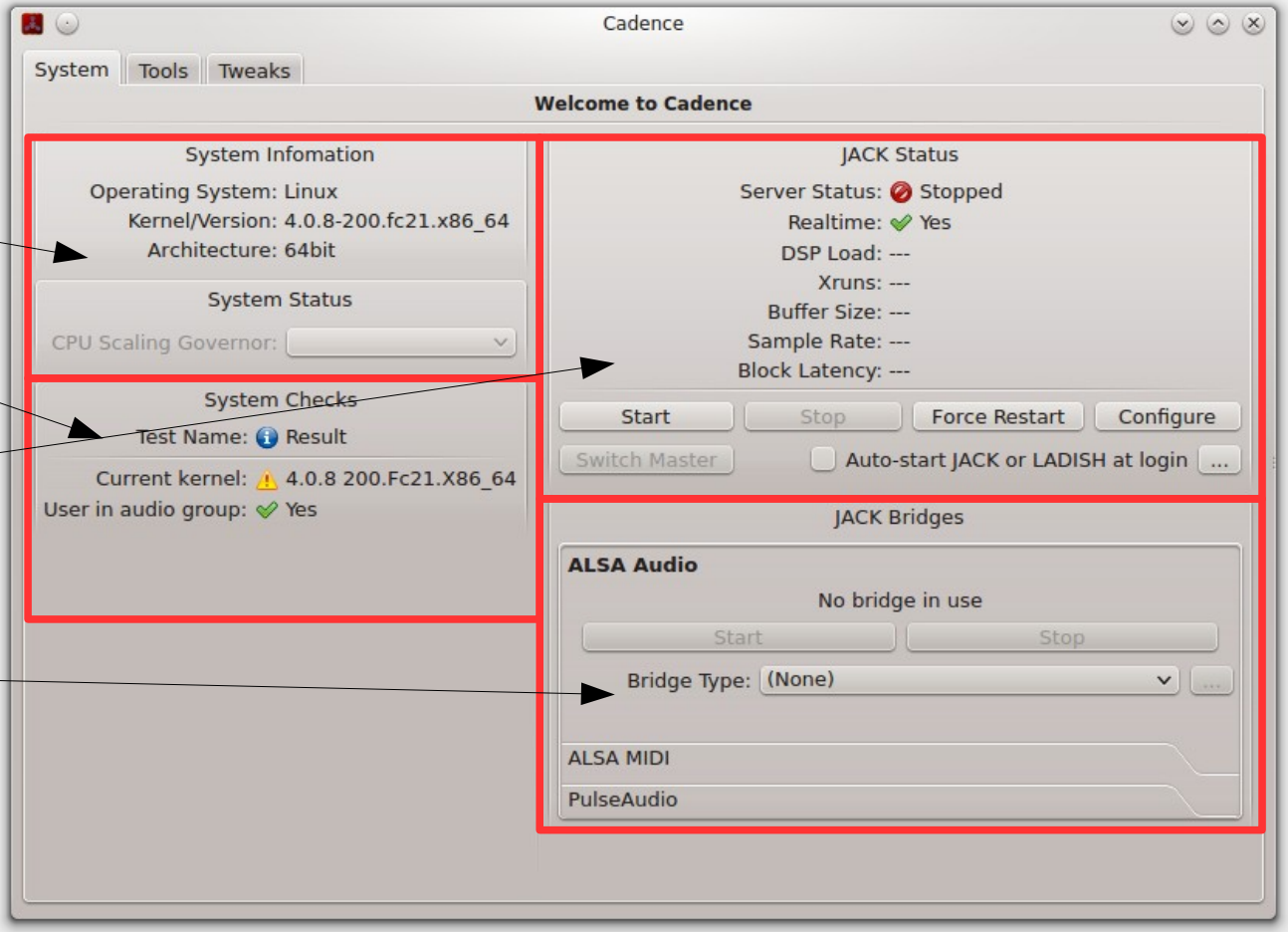
Cadence 'system' folder

OS information

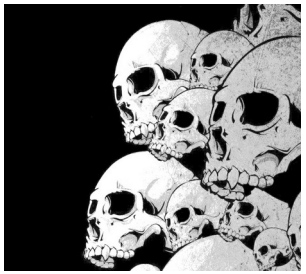
Audio configuration information

Jack start

ALSA / Jack replication management of audio and MIDI connections



Cadence is a tool of the same kind as Qjackctl allowing to launch Jack ...



Cadence 'tools' folder

Catia : connexions jack (patchbay)

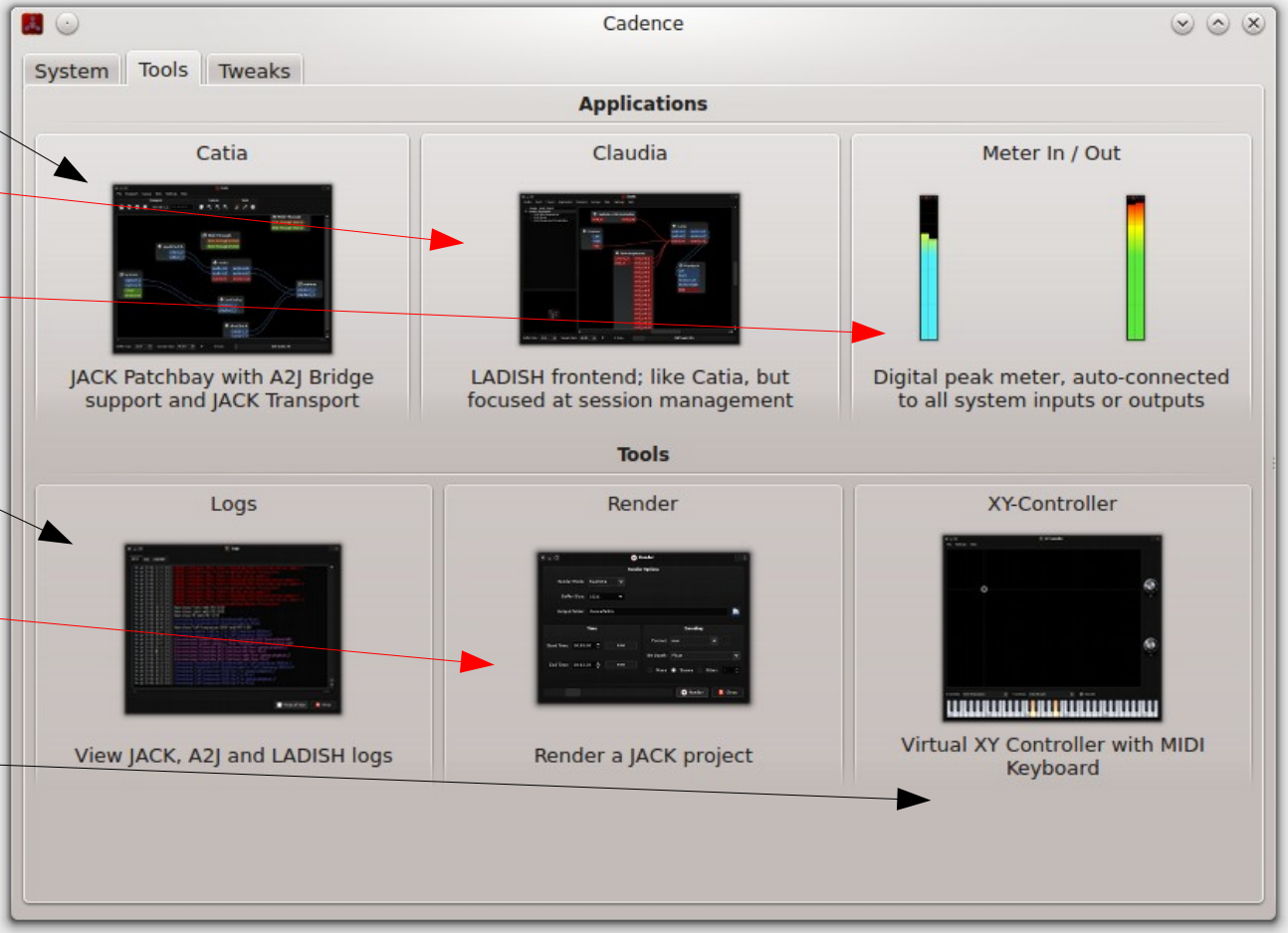
Claudia : connexions jack (session)

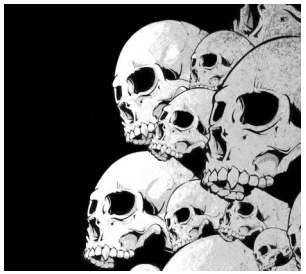
Meters: seen meter

Logs: display of operating information

Render: Audio export of a Jack project

X y controllers: MIDI keyboards + controllers x y



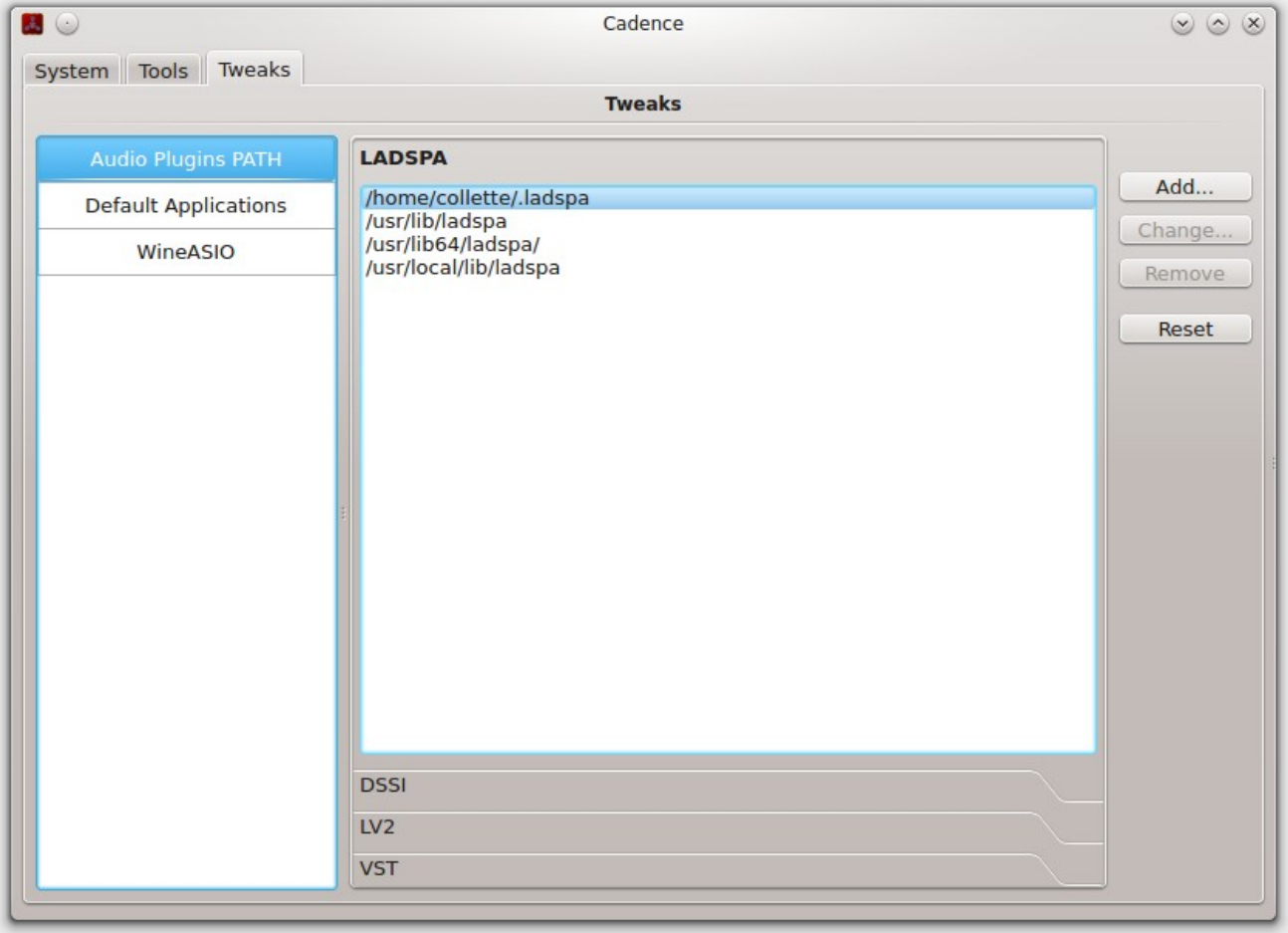


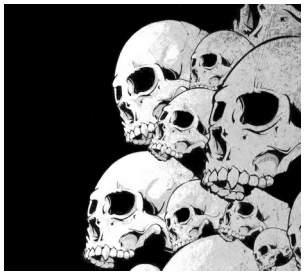
Cadence 'tweaks' folder

Path settings for LADSPA, LV2, DSSI and VST plugins.

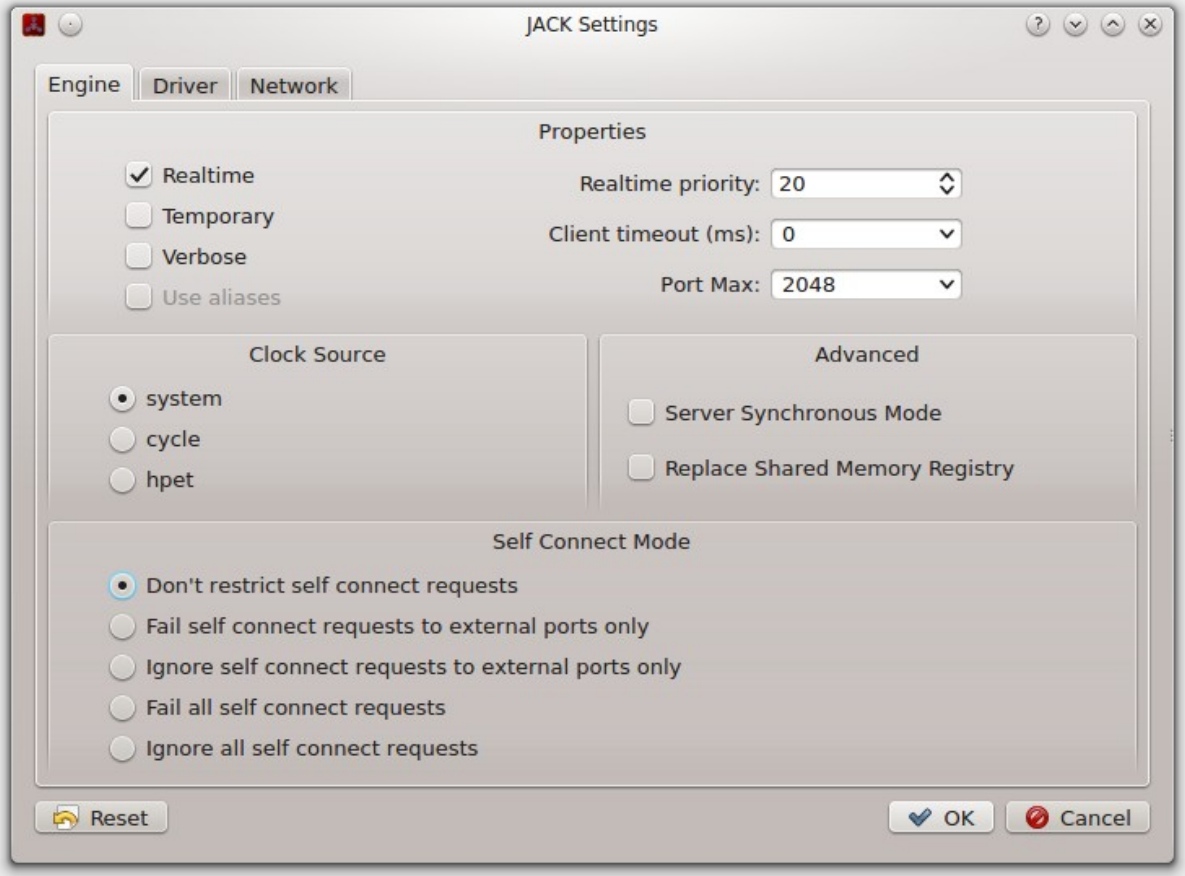
Path settings to certain applications.

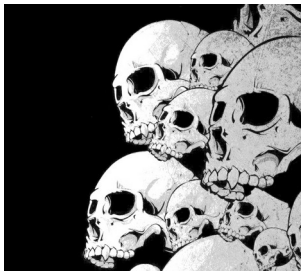
In some Linux distribution, it will be necessary to adjust the paths to the LV2, LADSPA, VST plugins.





Cadence Configuration





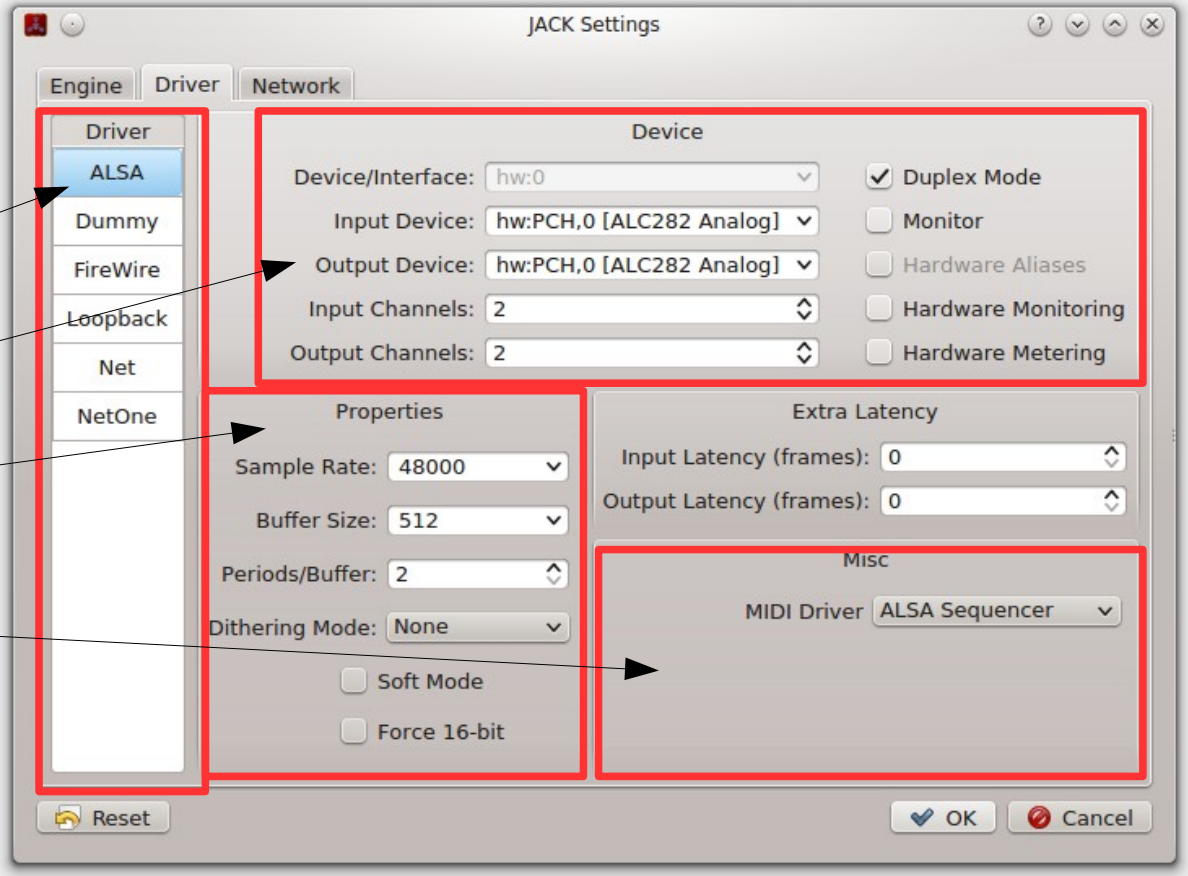
Cadence Configuration

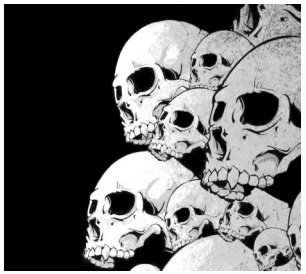
Audio driver selection

Audio driver settings

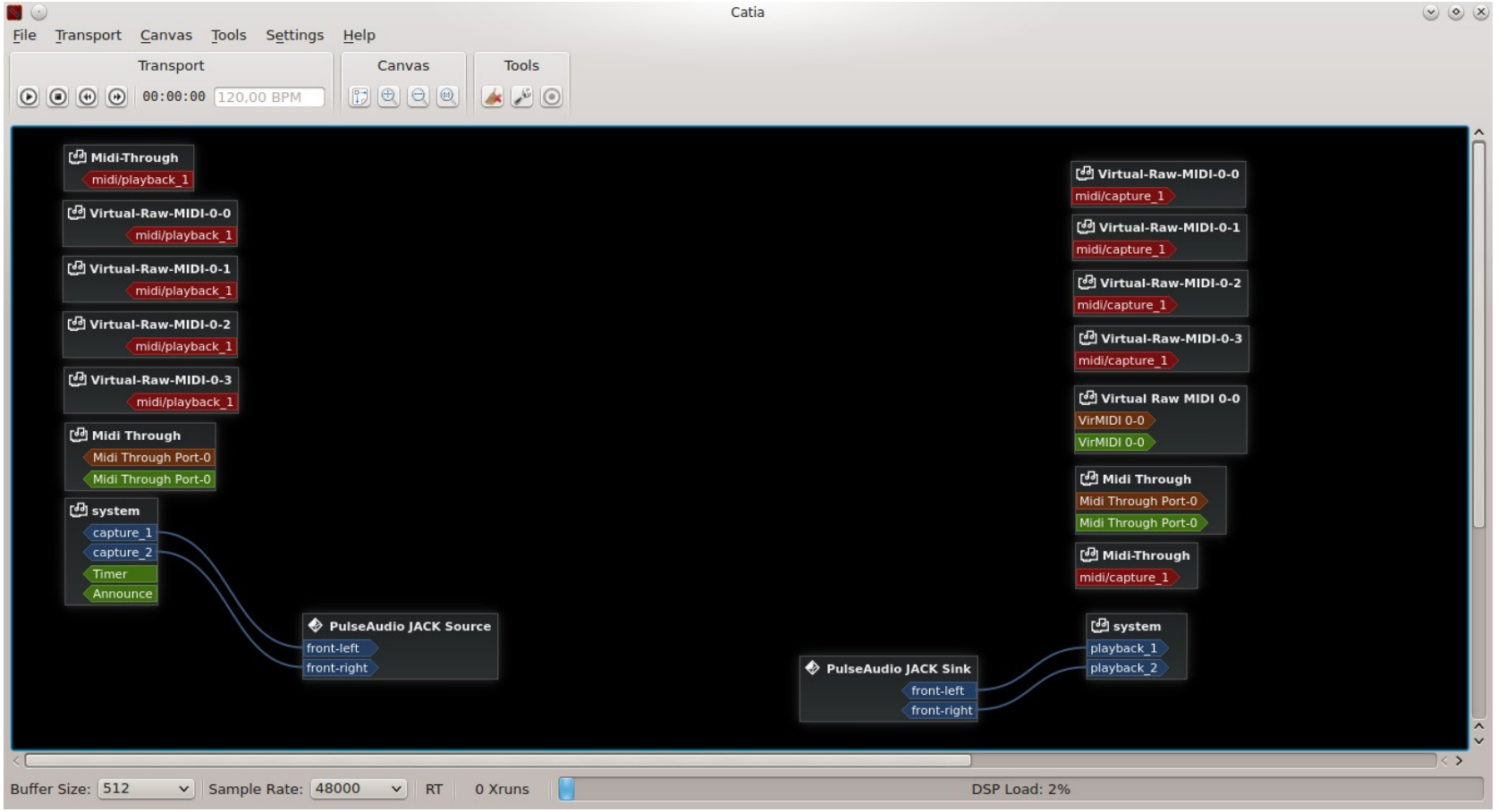
Jack settings

MIDI Driver selection

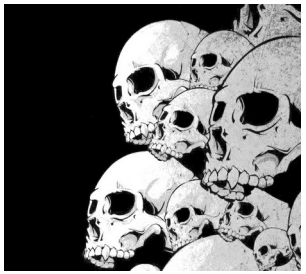




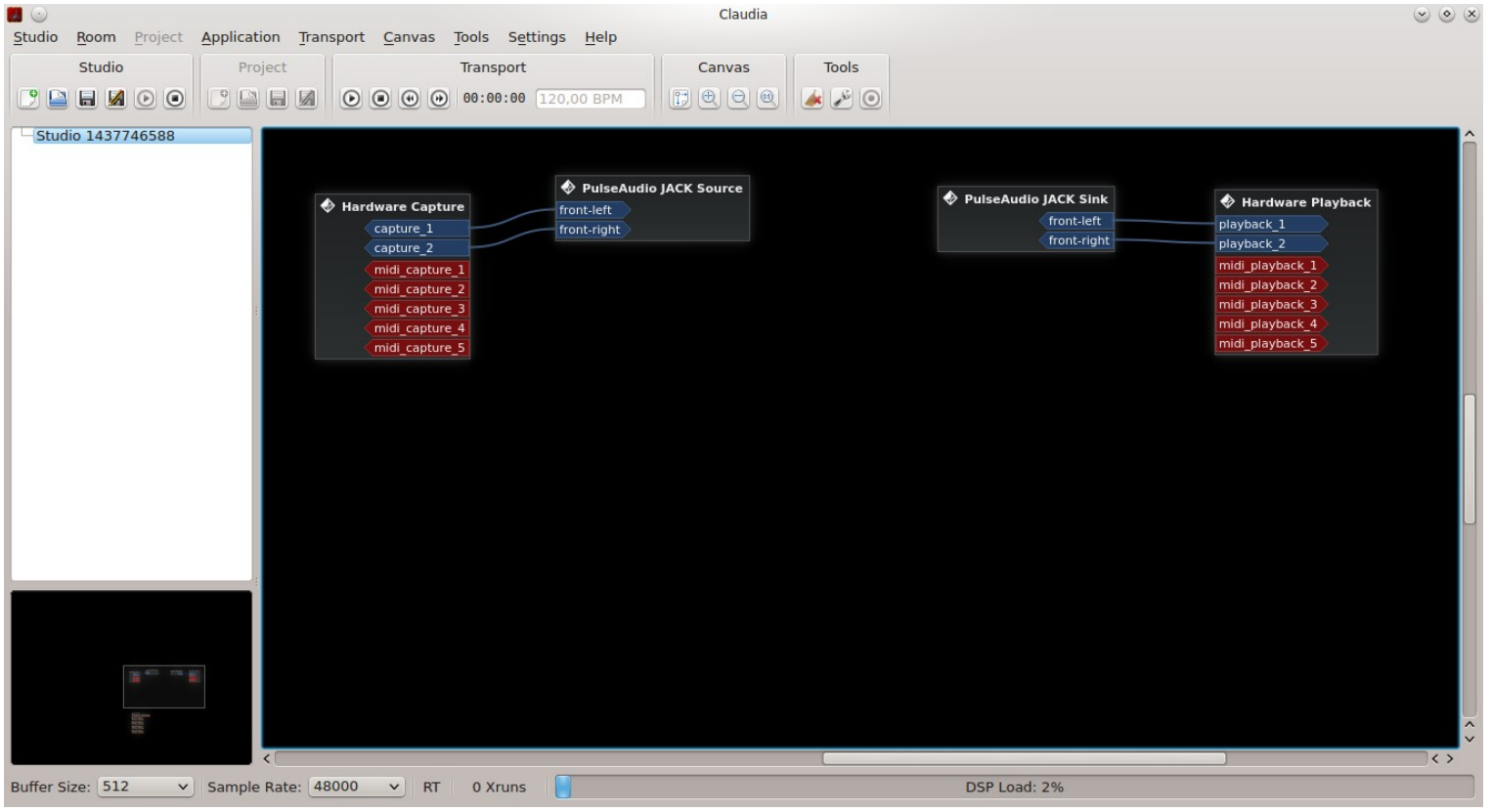
Cadence
Catia View



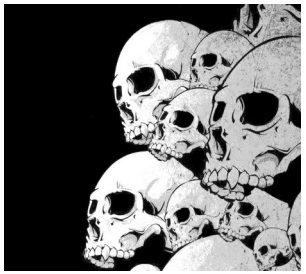
Blue : audio – Red : Jack MIDI – Brown : ALSA MIDI HW – Green : ALSA MIDI Soft



Cadence
Claudia view



View almost identical to that of Catia. Most Jack sessions management via Ladish. Please note: not all applications support Ladish.



Non session manager

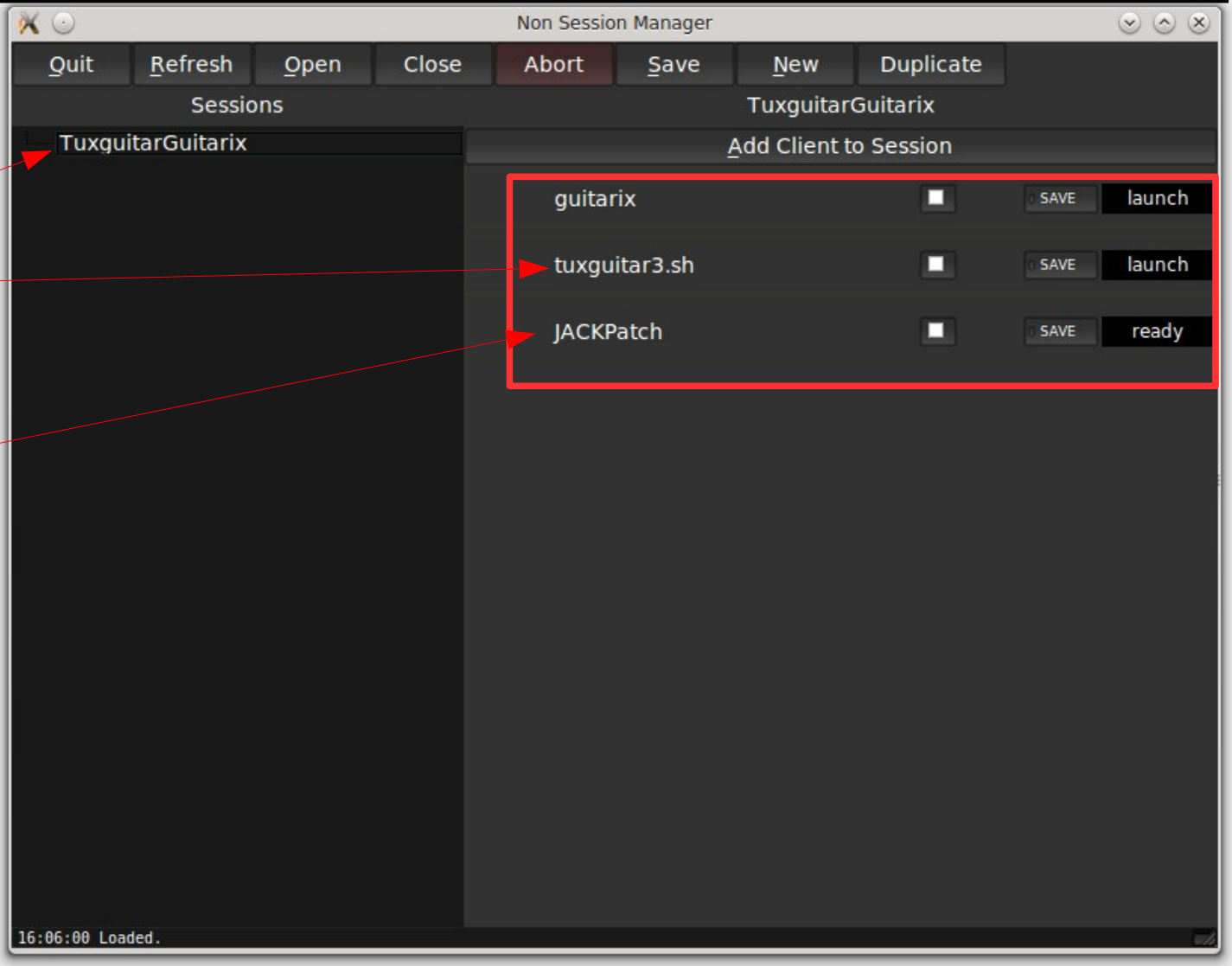
Session name

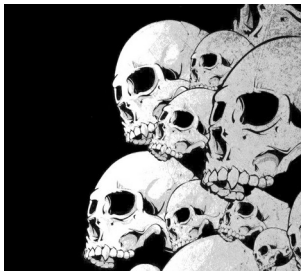
List of applications launched in the session

Tool to integrate to record Jack connections

No session manager allows you to launch several applications and reconnect them

Applications must be in the path ...





Ray Session

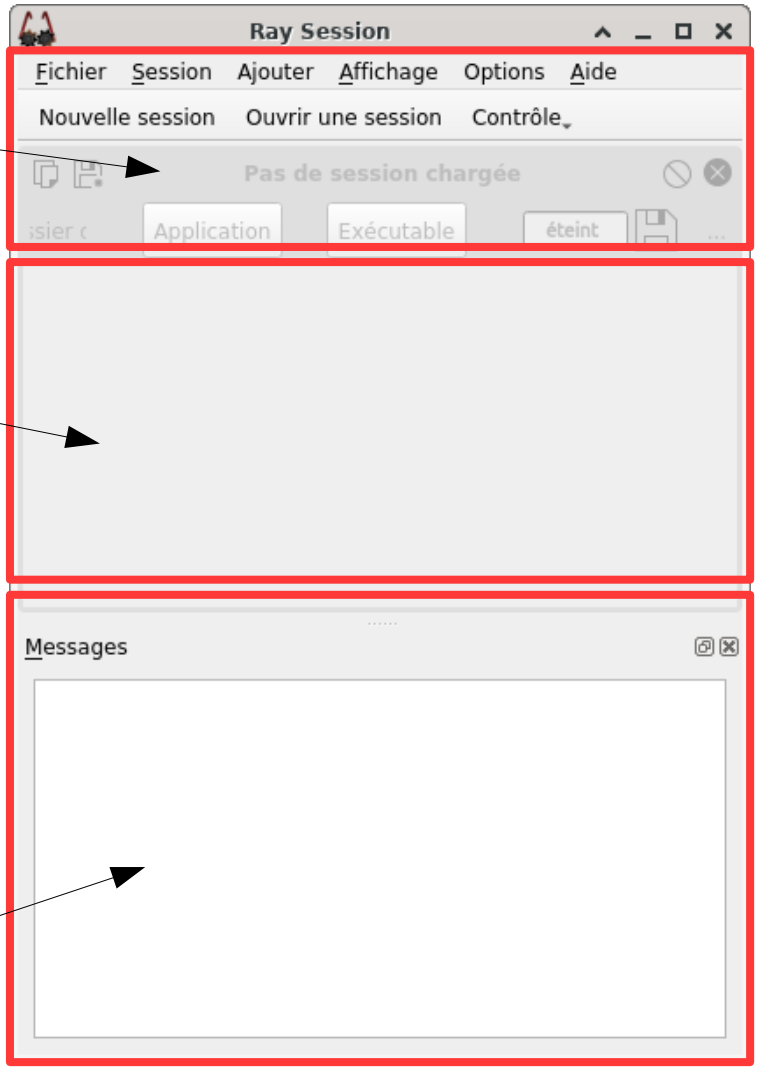
Like non-session-manager, Ray Session allows you to manage the launch and automatic connection of Jack audio application.

Unlike non-session-manager, this application is always actively developed.

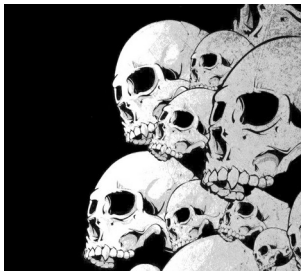
Creation zone / Sessions management

Zone where the different tools and indication of the backups of states appear

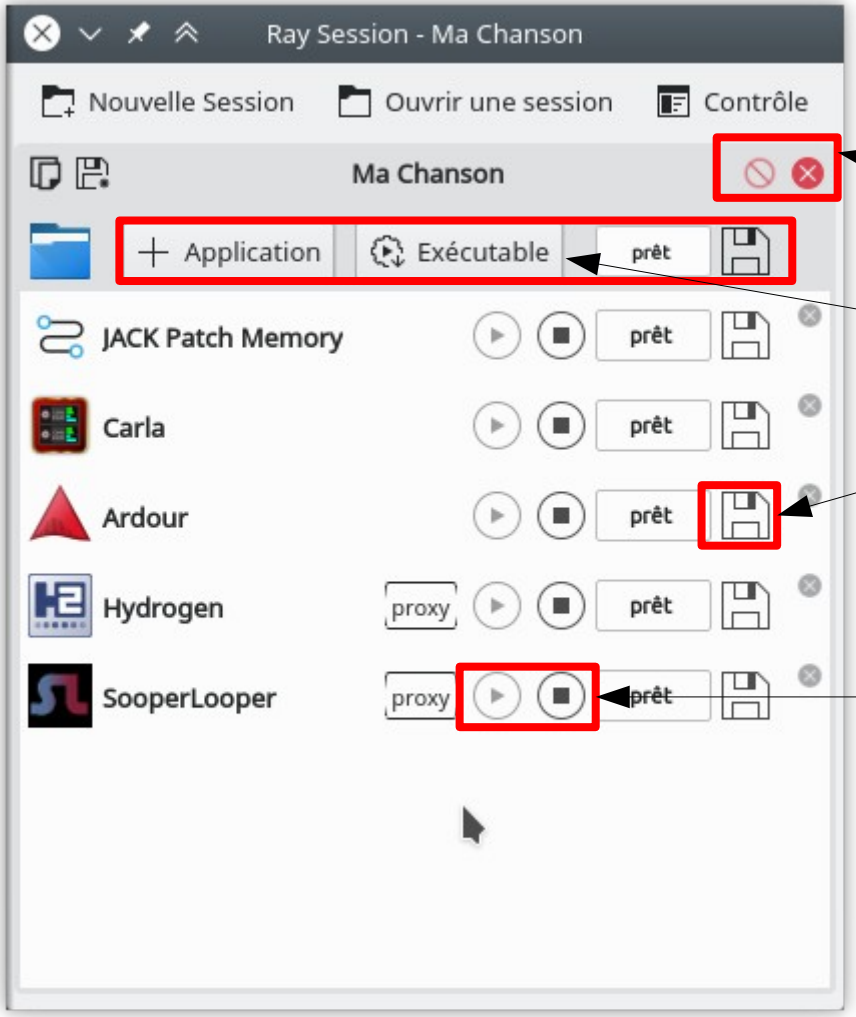
Launch messages area



http://linuxmao.org/Ray+Session
https://github.com/Houston4444/RaySession



Ray Session Example

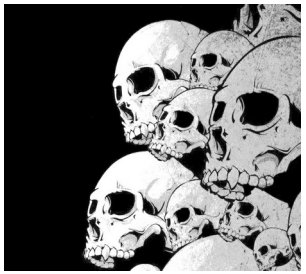


Safeguard of the session

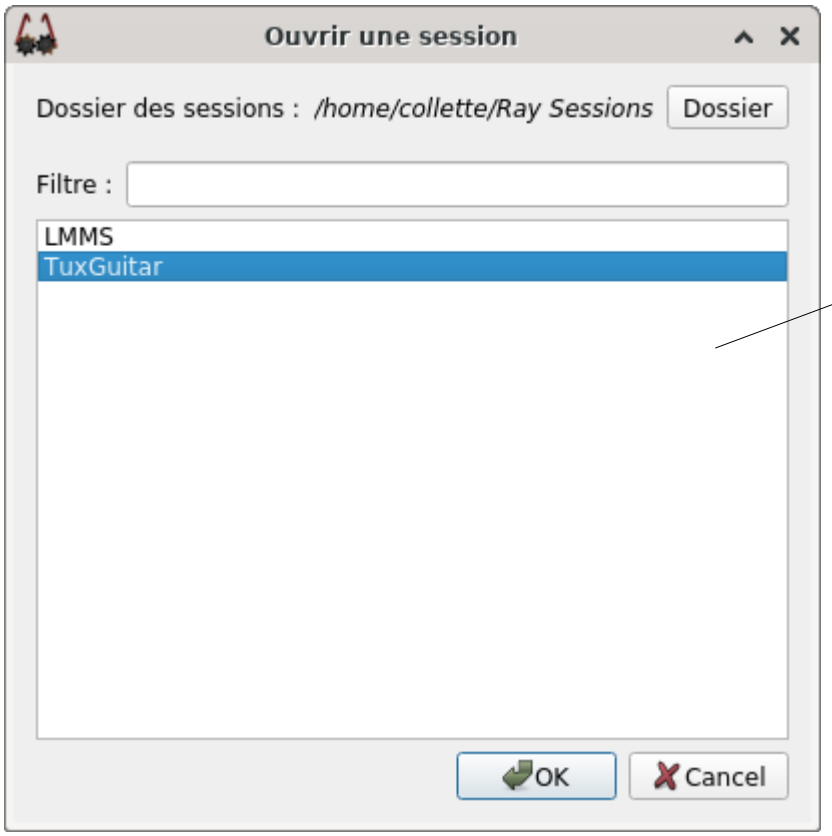
Adding applications

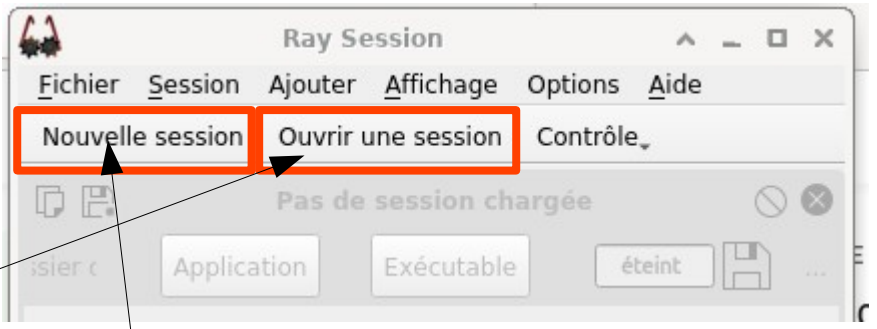
State backup button

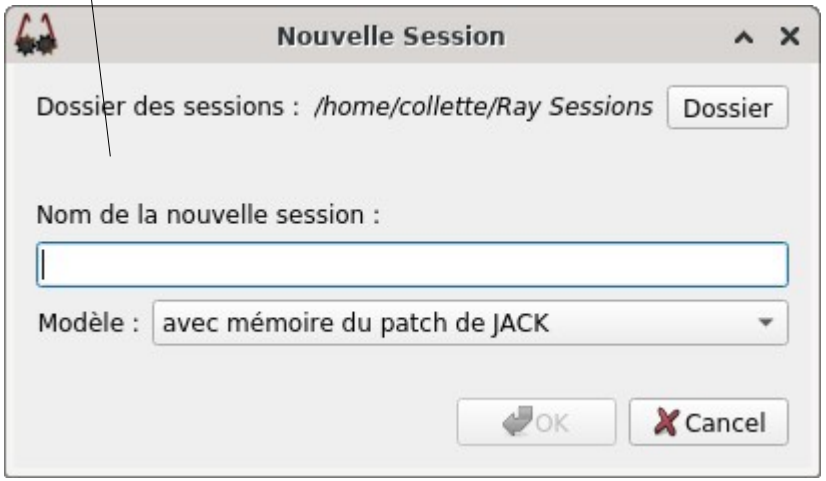
Stop / start application

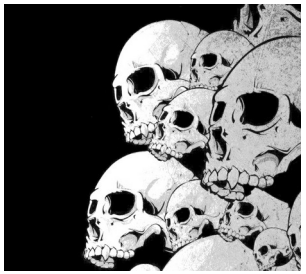


Ray Session
Session creation window









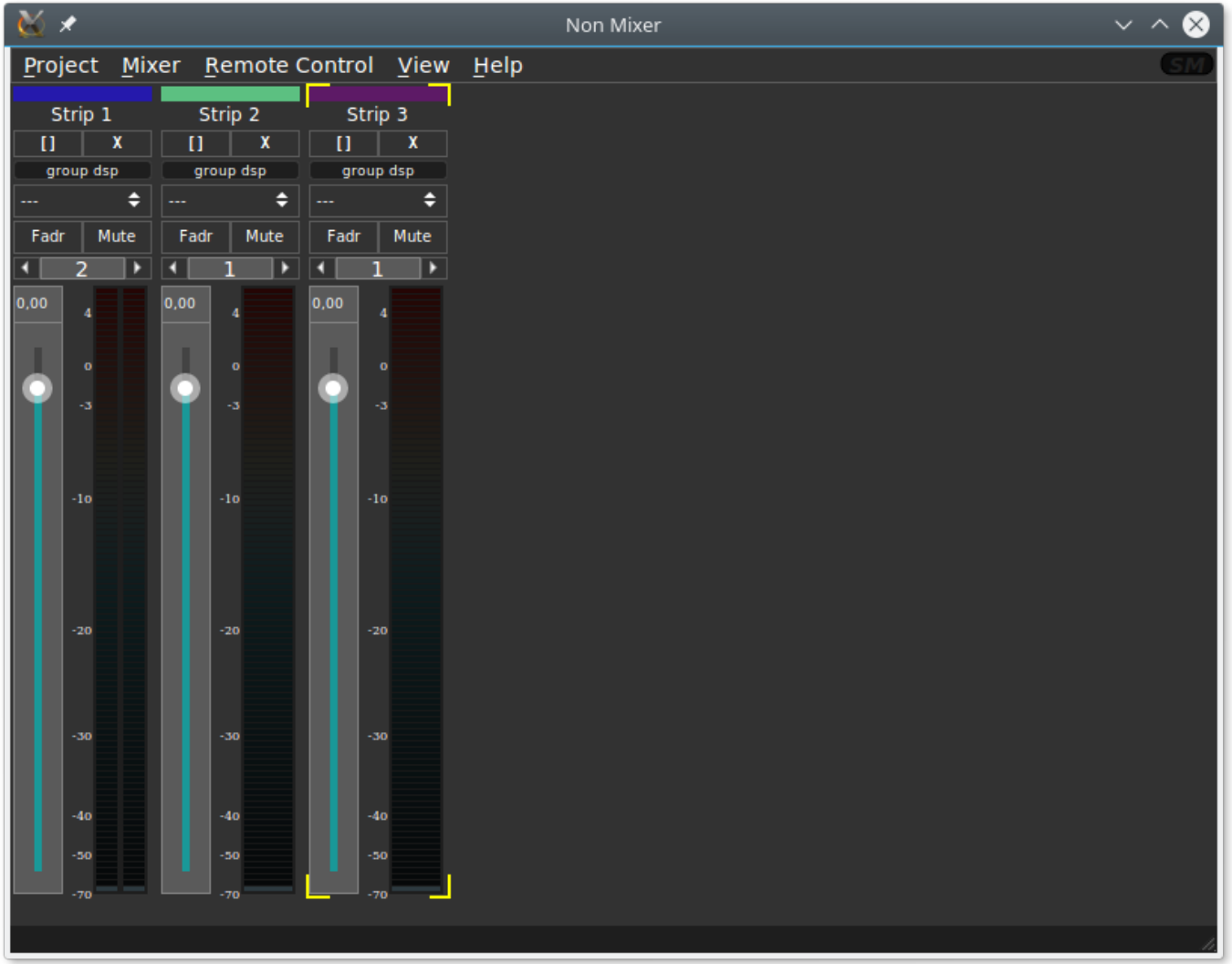
Non Mixer

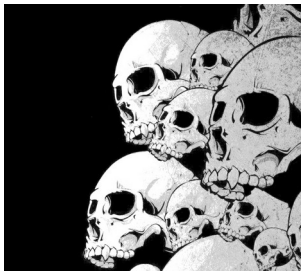
A very practical tool for adjusting the levels of signals passing through Jack.

Mixing: to add mixing strips

Remote Control: to learn OSC controls

The 'non-mixer-Oosc-Port <Portnum>' option allows you to adjust the Listening port.

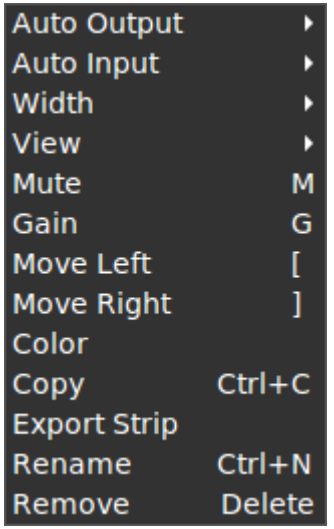




Non Mixer

Each band has a number of settings:

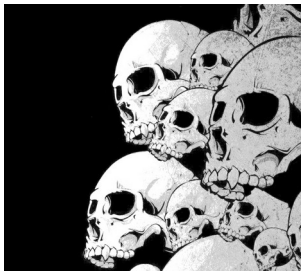
Right click on a bar →



→ Color, for strip

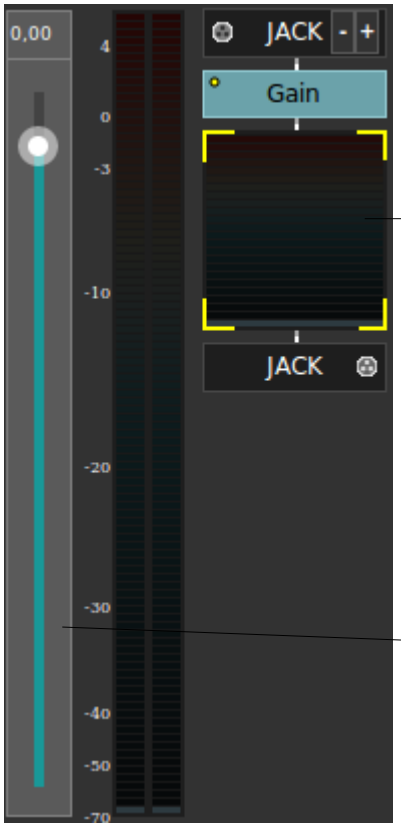
→ The name, for the strip also

→ The number of voices:
- 1 → Mono
- 2 → Stereo

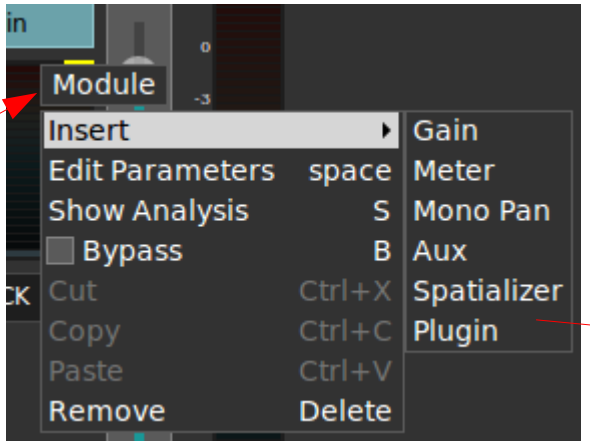


Non Mixer

Right click → View → Fader / Flow

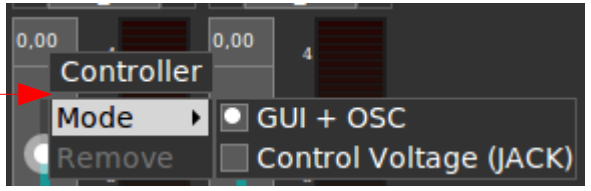


Right click

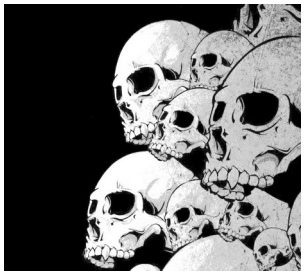


Adding LADSPA plugins

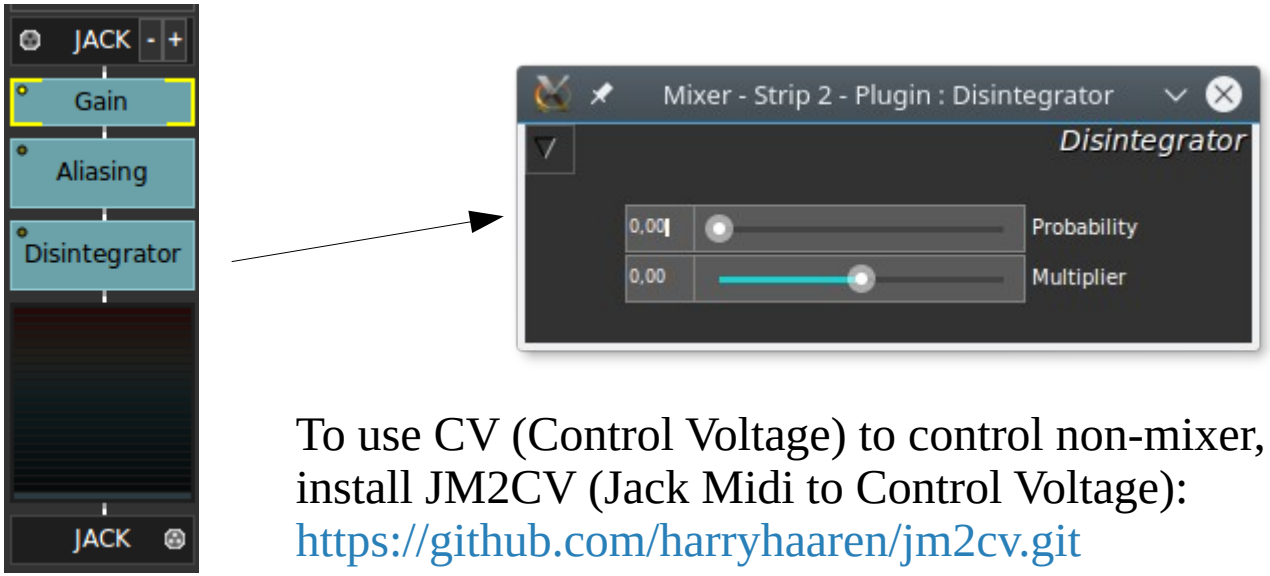
Right click



Use JM2CV to control non -mix

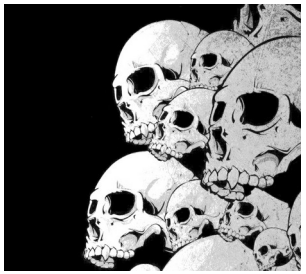


Non Mixer



To use CV (Control Voltage) to control non-mixer, it will be necessary to install JM2CV (Jack Midi to Control Voltage):
https://github.com/harryhaaren/jm2cv.git

```
$ dnf install non-mixer
$ dnf install non-mixer-xt
$ dnf install non-mixer-lv2
```



Jack_Mixer


```
$ dnf install jack_mixer
```