# User manual

# xp standalone

XP (standalone) works dynamically with each of the xp.devices : *xp.visual, xp.engine, xp.source, xp.room, xp.group.*

None of the devices works without having *XP* opened and running. For that reason, the application launches as soon a *xp.visual* is loaded in Ableton Live, and quits when the user close project with that device.

**How it works__**

For the user, it appears as a monitor with a 3d view which represents the virtual sound scene in a 3d world. It displays xyz axes and several elements to help the user orientate himself in that referential, and customize the view.

It also consists of loudspeakers represented in cube which will be distributed according to the chosen configuration in xl.engine, and sources represented in sphere, which will be added as they are created in Live Ableton with xp4l.source.

**Implementation__**
Underneath, the application allows the operation of each of the xp.devices with an organized architecture of messages though osc communication. It is the application that allows each of devices to be instantiated, responsive, and to keep their working dynamic in a way that all of this happens in a completely transparent way for the user.

For these  reasons, it's not possible to make a project without XP standalone
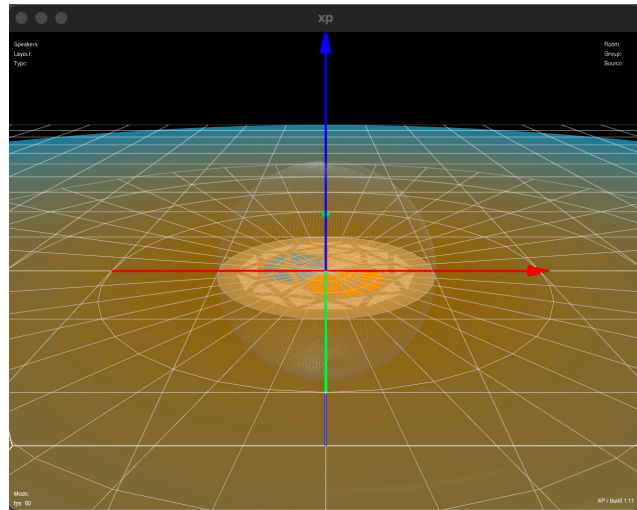
**Initialization__**
The communication between XP and the m4l devices is using user's computer osc port 7450, 7451, 7452, 7453, 7460 and ports numbers instanciated in the range of 10000<12000. While working with XP, user should to be aware that those ports cant be used for other application than XP, otherwise it will lead to system malfunction, and might even require computer restart to reboot osc initialization on the machine.

**Loading__**
Nothing is required from the user. Load an xp.visual in Ableton Live and the application starts immediately. It's not possible to open the application from the computer browser after it has been authorized (see installation notes). In this case,  xp.app will shut down automatically.

On load a window with the 3d view as
described before opens :

## Setting up

The application configuration can also be done from from xp.visual device,
in Ableton. Please refers to *xp.visual_doc.pdf* for more details. Several
feature are accessible from *XP* menu bar :

*About* : Reports information about current version, authorization and credits

*View Menu* :

- Fullscreen mode. Can also be activated/desactivated with the key "esc"
- Change the view for the 3d scene among the four available (3d, split, top,
  side)

*System menu:*

   *-Force update :* Although everything has been designed to load and
update a saved project correctly in all relevant contexts, it is still possible that,
depending on the resources of the user's machine and the size of the project, the
update may not be done correctly on load. Forcing an update in this case can be useful.
Just click on this command and it will initialize the project correctly as saved.

   *-Mouse :* enable/disable mouse use for navigation

   *-Osc Speed* : regulates the speed at which data packets are exchanged between
   the application and xp.engine. By enabling this feature, you can dramatically
   reduce the cpu requirements in Ableton, while keeping a good playback resolution.
   This can be very useful if you use automations or generative animations.

   *-Activation :* open Activation panel. See 'Activation' for more details.

   *-Hard Quit* :  Proceed to an immediate shutdown of the environment (XP+Ableton)
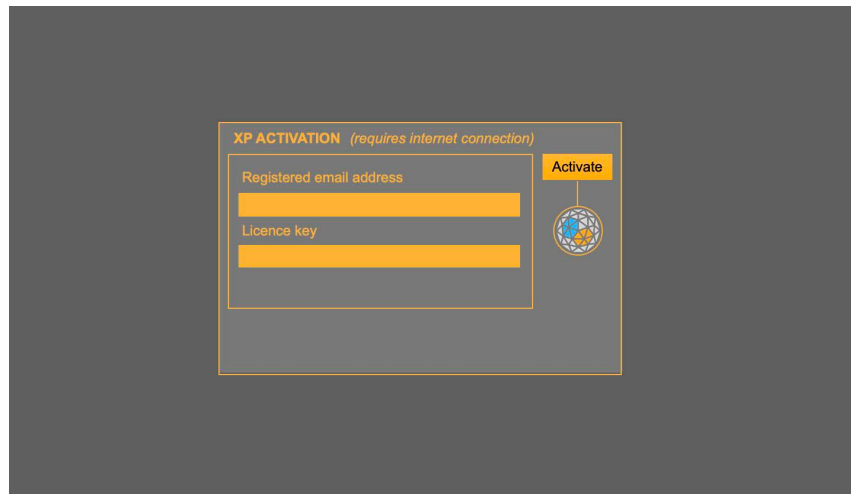
*Help menu* : Access different options to help user (Shortcut, Quick-start,
Documentation, user account, visit xp4l.com,Youtube channel, Ircam Forum)

## **Activation**

The  application  must  be  authorized.

After  installation,  launch  the  application  from  your  browser.

At  its  first  opening,  an  activation  panel  will be  presented. Be   sure   to   enter   the   same   email   address   as   used   for purchasing  the   application   on www.xp4l.com,  and  the  license  key  received  by email  (also available  in  your  user account)
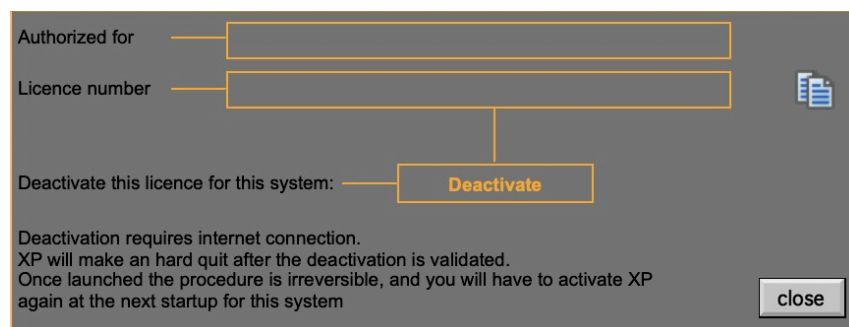


Once authorized, the application can only be launched from Ableton Live.

*Deactivation*

While the licence is only for one computer, you might want to be able to use XP on  other machine. To do so, you must deactivate the license currently used.
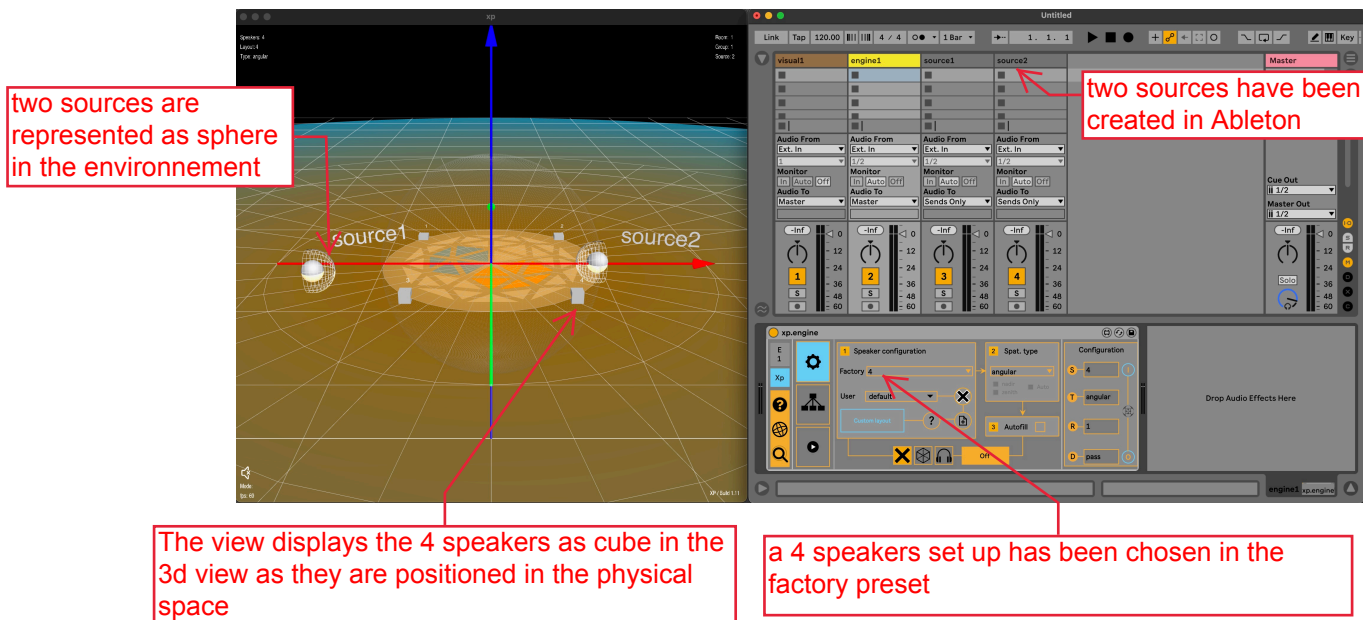
Open  Activation  panel  in  'System'  menu,  and  clic  Activation.  If  XP  is  already authorized  for   the   current   machine,  it   should   be   displaying   the   registered email  address  and  the corresponding license number.

Clic deactivate.  Be  aware  that  you  need  to  be  connected  to  internet.  After  few second,  a  message  will  indicate  that  deactivation  is  successful  for  this  computer. The  application  will close  down, and you can use this license on a different computer.

## Workflow

The    application    is    a    real-time    user    assistant    for    sound    spatialization work. When   selecting  a  set  up  from  *xp.engine*,  it  displays  the speakers  as cube  in  the  view showing their position in space.



two sources are represented as sphere in the environnement

two sources have been created in Ableton

The view displays the 4 speakers as cube in the 3d view as they are positioned in the physical space

a 4 speakers set up has been chosen in the factory preset

When creating a source in Ableton Live with *xp.source*, a sphere representing this source is immediately created in the 3d view as well. The source position in the 3d view updates accordingly to its instance in Ableton Live, whether it's moved by automation, external controller, or generative engine.

When deleting the source in Ableton, the source is deleted in the environnement.

Datas are displayed in the window about the current *xp state* and are updated from user actions:
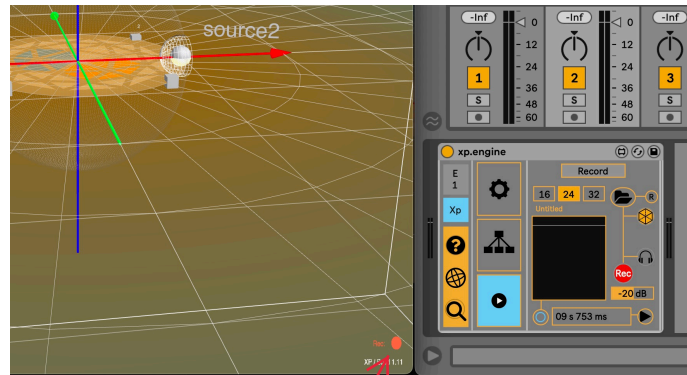
Top left :
- Layout (name): Layout name. Layout refers to the name given to the preset
- Speakers : speakers number of the current arrangement
- Type : type of current spatialization

Top right :

- Rooms : current rooms number in the project
- Group  : current group number in the project
- Source : current source number in the project

Record
when recording the multichannel audio
stream, which can be triggered by the
Rec button on the record interface from
xp.engine, XP displays at its bottom
right a blinking red light indicating that
a record is ongoing

blinking red light

*Navigation*

Move around in the 3d view using the following keyboard shortcuts

w distance up
s distance back
a rotate azimuth up
d rotate azimuth down
q elevation up
z elevation down

...and or with the mouse.

Navigation information is available in the menu bar "Help" : shortcut

*Quit*

When user closes the Ableton project, or quit Ableton, the application closes.

*Load an existing project*

When reopening an existing project that has an xp.visual in Live Ableton, the
application opens and after a load time, depending on how much sources have been
created at thet last save,  should display sources and configuration  as they have been
saved in the Ableton Live project. In case of problem clic '*Force update*' in the System
menu.