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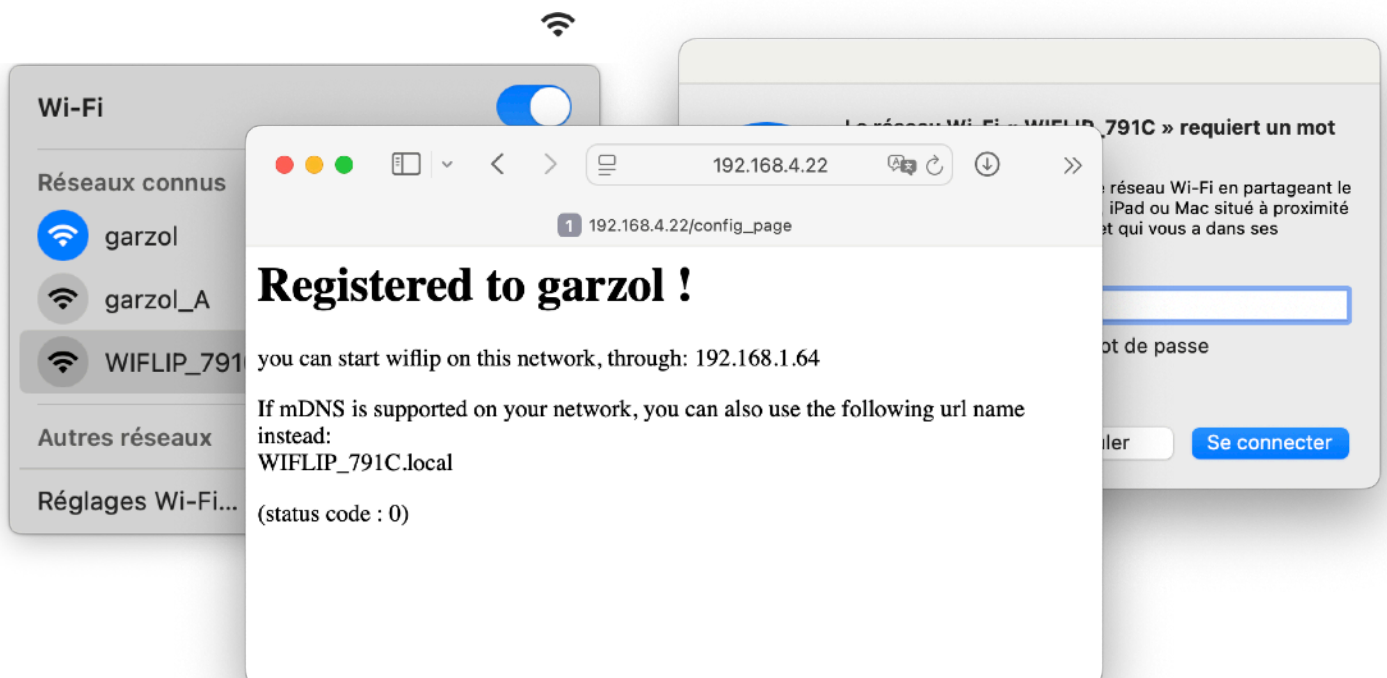
## Connection to the WiFlip module

### INITIAL CONFIGURATION

Start by turning on the pinball machine and entering the connection data for your access point (box or router) so that the WiFlip module can connect to it.

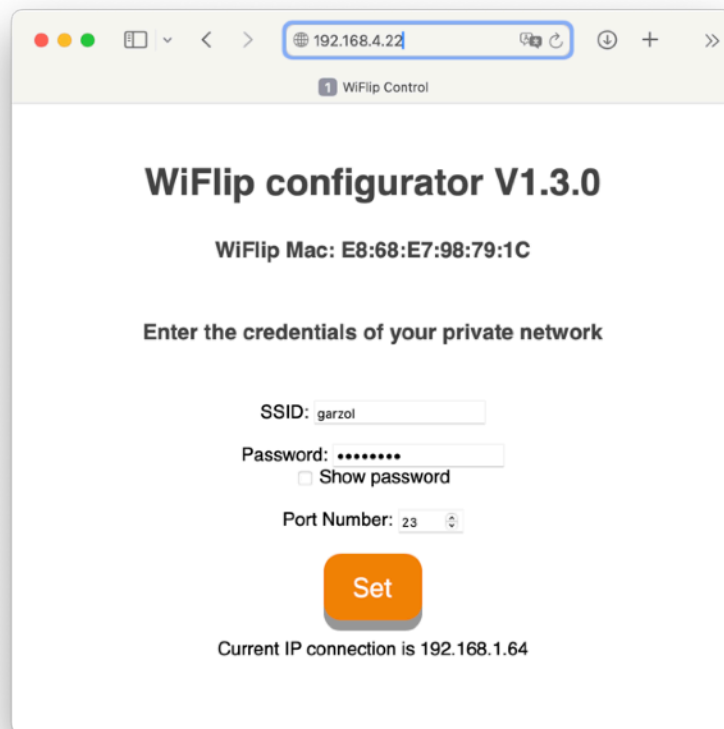
To do this, from a computer or smartphone, first find the access point for the WiFlip module. It is called WIFLIP\_XYZT (XYZT varies from a device to another) It is a wifi access point without internet access. If your computer or smartphone cannot see it, you are too far from the WiFlip module. Move closer to it with your computer or smartphone. You can also switch the pinball machine off and on again to restart the WiFlip module.

As your computer or smartphone does not yet know WiFlip, it will ask for a password. This



password is : shootagain

Wait for the connection to be established. Then, in a browser of your choice (Firefox, Safari, etc.), enter the following address in the address bar:



`http://192.168.4.22`

The address starts with http (not https). The connection is therefore not secure.

The following page should appear:

Enter the connection details (SSID/Password) for your box and click on the Set button. After a few moments you should see the following screen:

If you have changed the port number you will need to restart the WiFlip module. before the change can be taken into account. Unless you have a good reason for doing so, you should not change this setting.

The login page gives you 2 indications:

1. `192.168.1.64` is the IP address that was given by your DHCP box/router to your WiFlip.
2. `WIFLIP_791C.local` is the equivalent name in a more friendly manner. It will never change, while the numeric value is susceptible to change after a box reset for example.

The IP address is susceptible to change. The name in clear will not.

In case of an error, you will see the following page:

Most of the time, this error page indicates that a wrong SSID or password has been entered. The error may also occur if your box does not support wifi on the 2.4GHz frequency band, which is extremely rare, or, more frequently, if the box, although compatible with 2.4GHz, tries to connect in priority to 5GHz, or 6GHz, by default. WiFlip only supports the 2.4GHz frequency band.



### LAUNCH OF WIFLIP

From a computer or smartphone wifi connected to your box on the same network as the one you chose to configure the WiFlip device, in a browser of your choice, connect to :

<http://garzol.free.fr/wswiflip/>

Once again, the connection is not secure. It's up to you to protect your private network with a firewall, for example.

You can open up to 2 simultaneous connections.

You must operate on the same network as the one to which the WiFlip module is connected.

It is perfectly possible to use a wifi hotspot offered by your smartphone.

It is possible to locally save html page (<http://garzol.free.fr/wswiflip/>).

This way, you can run the corresponding script locally. It will work the same way as before. No need for an internet access in this case.

This can be useful if our site is exceptionally down.

You can now connect to your WiFlip module. Fill in the connection field, either with the raw IP address (such as 192.168.1.64), or with its pretty name (such as WIFLIP\_791C), or just with the last 4 characters (here: 791C). Click the Connect button.

The *Status* tab gives information about the game variant currently running.

The screenshot shows a web browser window with the URL [garzol.free.fr/wswiflip/index.html](http://garzol.free.fr/wswiflip/index.html). The browser tab is titled "192.168.4.22/config\_page" and the page title is "wsWiFlip".

**Control**

Connection:  Signal strength:

**Status** **Reprog** **System Settings** **Game Settings**

**Active Game** **Active Boot**

Name  Name

#Model  CRC

CRC

**Displays**

Freeplays

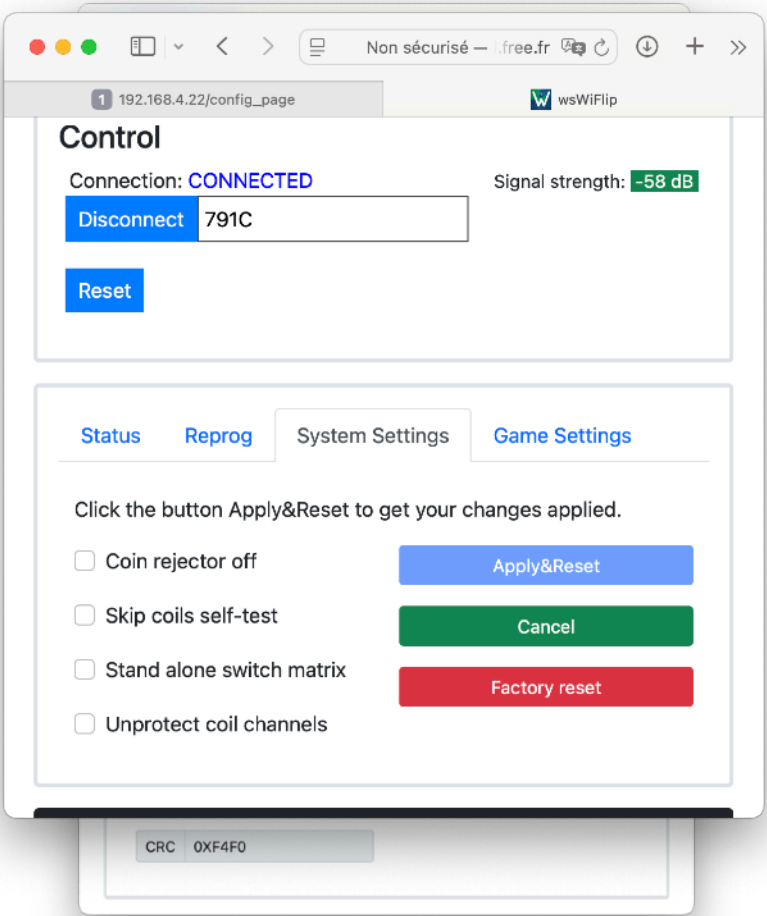
P1	1	.	8	.	8	.	8	.	8	.	8	.	0		<input type="button" value="O"/>	<input type="button" value="O"/>
P2	1	.	8	.	8	.	8	.	8	.	8	.	0		<input type="button" value="O"/>	<input type="button" value="O"/>

The *Reprog* tab lets you choose a new game variant. Simply select the game you want from the list and click Reprog.

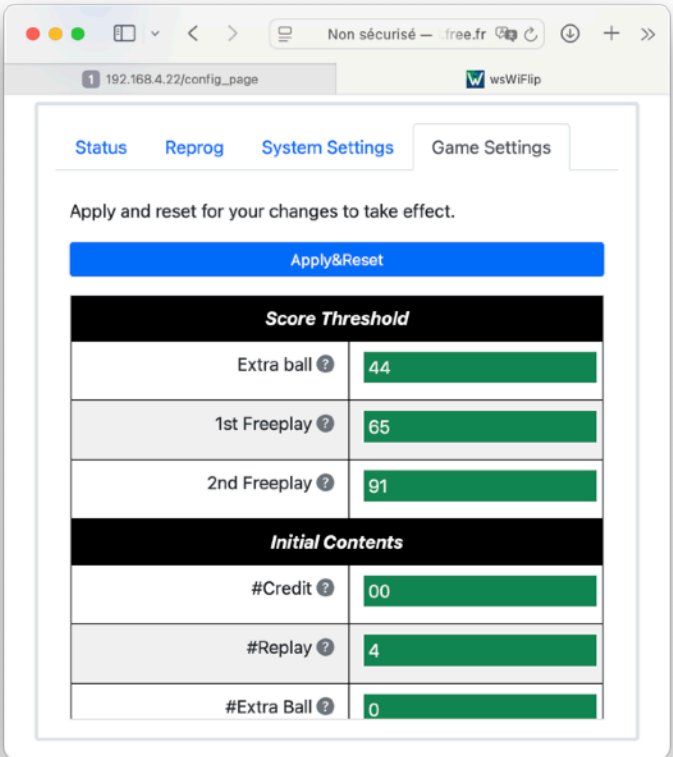
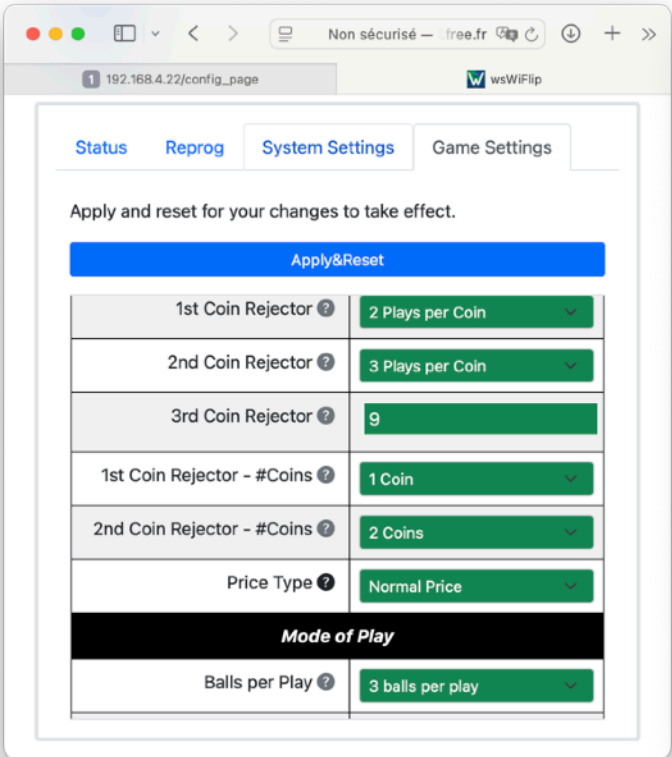
After a few seconds, the new game is in place and the MPU reboots. It's ready to go.

The *System Settings* tab lets you configure certain system parameters. For example, you can permanently disable the coin rejector coil. These coils often make an annoying noise, and are not very useful for private use.

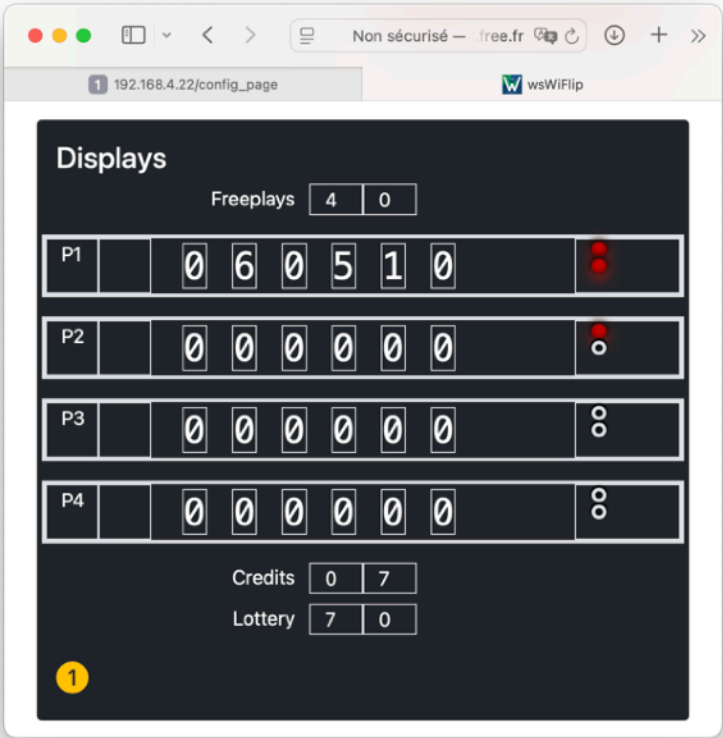
Factory reset resets the pinball machine to factory conditions. All your settings will be lost.



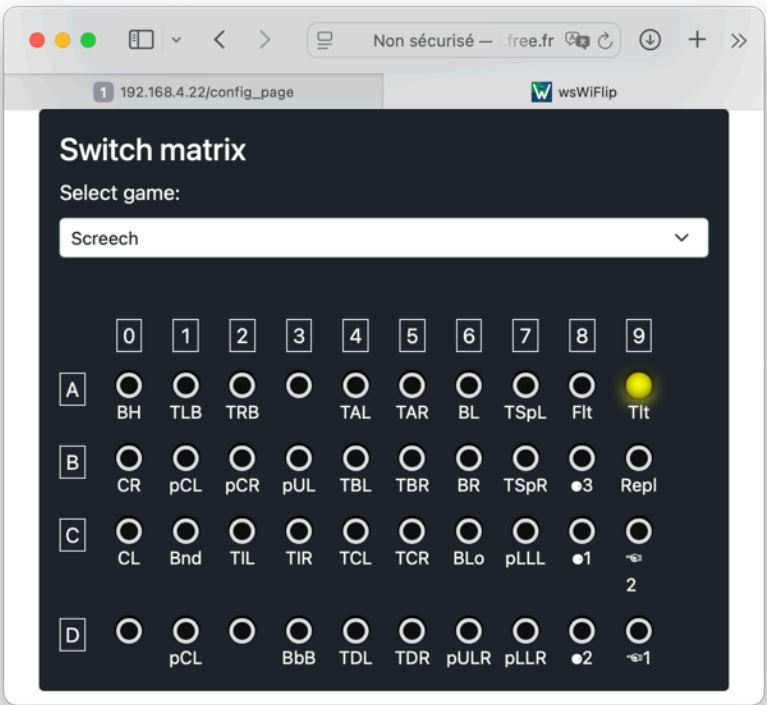
In the Game settings tab, you can change the game settings, such as number of balls per game, high score to date (handicap), etc...



Displays replication



Switch matrix emulation



You can emulate the activation of a switch by clicking on it. The corresponding action is then executed on the pinball machine as if the real switch had been set to the on position.

A double click puts the switch in the on position permanently (in the case of a downed target, for example).

### **NETWORK SECURITY CONSIDERATIONS**

It is of your own responsibility to block incoming connections to the network from outside. Ports 80, 81 and 23 in particular must be protected, otherwise anyone from the Internet will be able to access your pinball machine. Typically, you need to make sure that the port forwarding on your box blocks these ports. An attacker still need to have quite a lot of information about your network before they can actually hack a WiFlip. But you should know that it's not too difficult to do if you don't take the port protection measures mentioned.

We haven't put in any protection such as certificates or other encryption of the data exchanged to make sure that over time the solution will remain functional (problems with certificate expiry dates, etc...), and to limit unexpected connection problems.

If you want to make absolutely sure that no one will access your machine, just configure the WiFlip device with a non existing WiFi access point. Later, once you need to access it again, reconfigure it with a valid access point. That's it, simple and safe.

### **LINKS.**

Find out more about WiFlip below:

General infos on the PC or Mac app:

<https://www.pps4.fr/wiflip/>

Online tool address (http only):

<http://garzol.free.fr/wswiflip/index.html>

Address of this document:

[https://github.com/garzol/wiflip/blob/main/wswiflip/Doc/userman\\_wiflip\\_en.pdf](https://github.com/garzol/wiflip/blob/main/wswiflip/Doc/userman_wiflip_en.pdf)

### **CONTACT**

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### **NOTES**