

# Independent Audio Players using a Trigger

This page is dedicated to a returning questions of students:

- "How can I play a sound over a headset in the space?"
- "How can I make it so that if you put on the headphone the audio starts playing?"

Playing an audio file in the space is Easy, you just play it on your laptop or phone. But what if you are in some kind of exhibition setup and you want the sound to start playing if you pick up the headphones? Maybe like in a museum?

Depending on what you want exactly and your level of technical expertise there are many routes to a suitable solution on this page you will find some suggestions for you.

## "Smart" Headphones

There are some modern types of Bluetooth headphones that will automatically pause when you take them off for example:

1. **Sony WH-1000XM4 (probably there are many more Sony models that do this:**  
These headphones feature a sensor that pauses music when you remove them.
2. **Bose Noise Cancelling Headphones 700:** They pause music when you take them off.
3. **Sennheiser Momentum 3 Wireless:** These headphones will auto-pause when you remove them from your ears.
4. **Apple AirPods Max:** Apple's over-ear headphones feature auto-pause functionality when removed.
5. **Beats Solo Pro:** These headphones pause playback when you take them off.

**ATTENTION: These Headphones will PAUSE and will not stop and then start again from the beginning!**

## Ready made Devices

There are some ready made device that you can buy that just might do what you need. The devices listed here are not tested by the author of this page.

- Adafruit Audio FX Sound Board + 2x2W Amp - WAV/OGG Trigger - 2MB [link](#) **30 euro TIP!!**
- Flyrontech MP# speler met knoppen [here](#) **3 euro TIP!!**

- Flyrontech triggerable audio-player [link](#) (fancy but no cheap and with speaker) **50 euro**
- Flyrontech product overview AlieExpress page: [here](#)
- Amazon talking products: [link](#) (speaker could be changed for headphone jack) **17 euro**
- Amazon triggerable audio player [link](#) (the longlist of amazon options is [here](#) ) **18 euro**
- AlieExpress 10 Channel MP3 Sound Board [Here](#)
- Another AlieExpress option: [here](#)
- Cheap AlieExpress options that looks promising: [here](#)
- Sparkfun module (expensive) [here](#)
- Museum grade equipment: [here](#)
- Seller of audio-players for museums: [here](#)

## BrightSign

One of the devices used in museums are BrightSign players. They are very robust and come in different flavours for audio & video. You can find the dedicated bookstack page [here](#). At the HKU we have a number of these player's in the "Uitleen"

The cheapest BrightSign audioplayer is: BrightSign Interactieve audioplayer AU335 (192 euro)

## Make it yourself

You can make it yourself with some off the shelf electronic components if you have some knowledge of these. There are roughly two ways:

### Arduino way:

Use an Arduino and a MP3 player and hook them up with some wires and a button. Write the code to play the file when the sensor/button is triggered. (I use Arduino, but it could be a ESP, NodeMCU, raspberryPi pico) In the examples they often use a small speaker, but that could also be a headphone.

With the Arduino the most used mp3 player is the [DFPlayer Mini](#)

- See an wiring example with a Node MCU [Here](#)
- See an tutorial with Arduino [Here](#)
- A youtube tutorial on the DF mini player and NodeMCU [here](#)
- Another NodeMMCUC/DF mini player tutorial: [here](#)

### RaspberryPi way:

Take any RaspberryPi that can play audio then write a small python script that will listen for the GPIO ports and play a sound when those are triggered with a button. GPIO ports on a RaspberryPi are digital not analog.

- A ready to use program for the raspberry Pi: [MP3 player](#)
- The RPI fruitbox another ready to use solution: [rpi-fruitbox-v2](#)
- Tutorial to make a self contained Raspberry Pi zero MP# player [here](#)
- Tutorial to make a RaspberryPi player with buttons: [here](#)
- Python code to play MP# file on github [here](#)

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