ESPHome Cartridge Player

🍲 The Stock Pot

VIEW IN BROWSER

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Summary

A little ESPHome device to stoke my physical media nostalgia!

Gadgets > Other Gadgets

Tags: esp32   homeassistant

Bring back the magic of movie night — without the rewinding.

This NFC-powered media player uses 3D-printed cartridges and ESPHome to trigger movies, playlists, or automations in Home Assistant. Just insert a cartridge, and your smart home takes care of the rest.

UPDATES 18/07/2025

- Cartridge Player_Bottom_Buzzer added for use with the buzzer included in the parts kit from our website
- Cartridge_Top_RecessedLabel added for recessed labels (requires support) - Inspired by Bas van der Ploeg @bvdp
- Clearance for cartridges slightly increased for pocket and Player_Top components

BUY A PARTS KIT HERE   Links

- Blog post & build guide

- GitHub repo (firmware, wiring, YAML)
- ESPHome config
- Bill of Materials
- Parts kit

Features

- NFC cartridge-based ESP Home device
- Works with ESP32, RC522, and Home Assistant
- Automates anything — movies, music, lighting, games
- Easy to print and put together

Tutorial Video   What You'll Need

- ESP32-S3 Zero
- RC522 NFC module
- NFC stickers (one per cartridge)
- Hardware
- Optional: buzzer for sound feedback

Full BOM, firmware, and config available here

Print Instructions

All parts should be oriented correctly when you import them into your slicer. Pictured player was printed in Bambulab Light Gray (10104) & Gray (10103)
Filament choice shouldn't matter. I've tested PETG, ABS and PLA without issue.

Cartridges:

- Print with outside faces on the print bed
- No supports required
- Insert NFC tag before snapping halves together

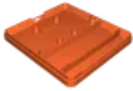There are cutting and printing templates below for printing your own labels.

Player Housing:

- Use painted supports for the latch on the 'Cartridge Player_Pocket' component, and on the cartridge opening on the 'Cartridge Player_Top' component.
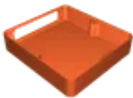- Avoid auto supports (bridging is intentional)

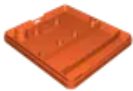# Model files

Player
4 files

cartridge-player_bottom.3mf

cartridge-player_pocket.3mf
🗋 Slightly increased clearance for cartridges

cartridge-player_top.3mf
🗋 Slightly increased clearance for cartridges

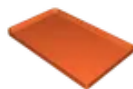**cartridge-player_bottom_buzzer.3mf**
🗋 Added friction fit buzzer mount
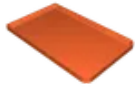
Cartridge
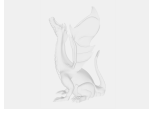4 files

cartridge_bottom.3mf

cartridge_top.3mf

cartridge_bottom_easierassembly.3mf
🗋 Clips are tweaked to make assembly easier

cartridge_top_recessedlabel.3mf

🗋 Label is recessed - requires support (Inspired by Bas van der Ploeg @bvdp)

sticker_template.dxf

🗋 Cartridge sticker cutting template

Other files

sticker_template.pdf

🗋 Cartridge sticker pdf template

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