

FLUX TV

Raspberry Pi Architecture & Execution Plan (v1)

Vision

FLUX TV is a dedicated television operating system that transforms a vintage CRT into an interactive archive.

Each FLUX video becomes its own television station.

Visitors browse the archive using a physical television remote exactly like changing cable channels.

There is never a desktop.

There is never a mouse.

There is never a visible operating system.

Only television.

Final Hardware

Sony Trinitron CRT

↓

Sony Remote (RM-YD092 for now, RM-Y116 eventually)

↓

IR Receiver (Inteset for first exhibition, Flirc later)

↓

Raspberry Pi 5

↓

HDMI → Composite Converter

↓

CRT Television

Development Computer

Mac mini

The Mac mini is **never** part of the installation.

It exists only to develop and deploy FLUX TV.

Responsibilities:

- write code
- use Claude Code

- SSH into Raspberry Pi
 - upload videos
 - push software updates
-

Raspberry Pi Responsibilities

The Raspberry Pi becomes the appliance.

It should:

- boot automatically
- launch FLUX TV automatically
- never show Linux
- never show a terminal
- never require a keyboard
- never require a mouse
- recover after power loss

Power on = television.

Raspberry Pi Setup

Install:

Raspberry Pi OS (64-bit)

During installation enable:

- SSH
- Wi-Fi
- hostname

Hostname:

fluxtv.local

Create username/password.

Development Workflow

Mac mini

↓

SSH

↓

Raspberry Pi

↓

Claude Code edits files directly on the Pi

The Pi is the real computer.

The Mac simply controls it.

Folder Structure

~/FLUX_TV/

Videos/

FLUX_001.mov

FLUX_002.mov

FLUX_003.mov

Metadata/

Static/

Config/

Logs/

Scripts/

Channel Philosophy

Each video IS a television station.

NOT

CH 23

Instead

FLUX_023

The filename becomes the identity.

Future:

FLUX_341

FLUX_728

FLUX_1043

Video Playback

One channel

↓

One video

↓

Loop forever

The television NEVER advances to the next channel automatically.

Only the visitor changes channels.

Channel Surfing

CH+

↓

Next FLUX volume

CH-

↓

Previous FLUX volume

Wrap around forever.

Number Entry

Remote:

2

3

↓

(after timeout or Enter)

↓

FLUX_023

loads instantly.

Support:

001

023

341

1000

Overlay

Upper-left corner.

Courier New.

White text.

Example:

FLUX_023

Appears for approximately two seconds.

Fades away.

Static Transition

Every channel change:

Current video



250–400 ms CRT static



Overlay



New video begins

The transition should feel like changing cable channels.

Looping

Every video loops forever.

If FLUX_023 ends:



FLUX_023 starts again.

Until someone changes channels.

Perfect for galleries.

Startup Sequence

Power

↓

Pi boots

↓

FLUX TV logo

↓

Black screen

↓

FLUX_001

↓

Loops forever

No desktop.

Remote Controls

Power

↓

(optional splash screen)

Channel +

↓

Next FLUX

Channel -

↓

Previous FLUX

Numbers

↓

Direct channel entry

Enter

↓

Confirm channel

Info

↓

Metadata overlay

Metadata Overlay (Future)

FLUX_023

Philadelphia

2026

Duration

Camera

Project

Fade away.

Gallery Mode

Designed to run:

- all day
- all week
- unattended

Requirements:

- auto login
- auto launch
- auto recover
- disable sleep
- disable updates during exhibition

- hide cursor
 - hide desktop
-

Updating Archive

From Mac mini:

Export:

FLUX_342.mov

↓

Copy into:

Videos/

↓

FLUX TV detects new file

↓

Channel automatically exists.

No manual configuration.

Future Features

- Random channel
 - Scheduled programming
 - Secret channels
 - Search
 - Metadata
 - Web dashboard
 - Remote management
 - Statistics
 - Favorites
 - Multiple televisions
-

Claude Code Workflow

Claude Code becomes the lead engineer.

Mac mini

↓

SSH

↓

Raspberry Pi

↓

Claude writes code directly.

Development always happens remotely.

Software Stack

Operating System

Raspberry Pi OS

Media Engine

mpv

Playback Logic

Lua

Future UI

Native overlays

Development

Claude Code

Version Control

Git

Version 1 Goals

- ✓ Boot automatically
 - ✓ Fullscreen playback
 - ✓ Loop current channel forever
 - ✓ Channel Up
 - ✓ Channel Down
 - ✓ Number entry
 - ✓ FLUX_### overlay
 - ✓ Static transition
 - ✓ Hidden operating system
 - ✓ Remote support
-

Version 2 Goals

- Metadata
- Search
- Random channel
- Favorites
- Channel guide
- Secret channels
- Scheduled broadcasting

- Web administration
-

Long-Term Vision

FLUX TV becomes the official playback platform for the FLUX archive.

Every completed FLUX film becomes a permanent television station.

Instead of opening files in Finder or browsing folders, visitors explore the archive exactly as people once explored television—by surfing channels.

The television itself becomes the archive.

The Raspberry Pi disappears.

The operating system disappears.

Only FLUX TV remains.