

# Linux OBS Audio Architecture Overview

## 1. Background

Starting from OBS version 29, OBS on Linux no longer accesses ALSA directly for audio capture. Instead, it uses PipeWire (via PulseAudio-compatible interfaces), which is the official direction of modern Linux desktop audio architecture.

## 2. Legacy Audio Architecture

Applications → ALSA → Driver / Hardware

This model often caused device exclusivity issues, poor multi-application support, and instability with hot-plug or suspend/resume.

## 3. Modern Audio Architecture (Current & Future)

Applications (OBS / Browser / Conferencing Software)

→ PipeWire

→ WirePlumber (policy and device management)

→ ALSA

→ Driver / Hardware

## 4. Why OBS Uses PipeWire

Modern Linux systems (especially Wayland) require PipeWire for audio/video capture. Firefox, Chromium, conferencing tools, and OBS have all standardized on this architecture.

## 5. Where Audio Device Names Come From

In the PipeWire architecture, OBS does not read device names directly from the driver. Instead, device names are generated and managed by WirePlumber and then presented to applications.

## 6. Our Solution

- Standard ALSA driver implementation
- One capture device per audio channel
- Official WirePlumber rules to present clear channel names:  
HAudio 1, HAudio 2, HAudio 3, HAudio 4
- One-click installation script, no manual configuration required

## 7. User Instructions

1. Install the driver
2. Run install.sh once
3. Open OBS
4. Select the desired audio input (HAudio 1~4)

## 8. Summary

PipeWire is the future of Linux audio. This solution fully complies with official Linux and OBS recommendations, providing long-term stability and compatibility.