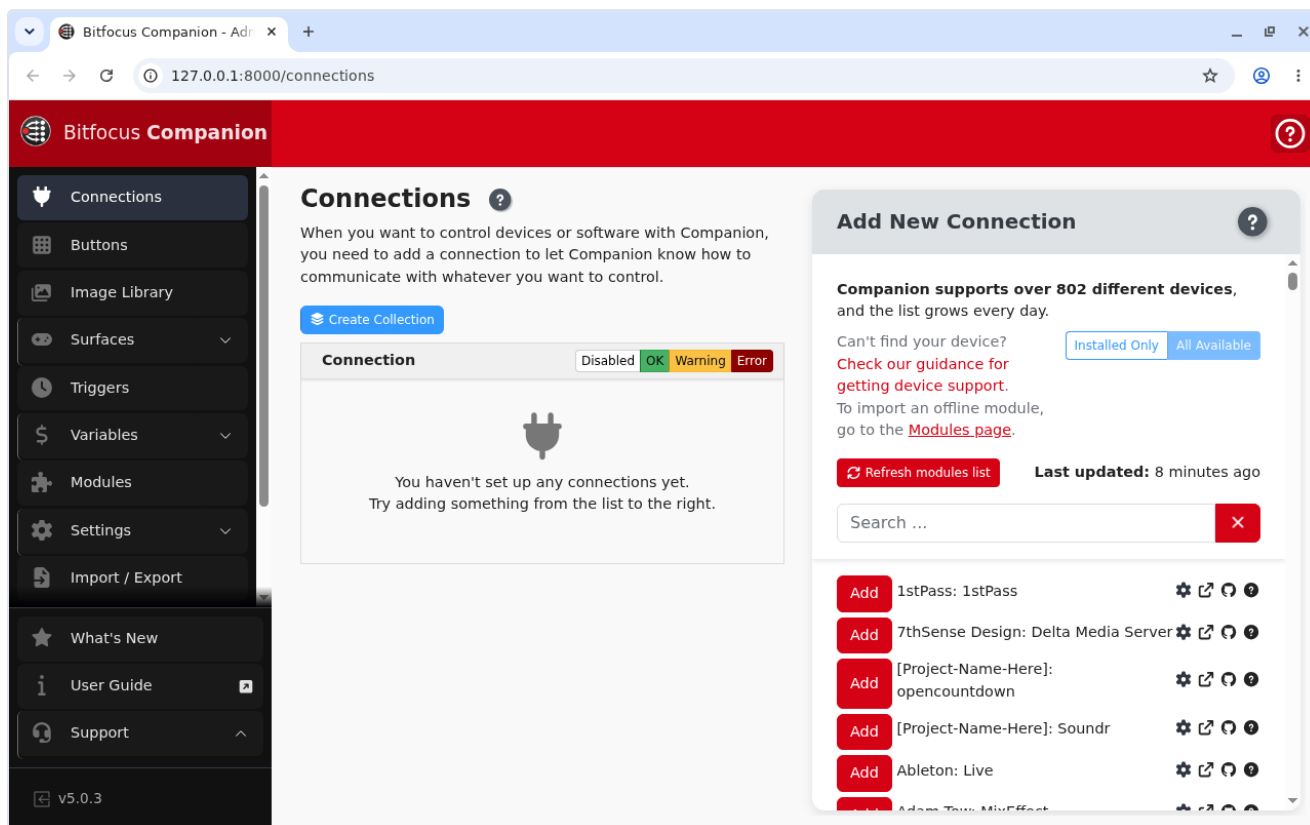


companion-play user guide

companion-play is a **replacement OS for the BirdDog PLAY** that turns it into a self-contained Bitfocus Companion appliance: the server, its web UI on the HDMI output, and USB surfaces on the front port.



⚠ Early beta

Treat this as a design that boots on paper. The image builds and the software stack is proven on the right CPU architecture — Companion has been started on aarch64 Linux with the full offline module bundle, all 811 modules enumerated, admin UI answering, surface plugins running — but **no part of this has ever run on BirdDog PLAY hardware**. The display, the installer and the USB surface path are unverified.

Do not put this on a unit you need for a show.

This codebase was created with AI assistance, directed and reviewed by a human author.

This is not a BirdDog or Bitfocus product. Neither company is affiliated with it, endorses it or supports it. **Installing it voids your warranty and removes the NDI and SRT decoding the device was sold to do.**

Why a PLAY

Not for the silicon — Companion uses none of the PLAY's video hardware.

The reason is **supply**: PLAYs turn up cheap in quantity, and one is a fanless, metal-cased aarch64 box with HDMI, gigabit Ethernet and USB host. That is the shape of a Companion appliance, and better packaged than a single-board computer in a case.

The one thing the hardware *does* buy is the **HDMI output**. Companion Pi is headless and its screen shows nothing. **Here the display is part of the product**: the unit drives a monitor showing Companion's own web UI and its web-button pages as tabs, so it is both the server *and* an operator surface.

The display is deliberately **not kiosk mode** — the operator keeps the tab strip, so web-button pages can sit alongside the admin UI.

What it runs

Piece	What
Base	A pinned, checksummed Debian-based minimal image
Companion	The official <code>linux-arm64</code> build. Nothing compiles.
Modules	The official offline module bundle, licence-filtered, preloaded — no internet needed to be useful
Display	Bare X + openbox + Chromium
Input	USB keyboard, mouse, touchscreen and Stream Decks — via a powered hub

Companion's Linux build ships its own runtimes and native prebuilds, so the base OS supplies libraries only.

The install model, and what it preserves

Only `boot` **and** `rootfs` **are replaced**. The bootloader, trust, misc and **recovery** partitions stay stock — **so Rockchip recovery mode *and* the vendor recovery partition both survive**, and the device can be returned to factory firmware.

`userdata` **holds Companion's config, database, logs and any modules you add**, so **reflashing the rootfs to upgrade Companion does not wipe your configuration**.

If the PLAY's microSD slot turns out to be physically fitted — **still an open question** — you can run entirely from a card and never touch the internal storage.

Two modes, one image

- **server** (default) — the full Companion host, admin UI on port 8000.
 - **satellite** — Companion Satellite, driving this unit's surfaces from a Companion running elsewhere. **Scaffolded, not verified**: the switch **refuses unless the binary is present**, rather than stopping the server and starting nothing.
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Change the password

Released images ship with a **default password**, which is the only thing that makes a published image usable by anyone but its builder.

Change it on first login. If you are building your own image, put a public key in the build's secrets directory and clear the default-password setting for a **key-only image with no password at all** — the right shape for anything going on a show network.

Known limits

- **2 GB of RAM is the real constraint.** Companion idles at ~509 MB with zero connections, and **every connection is another child process**. Chromium is on top of that. **No connection count has been measured; do not assume one.**
 - **One USB-A port.** Keyboard, mouse, touchscreen and a Stream Deck all want it, so **a self-powered hub is required**. The port's current budget has not been measured, and **a bus-powered hub with a Stream Deck on it is exactly the case that fails.**
 - **Nothing has run on hardware.** Repeated because it matters.
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If something is wrong

Symptom	Cause
A Stream Deck drops off	Bus-powered hub. Use a self-powered one; the port's budget is unmeasured.
Companion becomes unresponsive as connections are added	2 GB, one process per connection, plus Chromium.
Satellite mode refuses to start	The binary is not present. It refuses rather than leaving you with nothing running.
I want the PLAY back	The vendor recovery partition and Rockchip recovery mode are both untouched.
Upgrading wiped my config	It should not — configuration lives on <code>userdata</code> , which reflashing the rootfs does not touch.

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Latest version of this guide: stoatworks-labs.com/software/companion-play/guide/ · Source and issues:

<https://github.com/stoatworks-labs/companion-play>