FlyPad Quick Start

Quick start guide · FlyPad Acquisition

FlyPad quick start

This guide takes you from a new system to your first recording and analysis in about an hour. Each step links to the full chapter of the user manual for details.

You need:

- the FlyPad basestation (Feeding Multiplexor v2), the arena modules and the USB cable
- a Windows 10/11 or Linux PC
- assay food, flies, a fly aspirator and a repeating pipette that dispenses 2 µL per press. We have achieved the best results with the **Multipette®** from Eppendorf.

1. Install FlyPad Acquisition

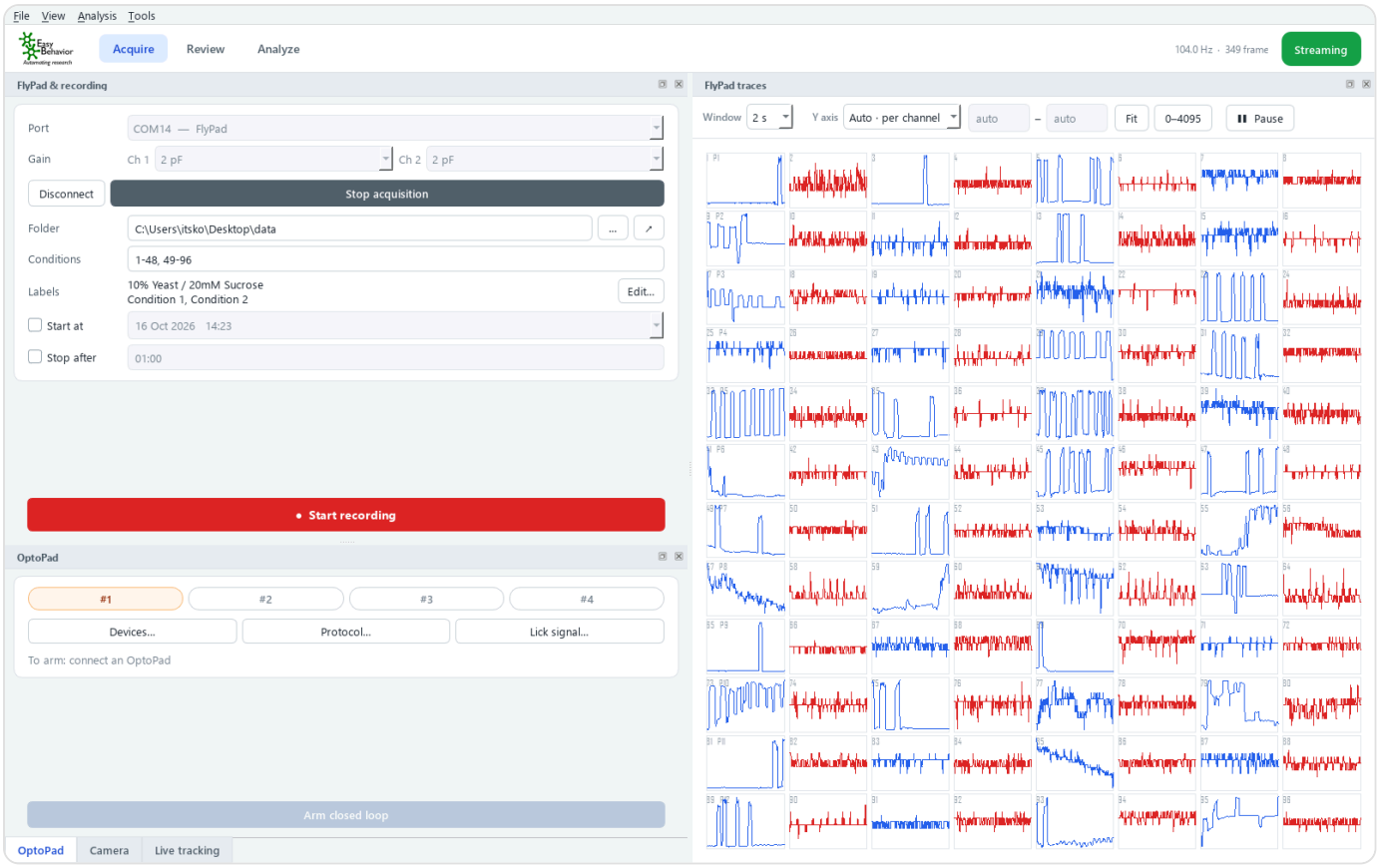
Run `FlyPad_Acquisition_Setup_<version>_x64.exe` and keep the option **Install the FTDI USB driver for the FlyPad** ticked. On Linux, run the AppImage. See Installation.

2. Connect the hardware

Attach the arena modules to the basestation, then plug the basestation into the PC with the USB cable. Place the arenas on a level bench and make sure that the arenas are not in contact with each other. See Hardware setup.

3. Start acquisition and check the sensors

Open **FlyPad Acquisition**. On the **Acquire** page, the **Port** list shows the basestation as **FlyPad**; it is selected automatically. Click **Connect**, then **Start acquisition**.



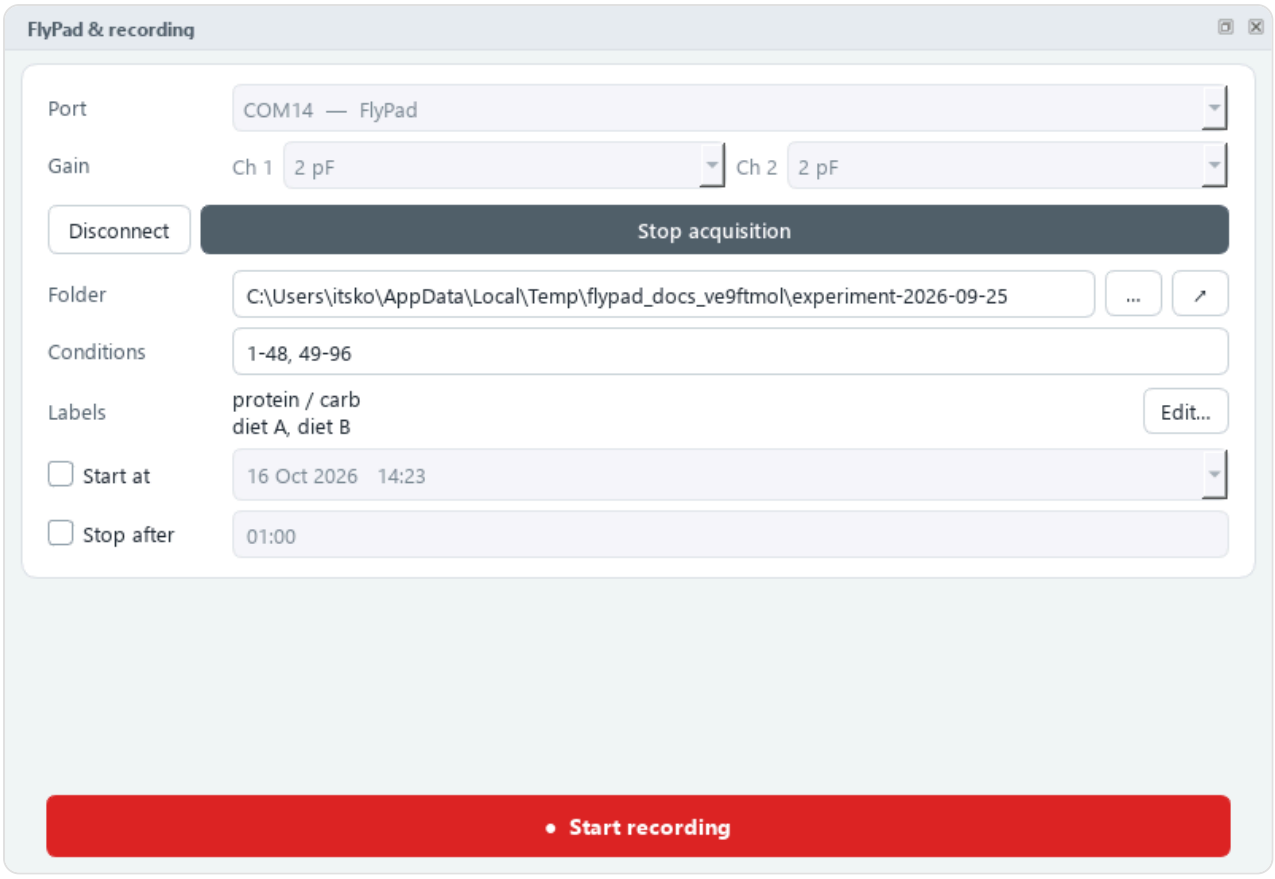
Live view

Every channel should show a trace. A flat line usually means food touches the top (gold) electrode. See Acquire.

4. Set up the recording

In the **Recording** card:

- **Folder:** where the data is saved; use one folder per experiment.
- **Conditions:** the channel range of each experimental group, e.g. `1-48, 49-96`.
- **Labels → Edit…:** the two foods (Substrate 1 = left, Substrate 2 = right) and a label for each condition.
- Tick **Stop after** and enter the length, e.g. `00:50` for a 50 min assay.



Recording card

5. Load food and flies

Warm the assay food on a heat block at 70 °C. Pipette the food into the left and right wells of each chamber, keeping it off the top electrode. Aspirate one fly into each chamber and slide the lid closed. Keep less than 10 minutes between loading the food and starting the recording. See Assay preparation.

6. Record

Click ● **Start recording**. The card shows the elapsed time, the frame count and when the recording stops. With **Stop after**, it stops by itself. Keep the arenas dark or dimly lit.

7. Optional: optogenetic stimulation (OptoPad)

Click **Devices...**, tick the OptoPads you use and **Connect** them. In **Protocol...**, choose closed loop (lick-triggered) or open loop (timed), then click **Arm closed loop**. See OptoPad.

7b. Optional: video and live tracking

With a camera connected (**Camera** card → **Find**, **Connect**), every recording also records a synchronised video. Draw the arenas once (**Live tracking** → **Arenas…**) and click **Start tracking** to follow each fly while you record. See Video and live tracking.

8. Review the recording (optional)

Usually there is no need to go there, but if something looks suspicious, **Review** lets you replay and scroll through the raw data. Switch to **Review**, click **Open recording…** and scroll through the data. Check that every arena behaved normally. See Review.

9. Analyze

Click **Analyze this recording** →. The setup wizard opens with the data folder and your labels already filled in. Check the settings and click **Finish**. Plots and Excel tables appear in the **Analyze** page, and everything is saved to `figures and datasheets` in the data folder. See Analyze.

10. Clean up

Push the food out of each well with a pipette tip or a wooden toothpick. Wipe the arenas with lint-free tissue lightly dampened with distilled water, including the underside, and let them dry completely. You can use ethanol on the board, but keep it off parts made of plastic: acrylic is not resistant to ethanol. If you use ethanol, dry the boards completely, as quickly as possible, with a paper towel.