Trial #135 — Recognition Potential Analysis

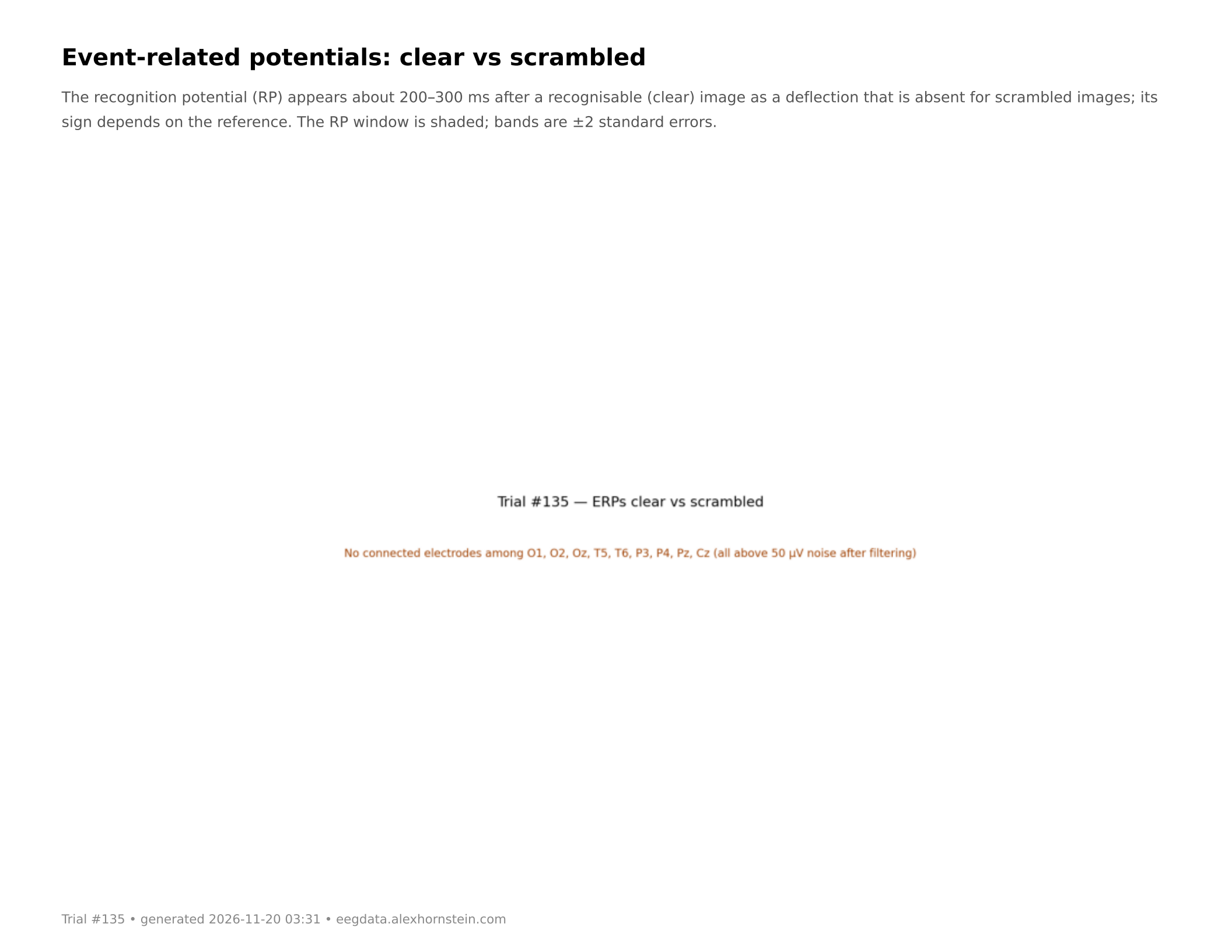
NO CONNECTED ELECTRODES

Subject	AF • recorded 12/16/2025 18:16:33.467 • dataset Celebrities
Stimuli	501 images: 60 clear, 441 scrambled • 58 keypresses (59 matched to clear images, median RT 375 ms)
EDF file	fp_20251216_131622_orig.edf
Alignment	photodiode on CH21 (positive and negative spikes, matched to every image); clock offset 13167 ms (EDF header would give 18011467 ms); 546/501 images matched; drift -156 ppm; jitter 22.6 ms
Electrodes	noise after filtering — O1 65 µV, O2 96 µV, T5 100 µV, T6 134 µV, P3 1003 µV, P4 953 µV, Pz 696 µV, Cz 1008 µV (✓ = used, threshold 50 µV)
Processing	60 Hz notch, 0.5–15 Hz bandpass, epochs -200 to 800 ms, baseline -200 to 0 ms, reject > 100 µV peak-to-peak

⚠ No connected electrodes among O1, O2, Oz, T5, T6, P3, P4, Pz, Cz (all above 50 µV noise).

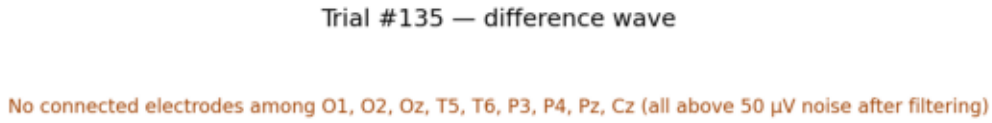
Event-related potentials: clear vs scrambled

The recognition potential (RP) appears about 200–300 ms after a recognisable (clear) image as a deflection that is absent for scrambled images; its sign depends on the reference. The RP window is shaded; bands are ±2 standard errors.



Difference wave (clear − scrambled)

Images arrive every ~330 ms, so each epoch also contains responses to neighbouring images. Subtracting the scrambled average removes that shared part and isolates the RP.



Keypress-locked average

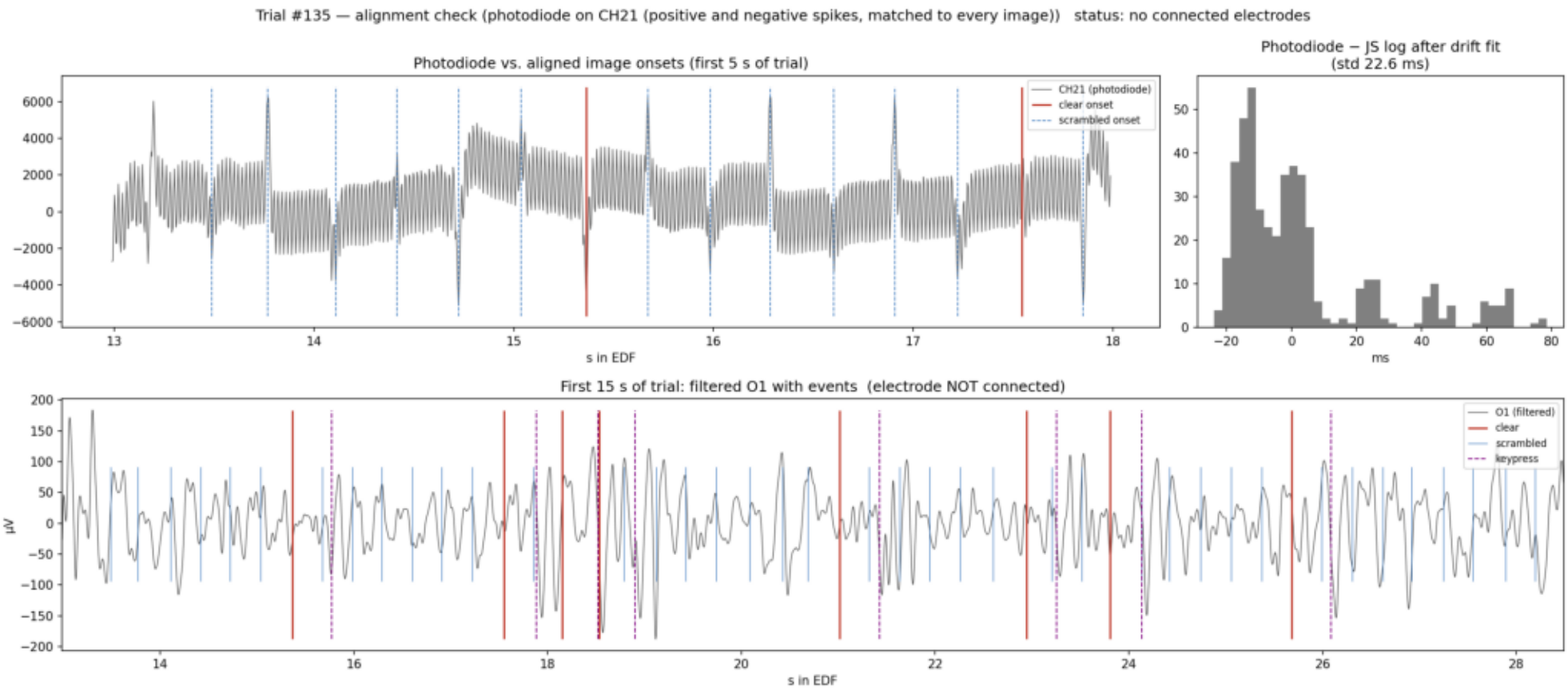
Checks whether activity tied to the button press, rather than recognition, drives the difference between clear and scrambled images.

Trial #135 — keypress-locked average

No connected electrodes among O1, O2, Oz, T5, T6, P3, P4, Pz, Cz (all above 50 µV noise after filtering)

Alignment check and signal overview

Each image onset is snapped to its photodiode spike. Bottom: the first 15 s of the filtered signal with image onsets and keypresses.



Analysis log

```
============================================================
Trial #135 — subject AF, 12/16/2025 18:16:33.467
  EDF: /home/japhy/eegdata/media/trialData/fp_20251216_131622_orig.edf
  250 Hz, 175 s; 501 images (60 clear, 441 scrambled); 58 presses
  alignment: photodiode on CH21 (positive and negative spikes, matched to every image)
    offset 13167 ms (EDF header says 18011467); 92% of images matched (typical 18%); drift -156 ppm; jitter 22.6 ms
  electrode noise (µV): O1 65, O2 96, T5 100, T6 134, P3 1003, P4 953, Pz 696, Cz 1008
  using: NONE
  59 of 60 clear images followed by a keypress (median RT 375 ms)
  status: no connected electrodes
```