Trial #86 — Recognition Potential Analysis

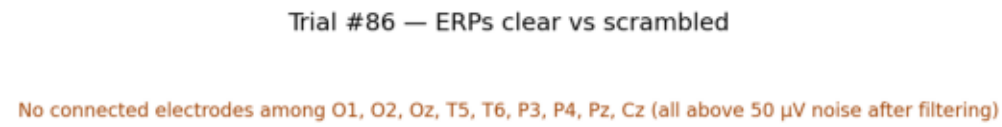
NO CONNECTED ELECTRODES

Subject	AF • recorded 08/15/2025 19:09 • dataset Celebrities
Stimuli	1001 images: 116 clear, 885 scrambled • 113 keypresses (107 matched to clear images, median RT 537 ms)
EDF file	AF_20250815_190825.edf
Alignment	photodiode on CH21 (positive and negative spikes, matched to every image); clock offset 54406 ms (EDF header would give 35000 ms); 882/1001 images matched; drift -93 ppm; jitter 14.4 ms
Electrodes	noise after filtering — O1 306 µV, O2 327 µV, T5 650 µV, T6 256 µV, P3 675 µV, P4 383 µV, Pz 636 µV, Cz 338 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).

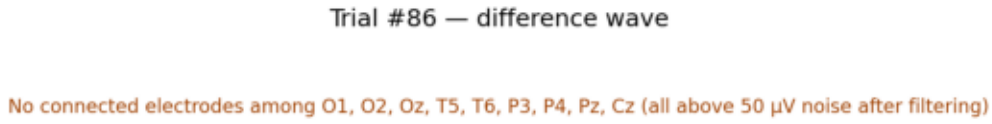
Event-related potentials: clear vs scrambled

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

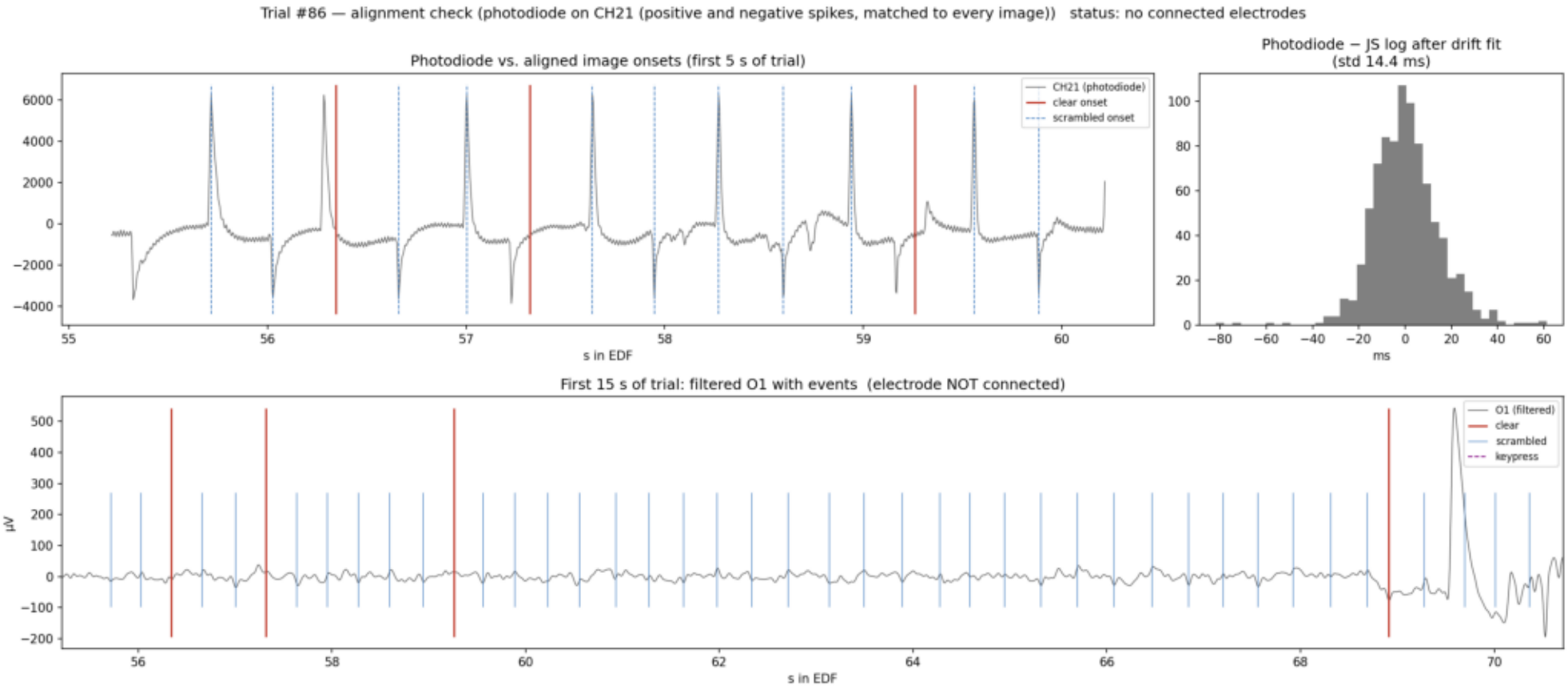
Checks whether activity tied to the button press, rather than recognition, drives the difference between clear and scrambled images.

Trial #86 — 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

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Trial #86 — subject AF, 08/15/2025 19:09
  EDF: /home/japhy/eegdata/media/trialData/AF_20250815_190825.edf
  250 Hz, 429 s; 1001 images (116 clear, 885 scrambled); 113 presses
  alignment: photodiode on CH21 (positive and negative spikes, matched to every image)
    offset 54406 ms (EDF header says 35000); 86% of images matched (typical 19%); drift -93 ppm; jitter 14.4 ms
  electrode noise (µV): O1 306, O2 327, T5 650, T6 256, P3 675, P4 383, Pz 636, Cz 338
  using: NONE
  107 of 116 clear images followed by a keypress (median RT 537 ms)
  status: no connected electrodes
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