Trial #92 — Recognition Potential Analysis

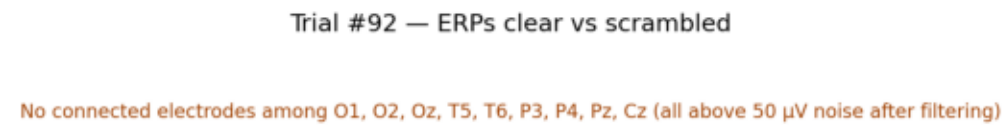
NO CONNECTED ELECTRODES

Subject	AF • recorded 08/17/2025 11:26 • dataset Celebrities
Stimuli	1001 images: 154 clear, 847 scrambled • 158 keypresses (150 matched to clear images, median RT 438 ms)
EDF file	AF_20250817_112358.edf
Alignment	photodiode on CH21 (positive and negative spikes, matched to every image); clock offset 152322 ms (EDF header would give 122000 ms); 993/1001 images matched; drift -179 ppm; jitter 19.3 ms
Electrodes	noise after filtering — O1 120 µV, O2 154 µV, T5 151 µV, T6 125 µV, P3 1222 µV, P4 1194 µV, Pz 850 µV, Cz 72 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).

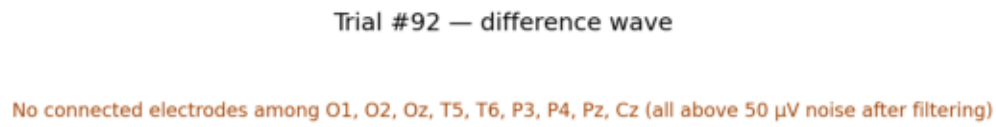
Event-related potentials: clear vs scrambled

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

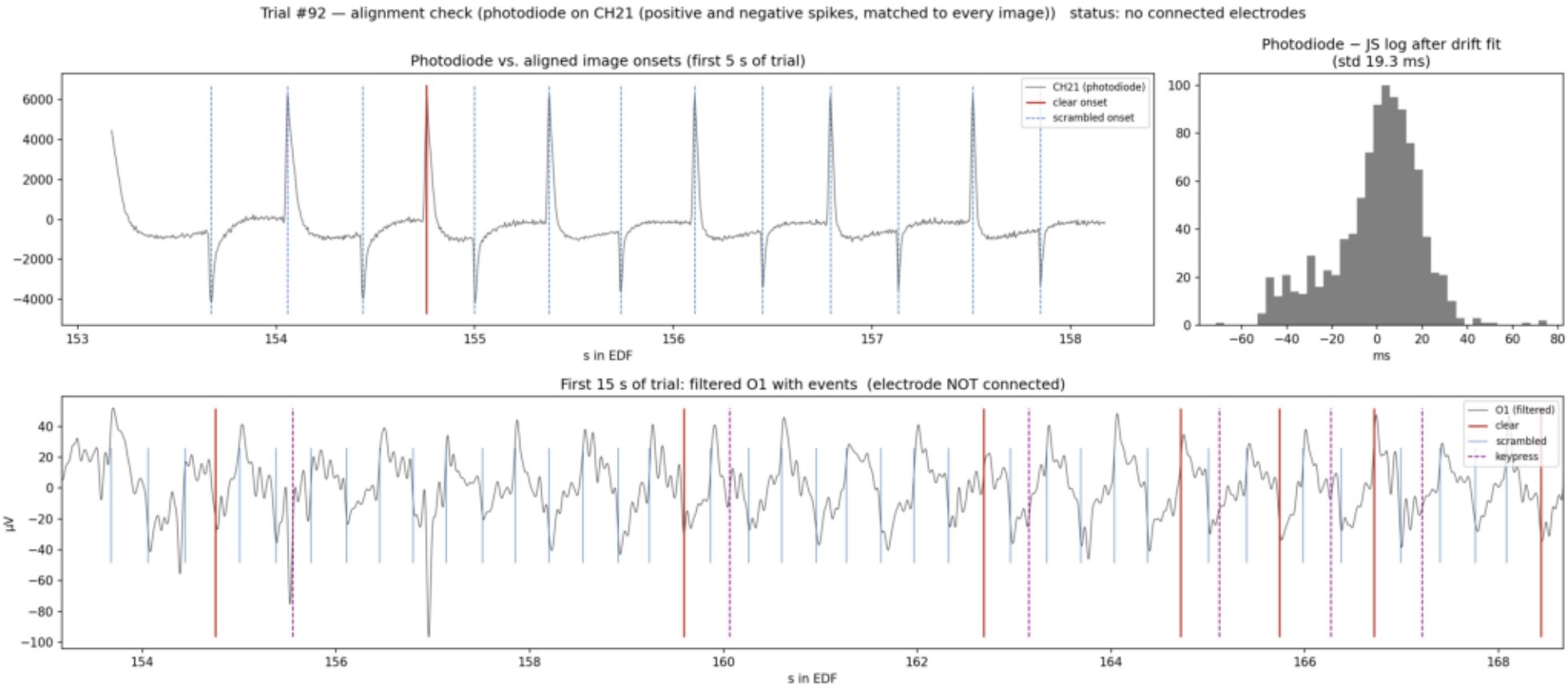
Checks whether activity tied to the button press, rather than recognition, drives the difference between clear and scrambled images.

Trial #92 — 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 #92 — subject AF, 08/17/2025 11:26
  EDF: /home/japhy/eegdata/media/trialData/AF_20250817_112358.edf
  250 Hz, 512 s; 1001 images (154 clear, 847 scrambled); 158 presses
  alignment: photodiode on CH21 (positive and negative spikes, matched to every image)
    offset 152322 ms (EDF header says 122000); 87% of images matched (typical 18%); drift -179 ppm; jitter 19.3 ms
  electrode noise (µV): O1 120, O2 154, T5 151, T6 125, P3 1222, P4 1194, Pz 850, Cz 72
  using: NONE
  150 of 154 clear images followed by a keypress (median RT 438 ms)
  status: no connected electrodes
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