Trial #66 — Recognition Potential Analysis

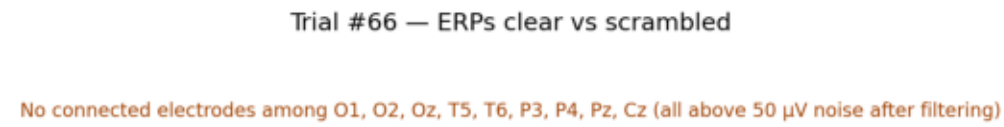
NO CONNECTED ELECTRODES

Subject	PC • recorded 07/11/2025 15:34 • dataset Celebrities
Stimuli	501 images: 65 clear, 436 scrambled • 66 keypresses (63 matched to clear images, median RT 469 ms)
EDF file	PC_20250621_073451.edf
Alignment	photodiode on F3 (positive and negative spikes, matched to every image); clock offset 4876 ms (EDF header would give 1756749000 ms); 441/501 images matched; drift -257 ppm; jitter 16.3 ms
Electrodes	noise after filtering — O1 111 µV, O2 266 µV, T5 1033 µV, T6 502 µV, P3 1941 µV, P4 1180 µV, Pz 1713 µV, Cz 255 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).

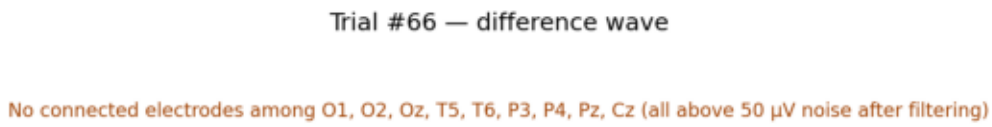
Event-related potentials: clear vs scrambled

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.



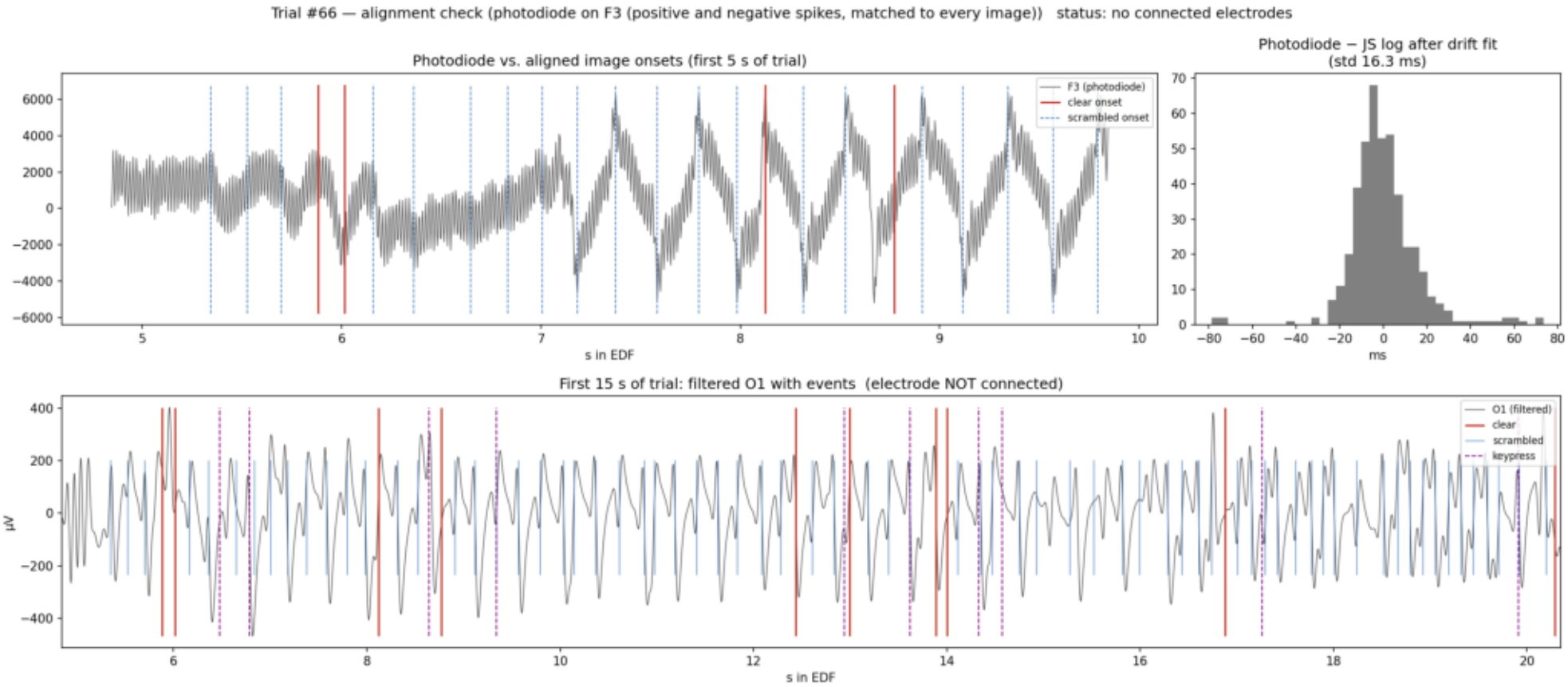
Keypress-locked average

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



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 #66 — subject PC, 07/11/2025 15:34
  EDF: /home/japhy/eegdata/media/trialData/PC_20250621_073451.edf
  250 Hz, 128 s; 501 images (65 clear, 436 scrambled); 66 presses
  alignment: photodiode on F3 (positive and negative spikes, matched to every image)
    offset 4876 ms (EDF header says 1756749000); 85% of images matched (typical 33%); drift -257 ppm; jitter 16.3 ms
  electrode noise (µV): O1 111, O2 266, T5 1033, T6 502, P3 1941, P4 1180, Pz 1713, Cz 255
  using: NONE
  63 of 65 clear images followed by a keypress (median RT 469 ms)
  status: no connected electrodes
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