Trial #139 — Recognition Potential Analysis

NO CONNECTED ELECTRODES

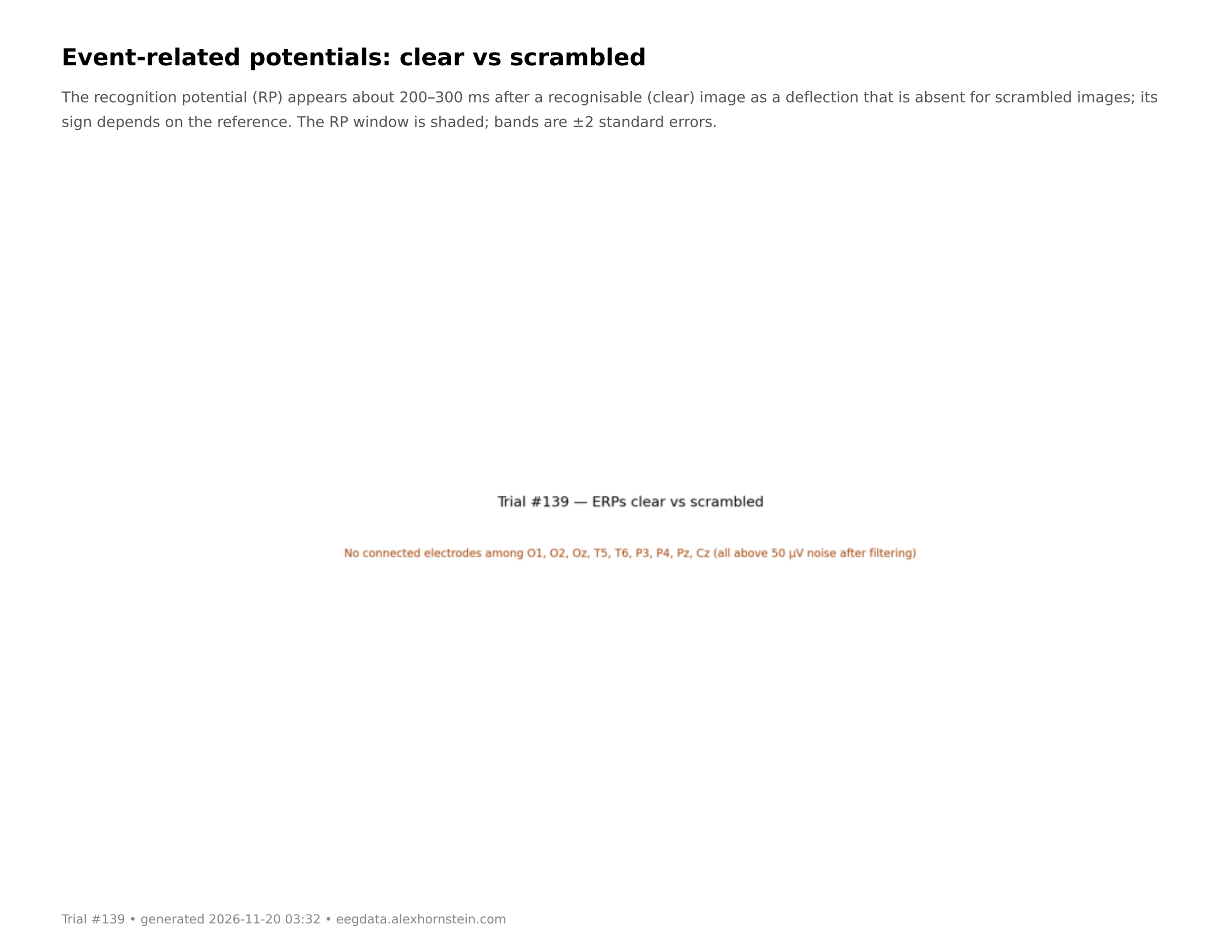
Subject	AF • recorded 01/02/2026 21:10:44.170 • dataset Celebrities
Stimuli	501 images: 78 clear, 423 scrambled • 76 keypresses (75 matched to clear images, median RT 455 ms)
EDF file	fp_20260102_224115.edf
Alignment	photodiode on F4 (positive spikes, matched to even images); clock offset 11839 ms (EDF header would give -5430830 ms); 119/501 images matched; drift -240 ppm; jitter 31.4 ms
Electrodes	noise after filtering — O1 197 µV, O2 209 µV, T5 166 µV, T6 190 µV, P3 644 µV, P4 499 µV, Pz 505 µV, Cz 625 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

⚠ Only 37% of images matched a photodiode spike on F4, so the alignment may be wrong. Check the alignment plot before trusting these averages.

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

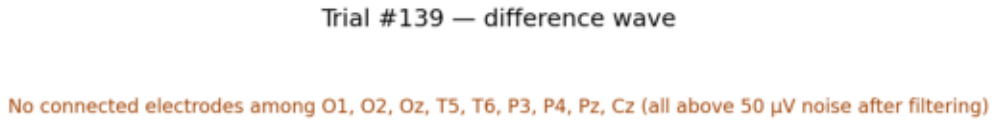
Event-related potentials: clear vs scrambled

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

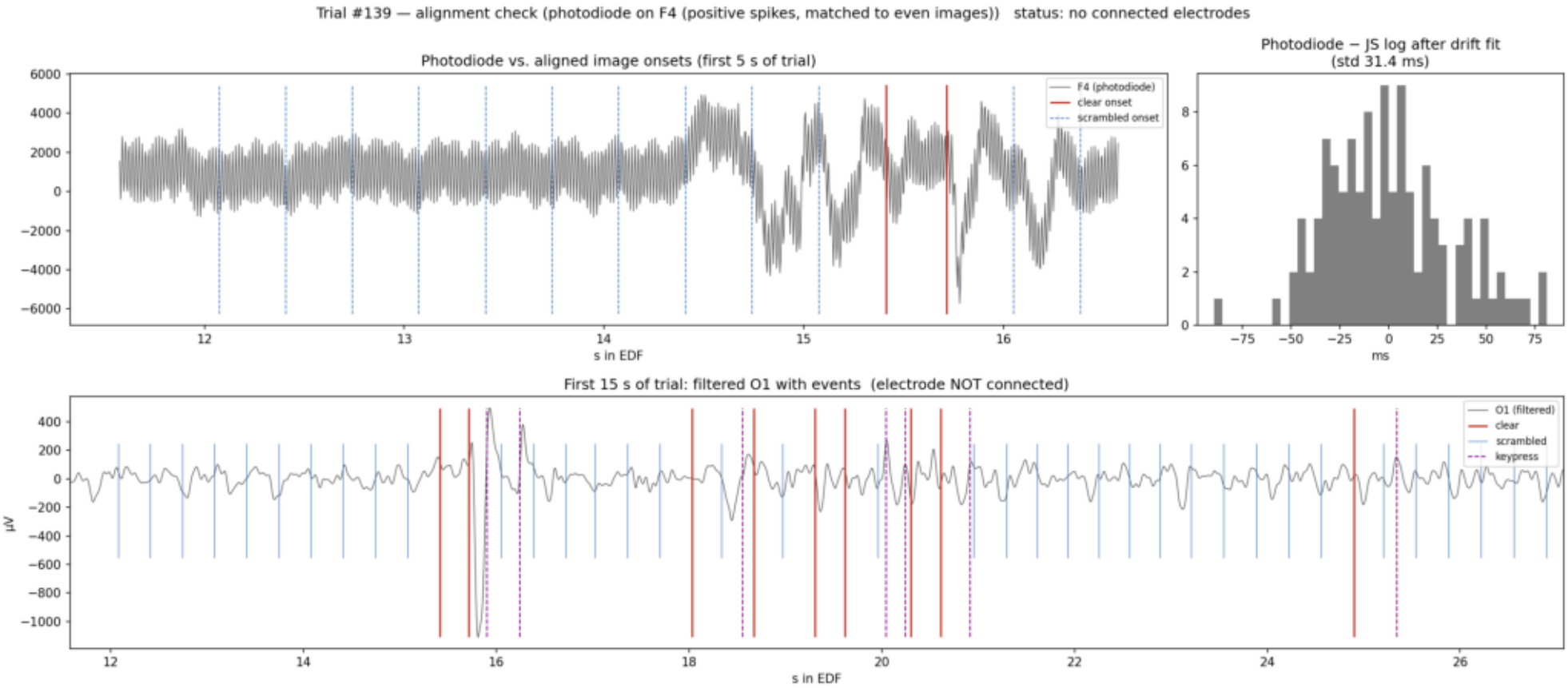
Checks whether activity tied to the button press, rather than recognition, drives the difference between clear and scrambled images.

Trial #139 — 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 #139 — subject AF, 01/02/2026 21:10:44.170
  EDF: /home/japhy/eegdata/media/trialData/fp_20260102_224115.edf
  250 Hz, 182 s; 501 images (78 clear, 423 scrambled); 76 presses
  alignment: photodiode on F4 (positive spikes, matched to even images)
    offset 11839 ms (EDF header says -5430830); 37% of images matched (typical 8%); drift -240 ppm; jitter 31.4 ms
  electrode noise (µV): O1 197, O2 209, T5 166, T6 190, P3 644, P4 499, Pz 505, Cz 625
  using: NONE
  75 of 78 clear images followed by a keypress (median RT 455 ms)
  status: no connected electrodes
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