**Code**

We used Matlab R2019a with the statistics and machine learning toolbox, the signal processing toolbox and the image processing toolbox. To reproduce the figures in the manuscript, copy all the files into one folder, start matlab and navigate to the repository-folder.

PLEASE NOTE: DUE TO LARGE DATA FILE SIZE, SPIKE DATA CAN BE FOUND AT:

https://drive.google.com/drive/folders/1HDCH83nJ\_udSBJmmqVKYUT3uXdMUQQlS?usp=sharing

cd('/Path/to/this/repo');

The path can be added to the matlabpath too:

addpath(pwd);

Then call one of these functions:

* figure2.m: graphics from Fig2 and SuppFig2 which are rasterplots, firing rate histograms and spike density. Result tables contain p-values for each interval of the corresponding group (Bonferroni-corrected significant p-value is 0.0125).
* figure3.m:
* figure4.m:
* figureSupp.m: instantaneous firing rate graphics from SuppFig3 and SuppFig4.

Further .m files in this repository are included because they are called by the above scripts at some point or another.

**Data**

Datasets (e.g. A-10.mat) contain spike times as well as trigger information.

* spikes: nunits x ntime matrix of spikes
* spikesTrigger: spike times with corresponding run information
* trials: number of trials per run and memory status
* info1: corresponding number of trials per run and memory status with source info for color1/scene1 associations
* info2: corresponding number of trials per run and memory status with source info for color2/scene2 associations

Code meaning:

* 1, 1001: correct rejection (TN)
* 2, 2002: remembered item, remembered source (R+/hit)
* 3, 3003: remembered item, forgotten source (R-)
* 4, 4004: remembered item, source unsure (R-)
* 5, 5005: forgotten item (FN/miss)
* 6, 6006: false alarm (FP)
* NA: not announced (no patient response to trial)
* cBB1, sCT3, …: condition: c/s=color/scene; BB/CT/MB=binaural/control/monaural beat stimulation; 1/3=encoding/retrieval