

Tip Sheet: Averaging multiple data waves

In many of our experiments, each sweep of data that you collect will be affected by unsystematic events and extraneous noise (e.g., spontaneous synaptic inputs, stray electrical noise, etc.). To reduce the influence of these uncontrolled factors on your final data, you will repeat the same condition several times (generally running 10-20 sweeps for each condition), then create an average wave from those recordings. In this manner, the effects of the extraneous factors are “averaged out” and the resulting average wave is a better reflection of the response we are interested in.

To create this averaged wave, follow these steps:

1. Plot all of the waves you want to average in a single graph.

on the menu select Windows | New Graph

select all the waves you want (Shit + Click to select a range of waves or Command-Click to select multiple individual waves).

2. On the menu select Analysis | Packages | Wave Averages

Select Waves – “From top graph”

Name template = * (to select all the waves in the graph)

Uncheck “Generate Error Wave”

Give the resulting output wave a meaningful name so you can find it later

Click “Do IT”