



Supplemental Figure
Pliss and Xu-Friedman

Supplemental Figure.

Example traces demonstrating how spikes were detected in dynamic clamp for 3 inputs with $NAR = 0$ (A) and 4X normal (B). Top traces, AMPAR (black) and NMDAR (red) conductances applied. Upper middle traces, membrane potential recorded from the bushy cell with detected spikes marked with dots. Lower middle traces, derivative of recorded membrane potential (black) or predicted membrane potential for a simple RC model of a cell (red) with starting membrane potential of -60 mV. The parameters of the RC model were freely adjusted to match the recorded trace as closely as possible. Bottom trace, difference between predicted and recorded derivatives, revealing the active spike conductances. In part B, despite the depolarized potential resulting from the tonic NMDAR conductance, attenuated spikes were clearly visible in the difference trace. These spikes are indicated and quantified in Fig. 6-7.