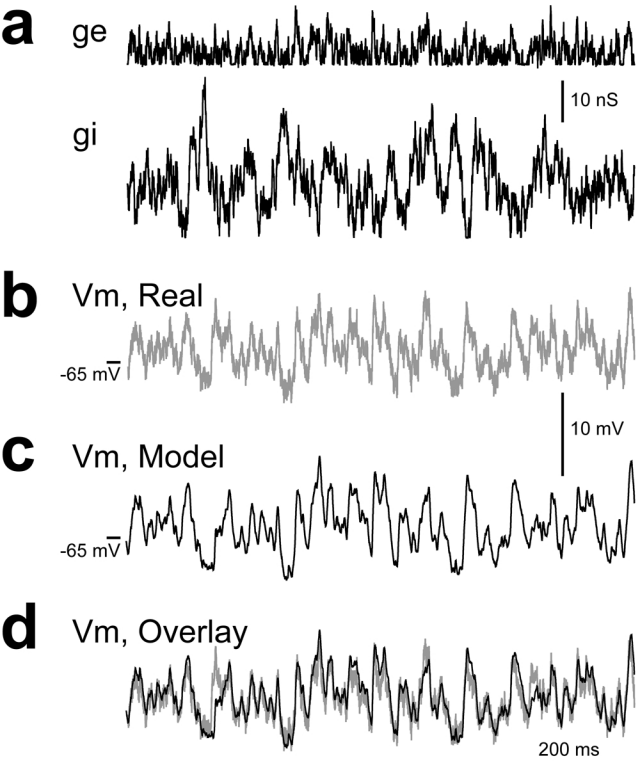


Supplementary Fig. 3

to Wolfart *et al.* Nat. Neurosci. (2005)



Suppl. Fig. 3. Test of the dynamic-clamp method by comparing real and model membrane potential fluctuations. **(a)** Excitatory and inhibitory fluctuating synaptic conductances (*ge*, *gi*) injected in a thalamic relay neuron by using the dynamic-clamp technique in discontinuous current-clamp (DCC) mode. **(b)** Fluctuating membrane potential (*V_m*) activity of this neuron following stochastic conductance injection, subthreshold in this experiment. **(c)** Activity of a single-compartment passive model, using the same conductance traces as injected in the real neuron (*ge*, *gi* above). The leak conductance was adjusted to match the input resistance (47 MΩ) and resting potential (-63.5 mV) of that particular cell. **(d)** Overlaid experimental and model activities (gray = experiments, black = model), showing that most of the membrane potential fluctuations are due to conductance injection, while other sources of noise (such as channel noise, instrumental noise), capacitive artifacts and intrinsic current contributions are much smaller in amplitude at this potential.