

Table S3. Mutual information for the systems comprised of binary cells, one ON and one OFF cells, vs. two ON cells (see S1 Figure) where the spike counts r and R have been varied, assuming Poisson noise on the spike count. In all cases, the information is nearly identical.

Information (ON-OFF vs. 2ON) in bits	$R = 1$	$R = 10$
$r = 0.2R$	0.244 vs. 0.242	0.959 vs. 0.958
$r = 0.5R$	0.0795 vs. 0.0792	0.529 vs. 0.527