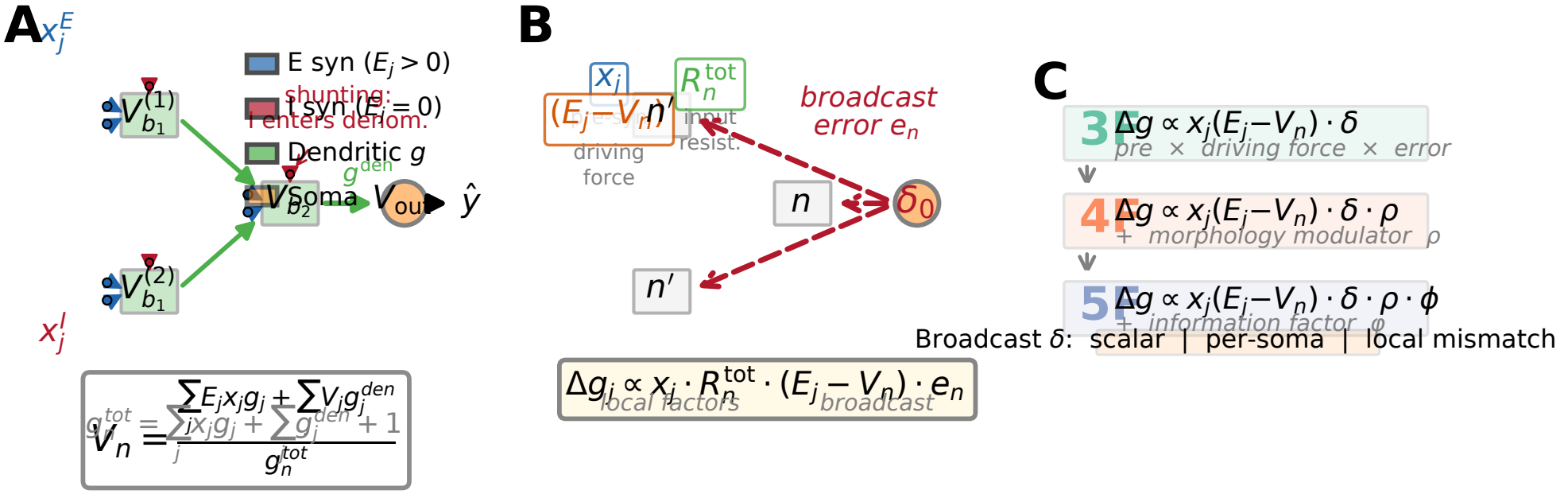
A
x_j^E
E syn ($E_j > 0$)
shunting:
I syn ($E_j = 0$)
I enters denom.
Dendritic g
$V_{b_1}^{(1)}$
$V_{b_1}^{(2)}$
V_{b_2}
Soma
g^{den}
V_{out}
$\hat{y}$
x_j^I
$V_n = \frac{\sum_j E_j x_j g_j + \sum_j V_j g_j^{den}}{\sum_j x_j g_j + \sum_j g_j^{den} + 1}$
g_n^{tot}
B
x_j
R_n^{tot}
$(E_j - V_n)$
n'
input resist.
driving force
broadcast error e_n
n
δ_0
$\Delta g_j \propto x_j \cdot R_n^{tot} \cdot (E_j - V_n) \cdot e_n$
local factors
broadcast
C
3 Error
$\Delta g \propto x_j(E_j - V_n) \cdot \delta$
pre × driving force × error
4 Error
$\Delta g \propto x_j(E_j - V_n) \cdot \delta \cdot \rho$
+ morphology modulator ρ
5 Error
$\Delta g \propto x_j(E_j - V_n) \cdot \delta \cdot \rho \cdot \phi$
+ information factor ϕ
Broadcast δ: scalar | per-soma | local mismatch