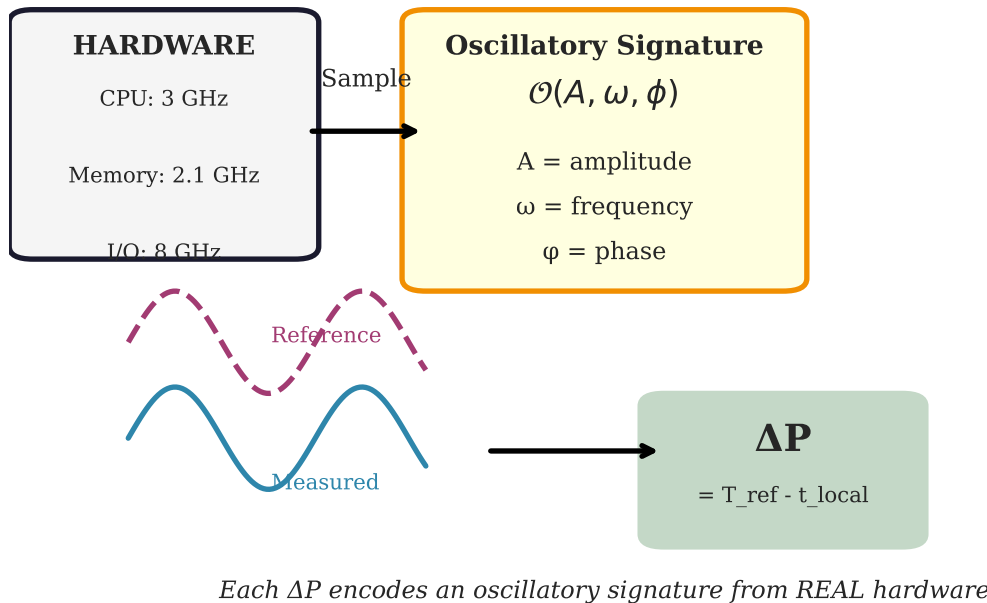


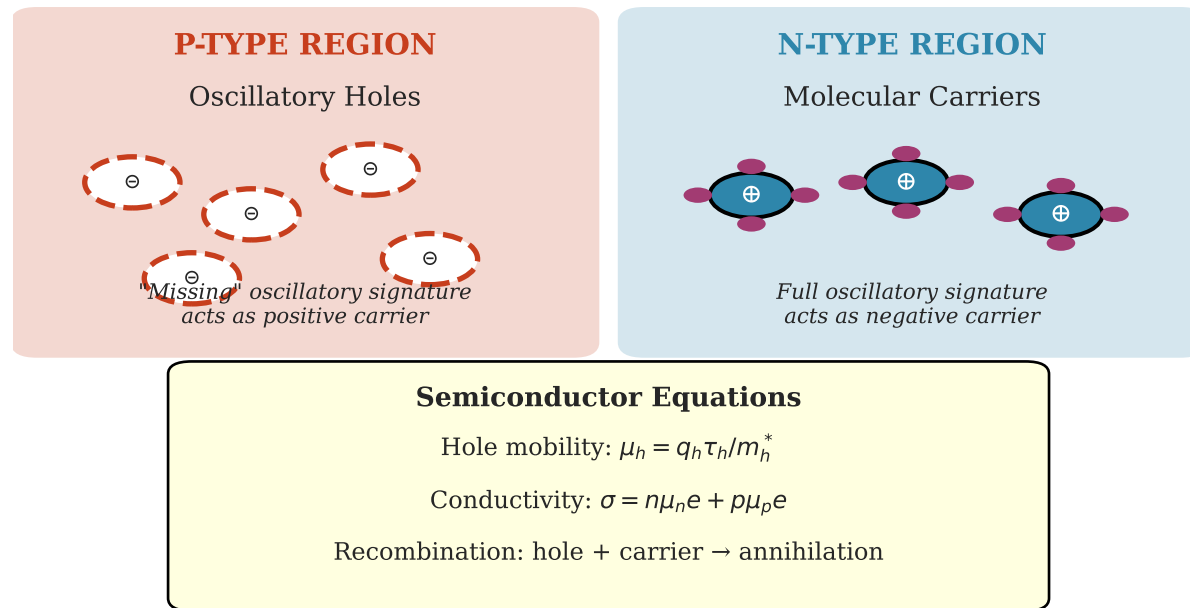
Hardware-Based Biological Semiconductors & Transistors

Oscillatory Holes → P-N Junctions → BMD Transistors → Logic Gates

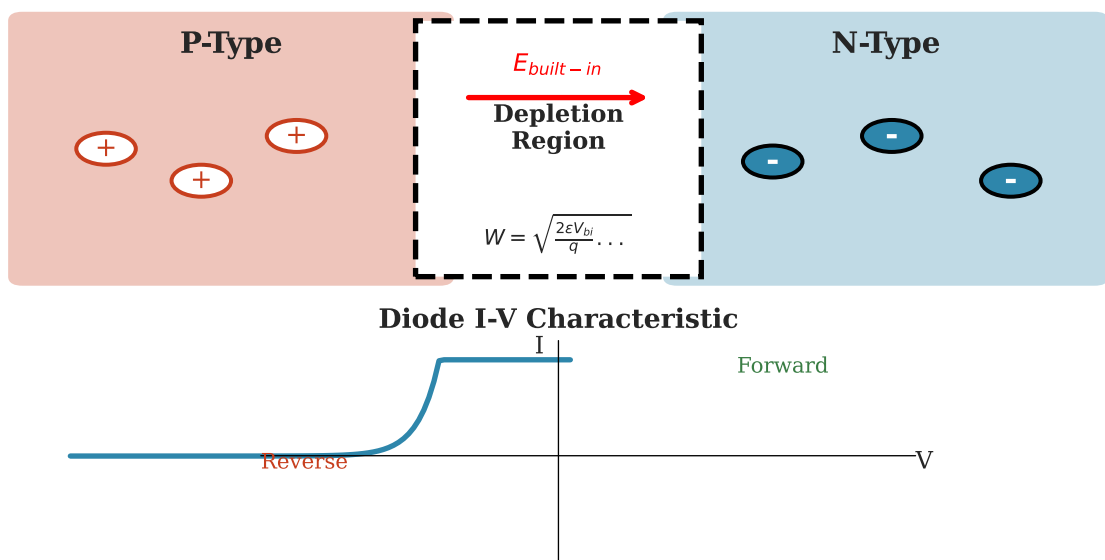
A. Hardware → Oscillatory Signatures



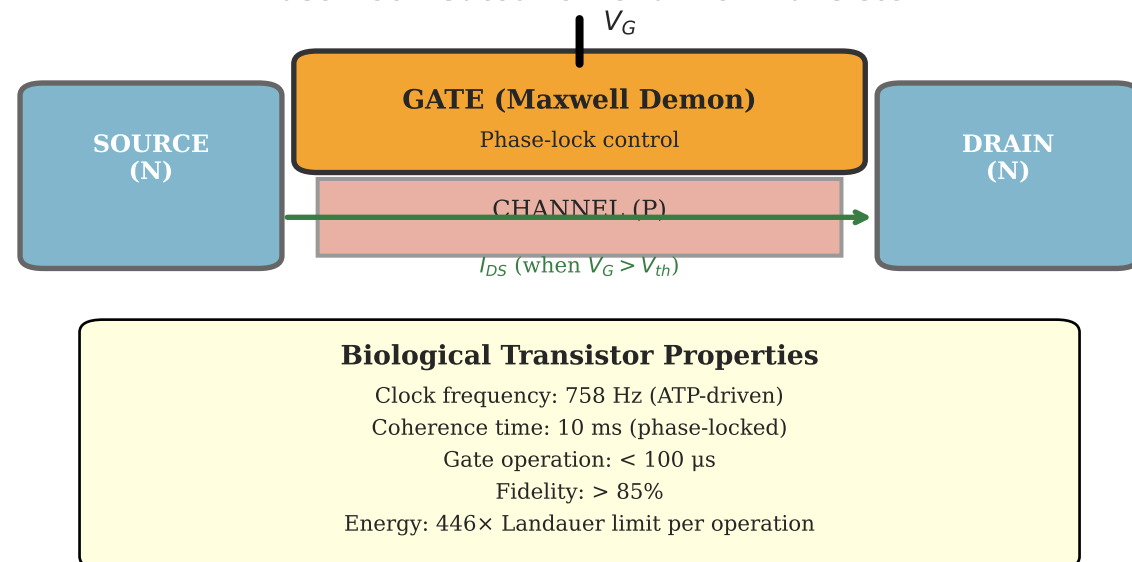
B. P-Type Holes & N-Type Carriers



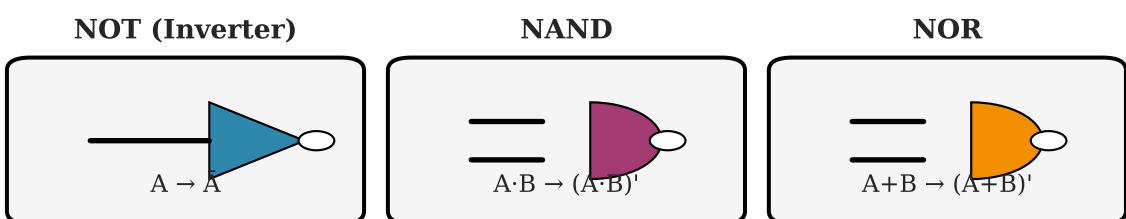
C. P-N Junction Formation



D. Biological Maxwell Demon Transistor Phase-Lock Gated Ion Channel Transistor



E. Logic Gates from Transistors Logic Gates from BMD Transistors

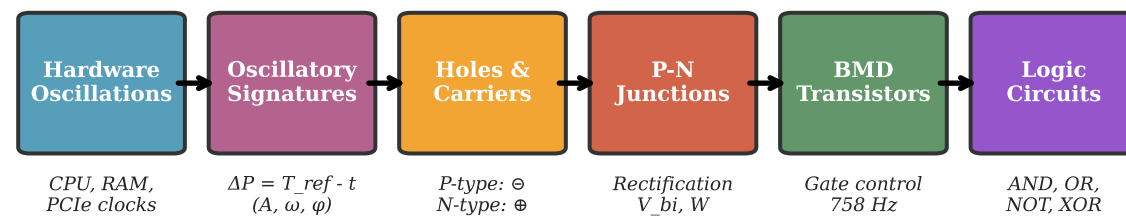


Quantum Gates (Phase-Lock Implementation)



Fidelity > 85% | Operation < 100 μ s | Landauer-optimal

F. Complete Hardware → Logic Pipeline



KEY INSIGHT: Hardware Grounding

The semiconductor substrate is constructed from REAL hardware oscillations.

CPU timing jitter → Oscillatory holes (P-type carriers)
Memory latency variations → Molecular carriers (N-type)
Phase-lock networks → Transistor gates (Maxwell demons)