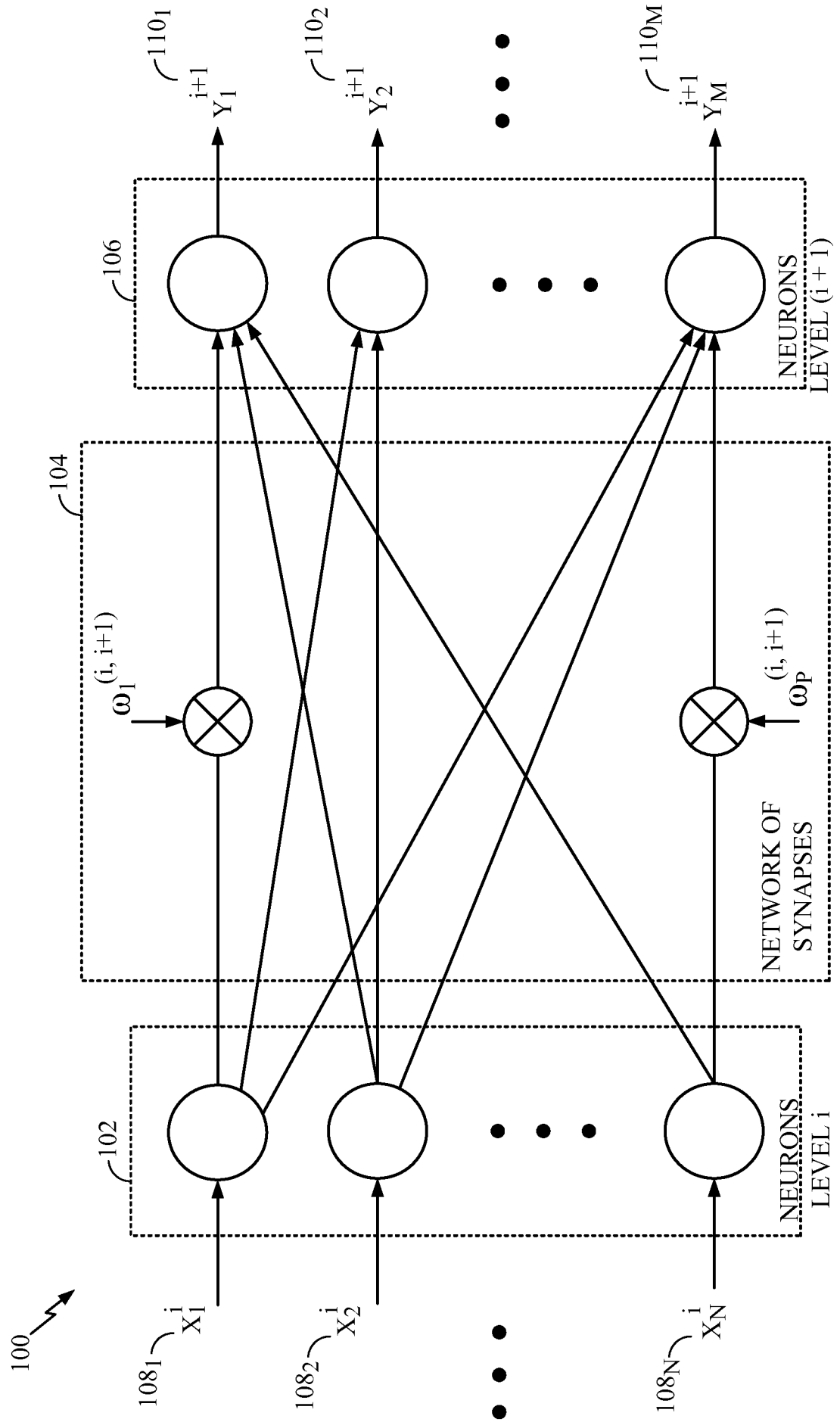
100
108_1 x_1^i
108_2 x_2^i
108_N x_N^i
102
NEURONS LEVEL i
104
$\omega_1^{(i, i+1)}$
$\omega_P^{(i, i+1)}$
NETWORK OF SYNAPSES
106
NEURONS LEVEL (i + 1)
110_1 Y_1^{i+1}
110_2 Y_2^{i+1}
110_M Y_M^{i+1}

FIG. 1

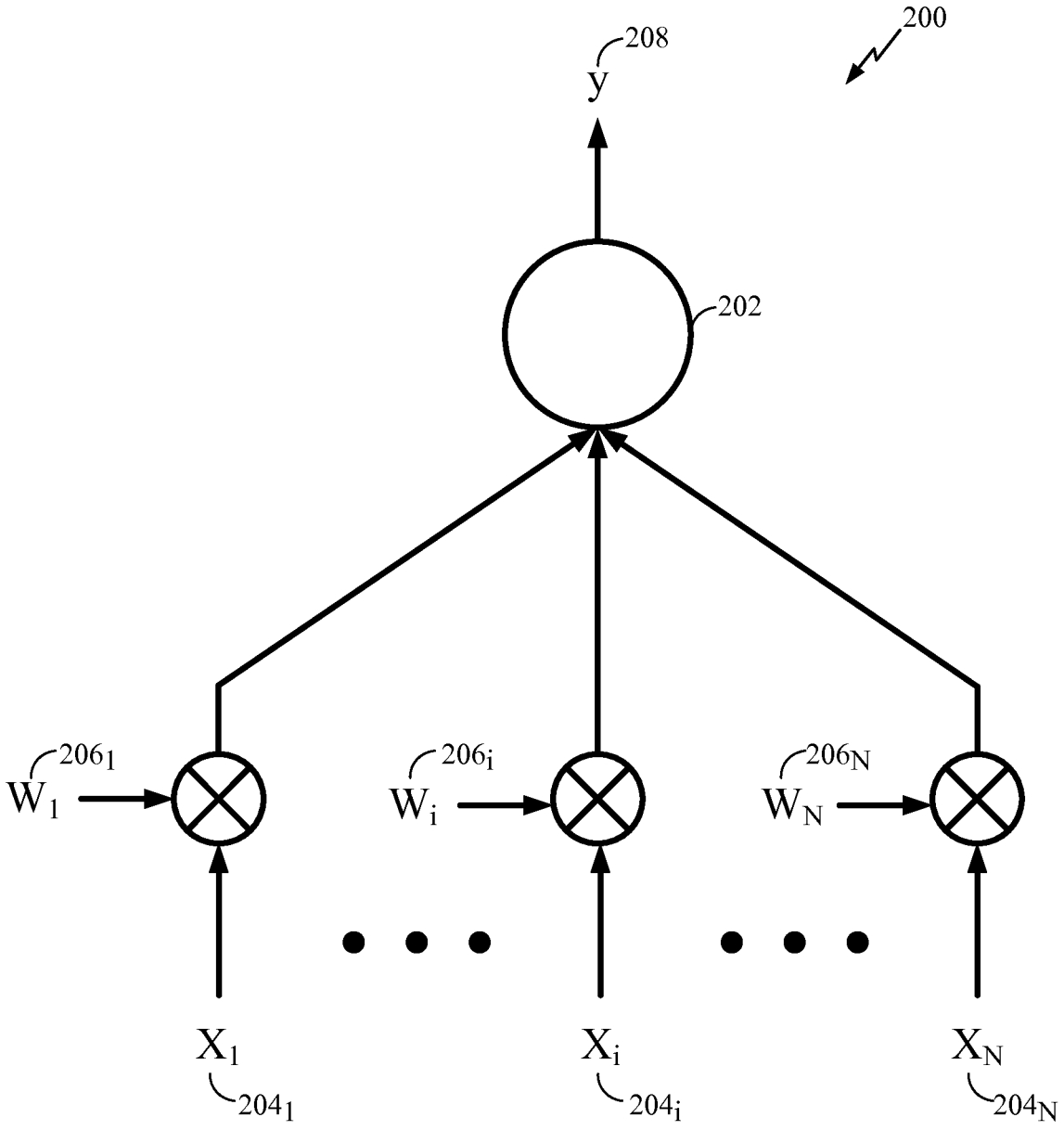

FIG. 2

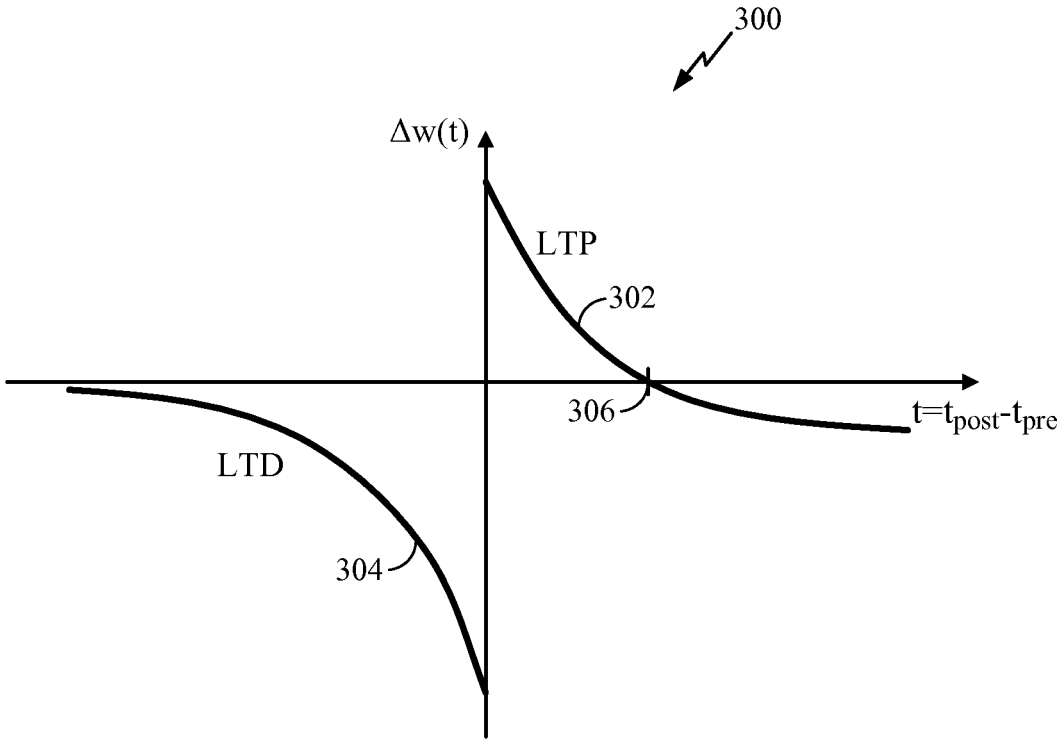

FIG. 3

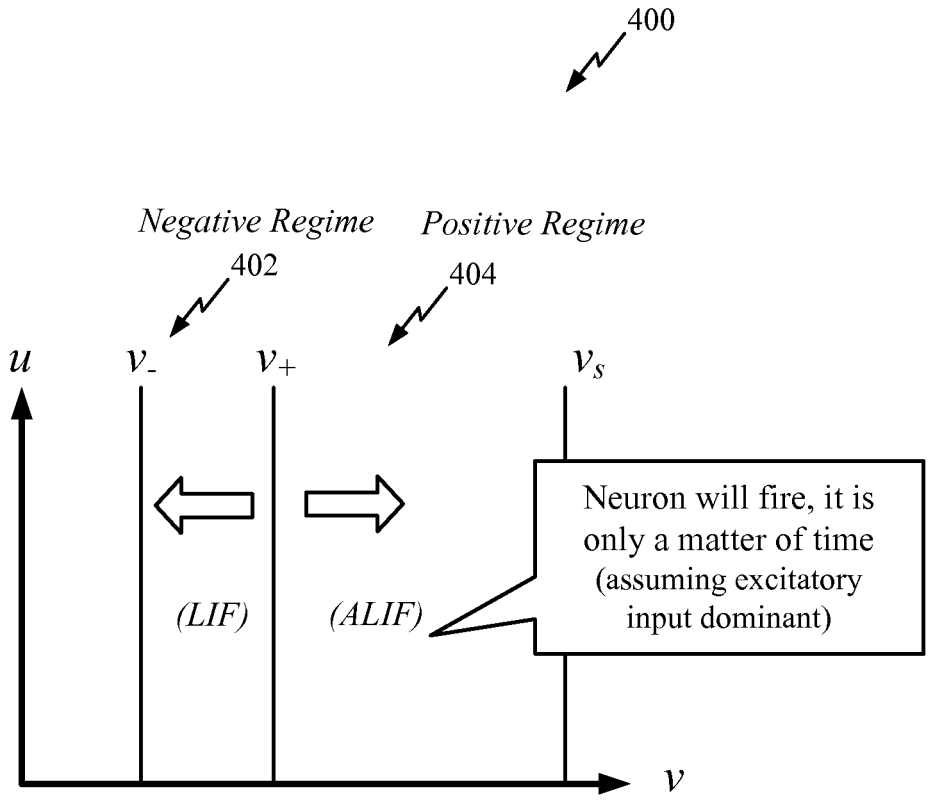
400
Negative Regime
Positive Regime
402
404
u
v-
v+
vs
(LIF)
(ALIF)
Neuron will fire, it is only a matter of time (assuming excitatory input dominant)
v

FIG. 4

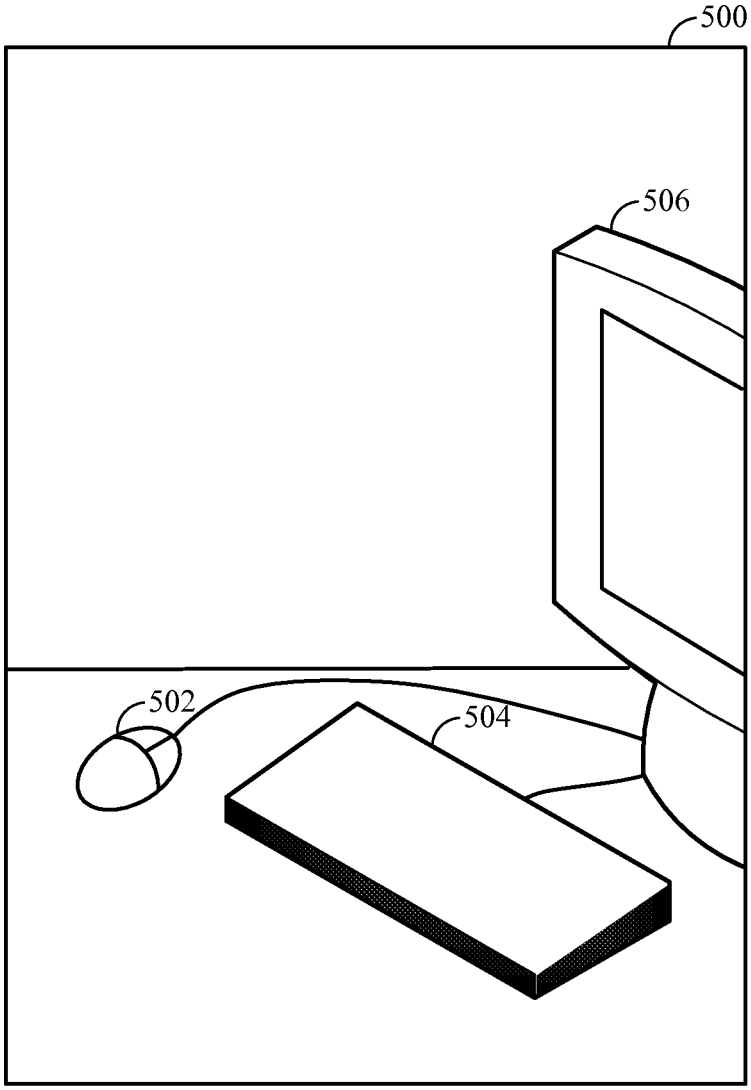

FIG. 5

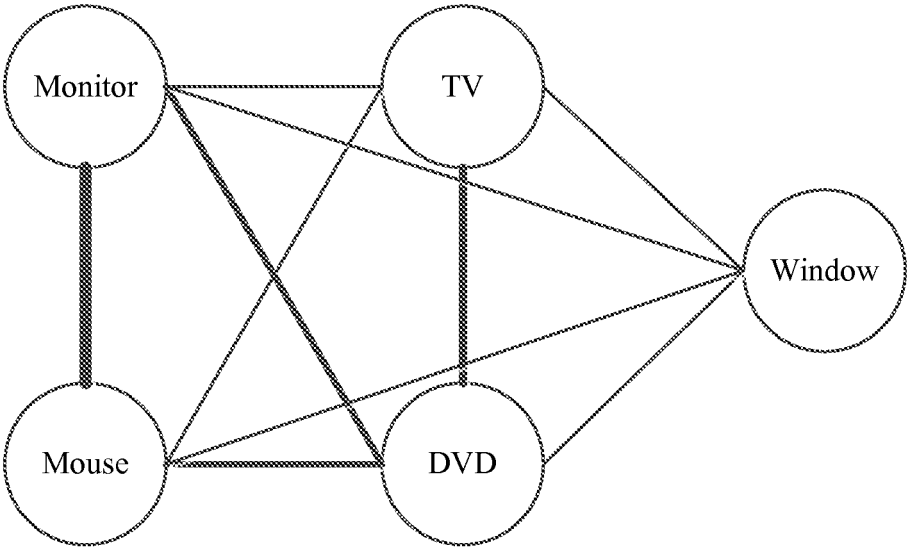

FIG. 6

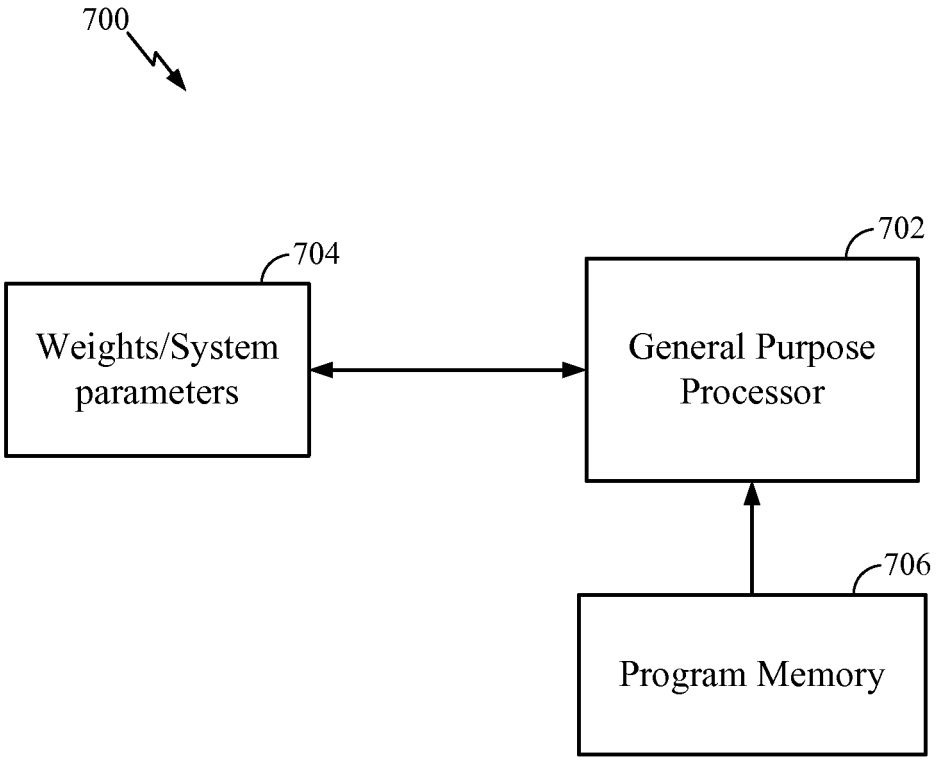
700
704
Weights/System parameters
702
General Purpose Processor
706
Program Memory

FIG. 7

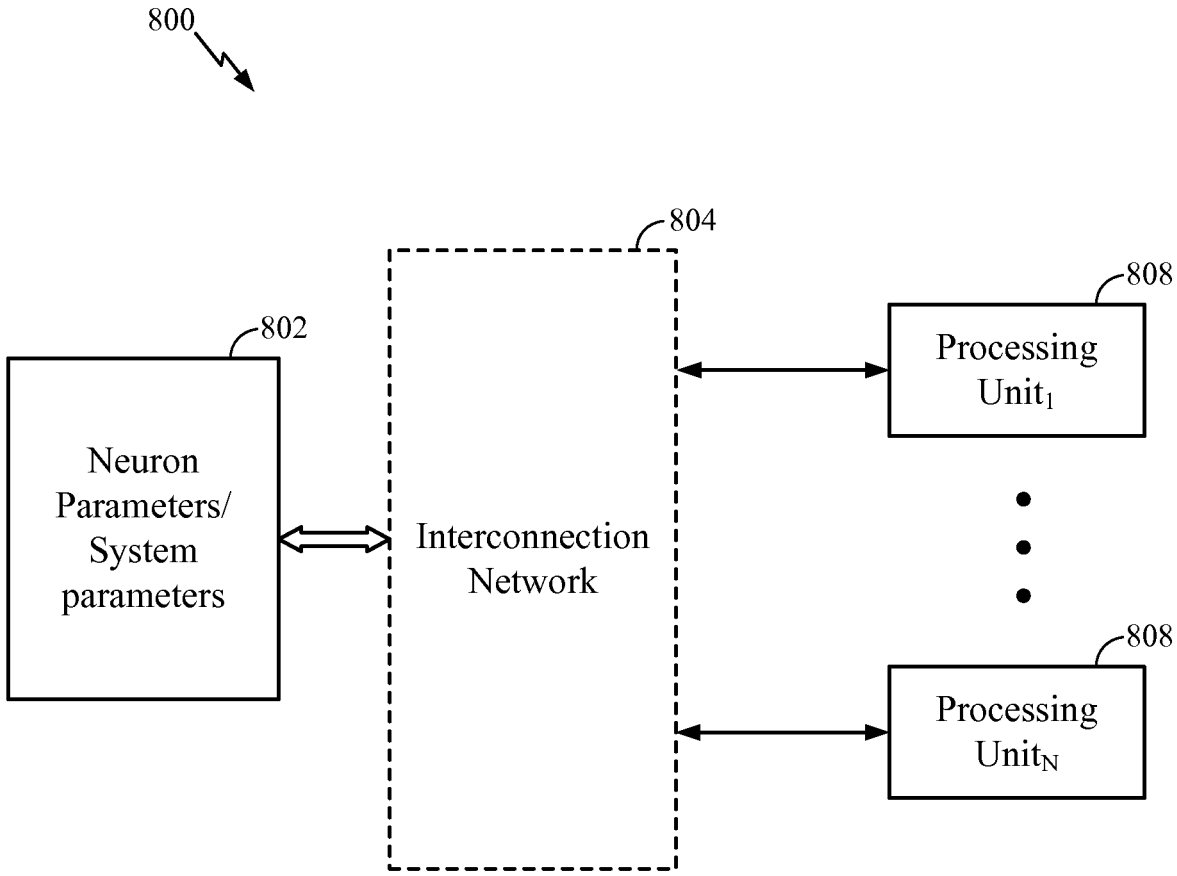
800
804
808
802
Neuron Parameters/ System parameters
Interconnection Network
Processing Unit1
Processing UnitN
808

FIG. 8

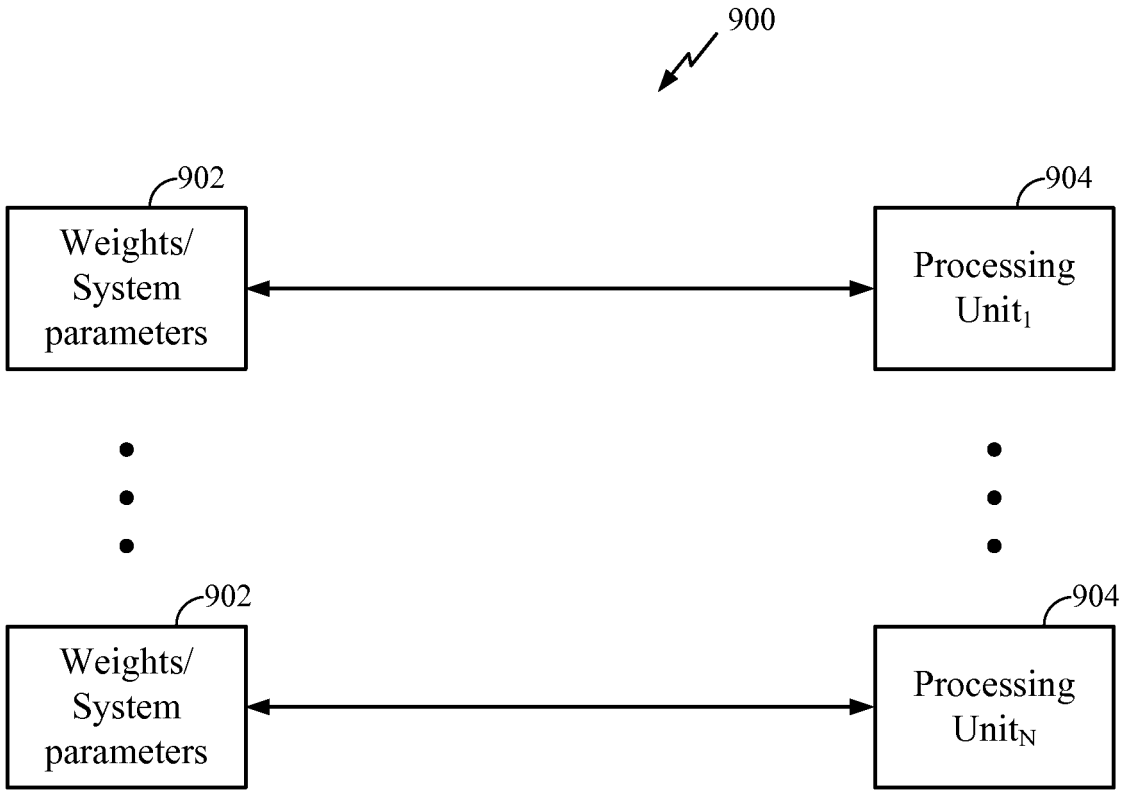
900
902
Weights/
System
parameters
904
Processing
Unit1
902
Weights/
System
parameters
904
Processing
UnitN

FIG. 9

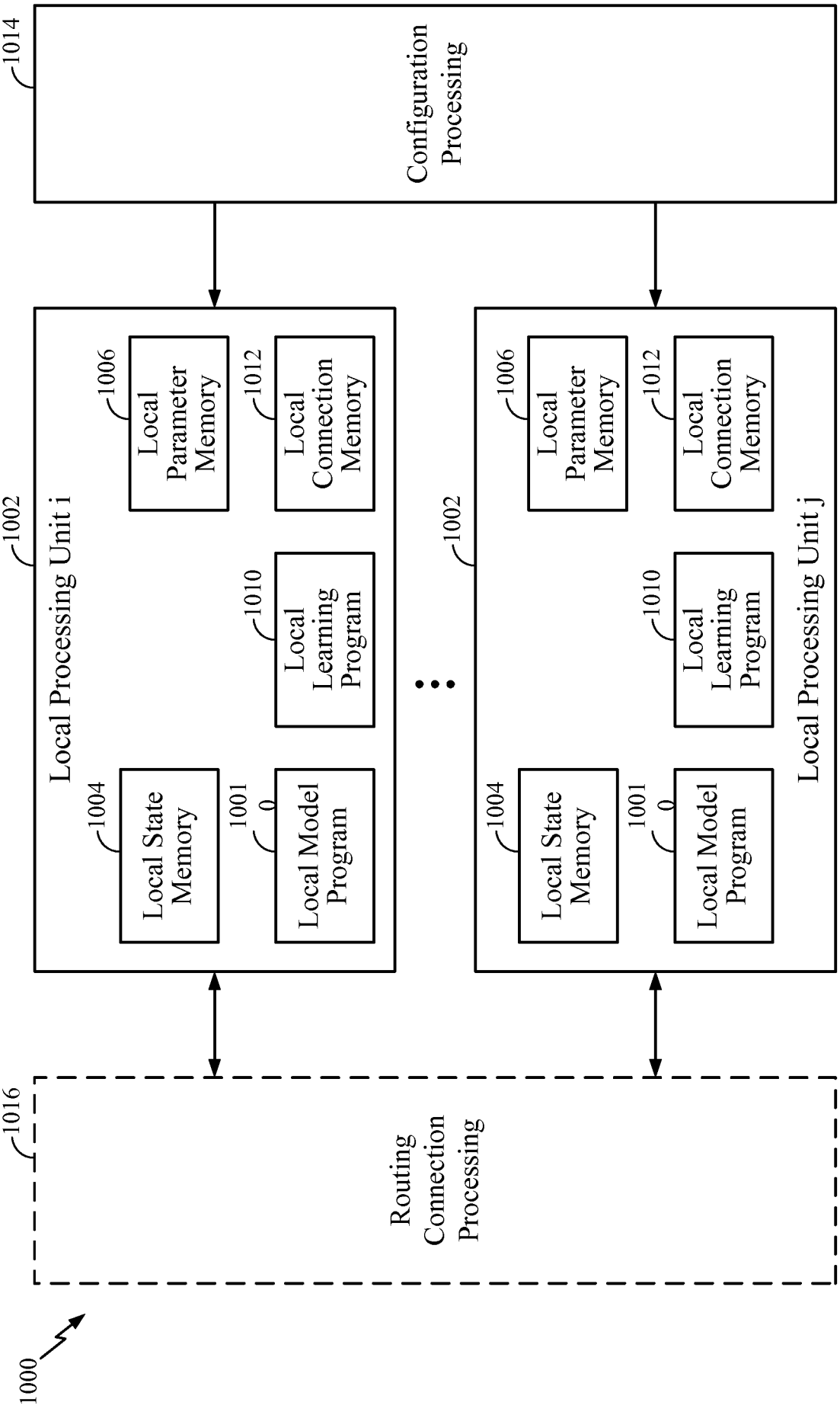
1000
1016
Routing Connection Processing
1014
Configuration Processing
1002
Local Processing Unit i
1004
Local State Memory
1001 0
Local Model Program
1010
Local Learning Program
1006
Local Parameter Memory
1012
Local Connection Memory
1002
Local Processing Unit j
1004
Local State Memory
1001 0
Local Model Program
1010
Local Learning Program
1006
Local Parameter Memory
1012
Local Connection Memory

FIG. 10

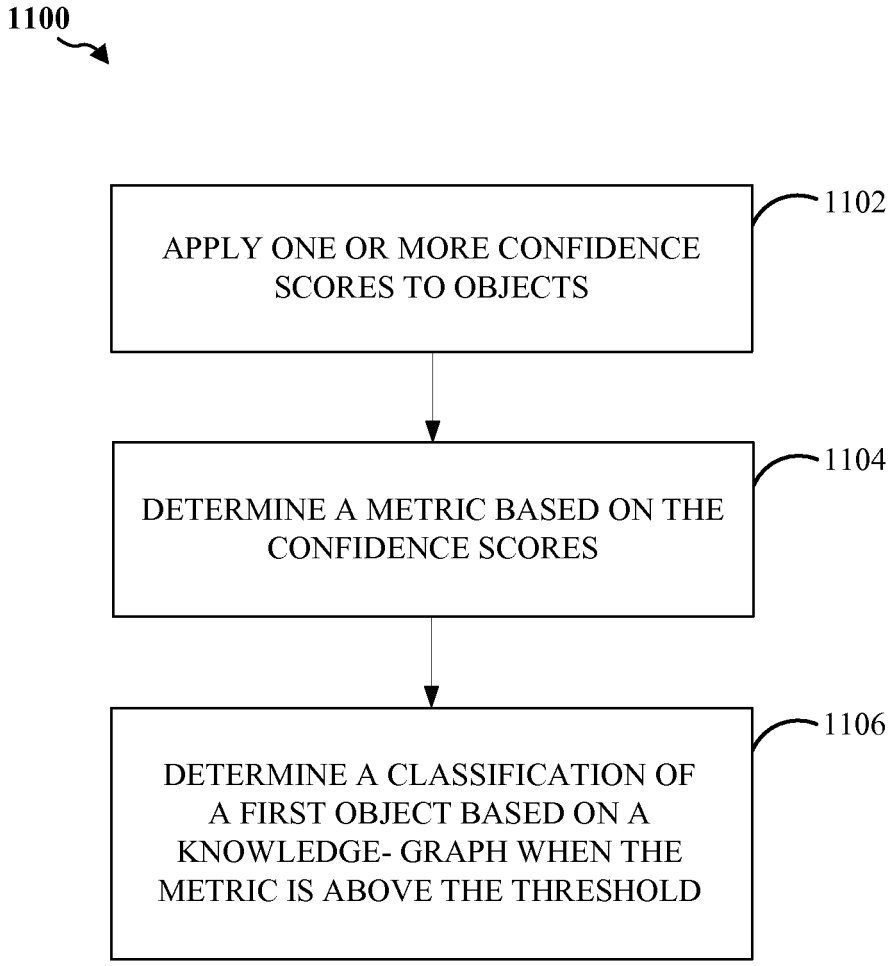
1100
APPLY ONE OR MORE CONFIDENCE SCORES TO OBJECTS
1102
DETERMINE A METRIC BASED ON THE CONFIDENCE SCORES
1104
DETERMINE A CLASSIFICATION OF A FIRST OBJECT BASED ON A KNOWLEDGE- GRAPH WHEN THE METRIC IS ABOVE THE THRESHOLD
1106

FIG. 11