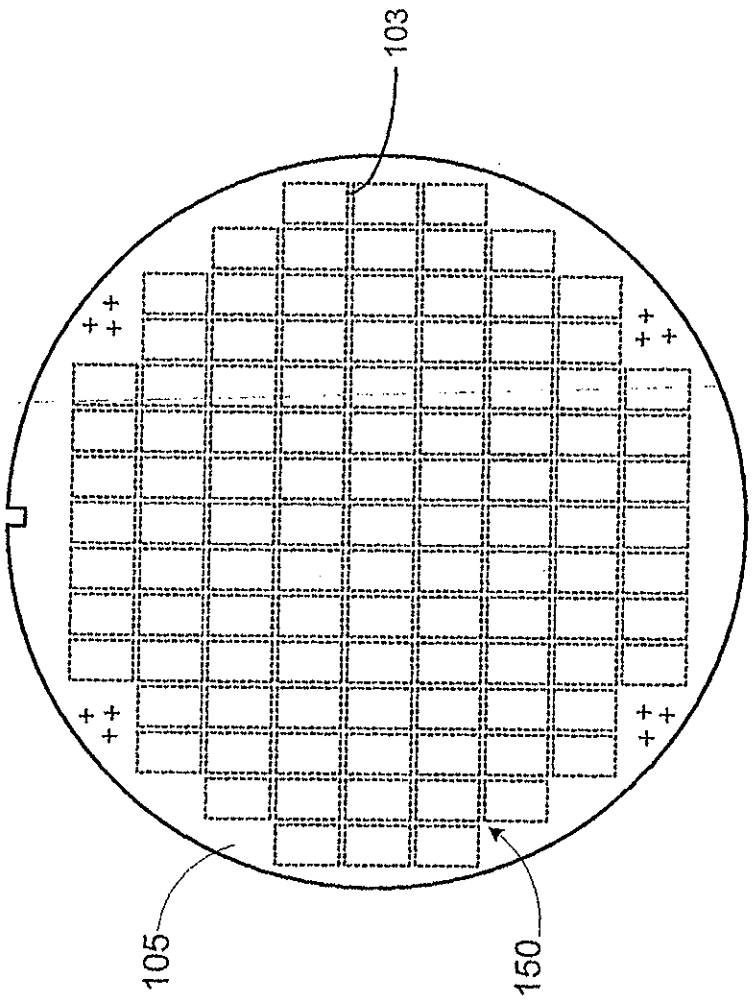


FIGURE 1 (Prior Art)

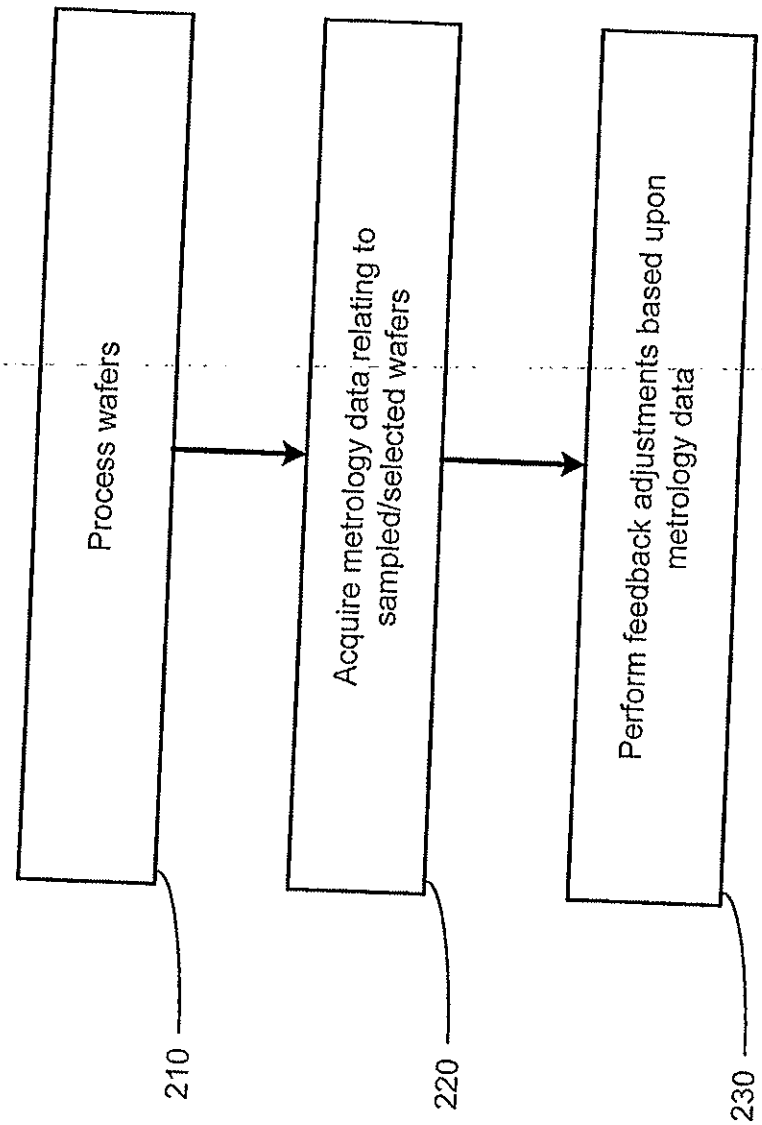


FIGURE 2 (Prior Art)

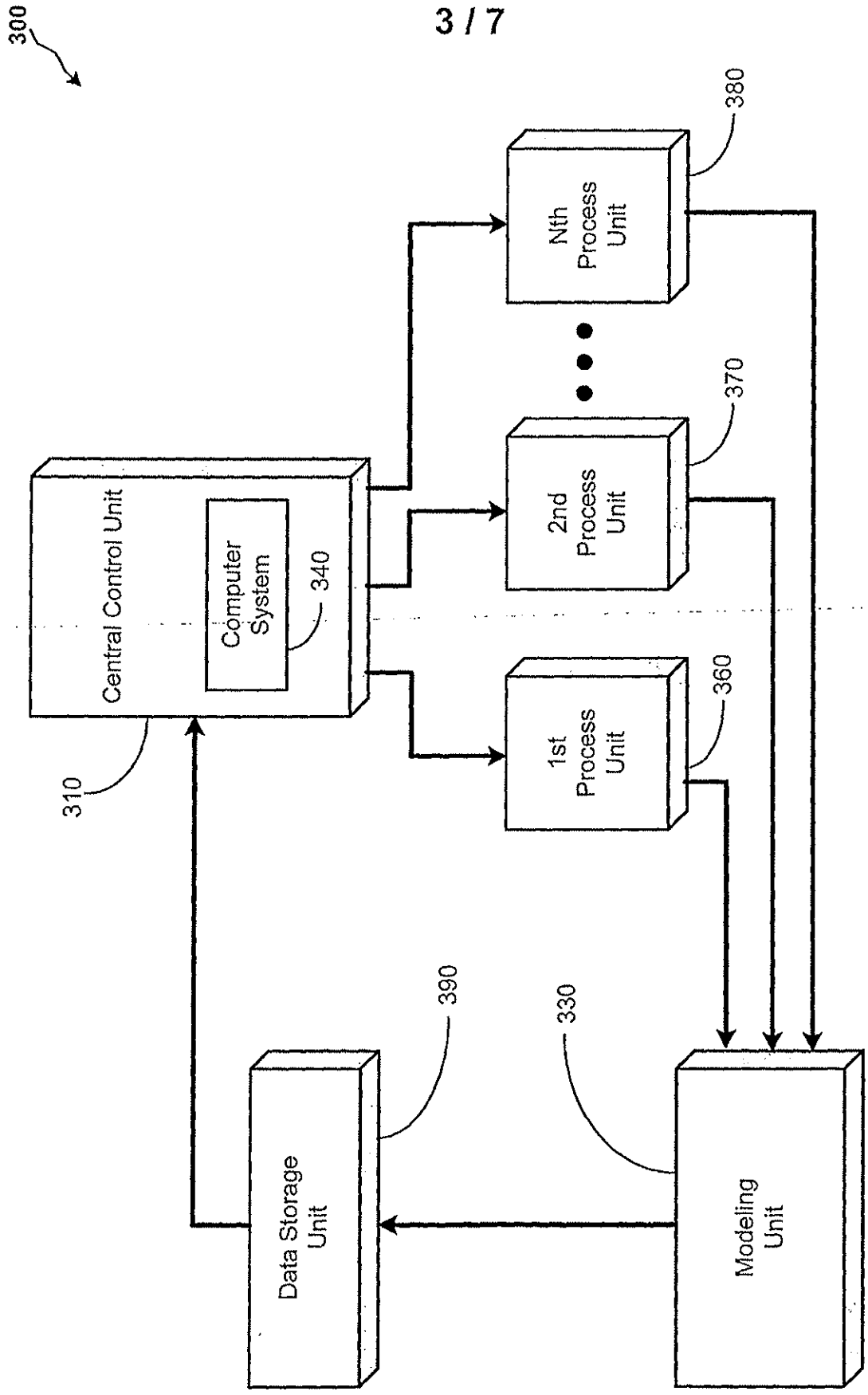

300
380
Nth Process Unit
370
2nd Process Unit
Central Control Unit
Computer System
340
360
1st Process Unit
310
390
330
Data Storage Unit
Modeling Unit

FIGURE 3

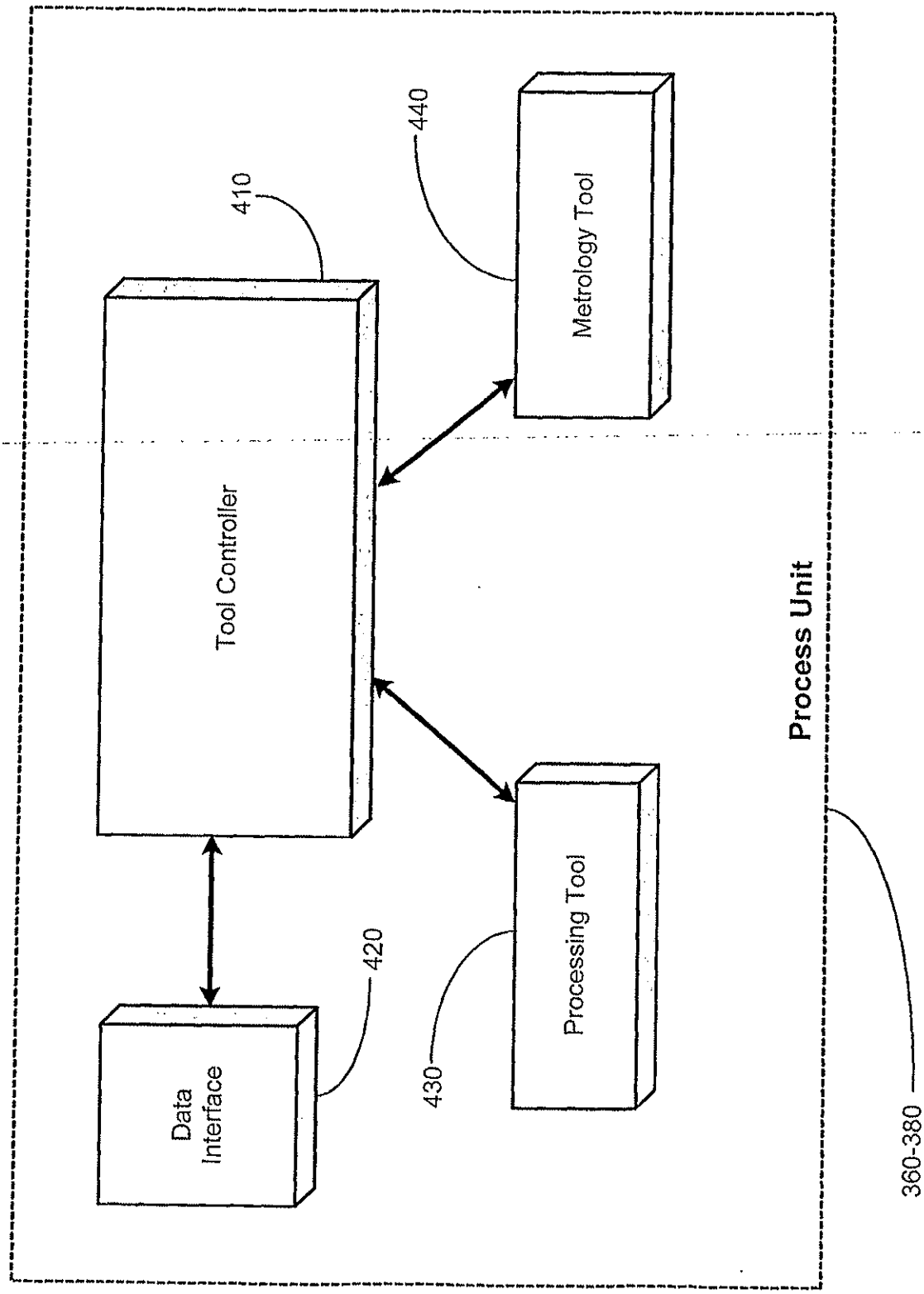

Process Unit
360-380
Tool Controller
410
Metrology Tool
440
Processing Tool
430
Data Interface
420

FIGURE 4

FIGURE 5A

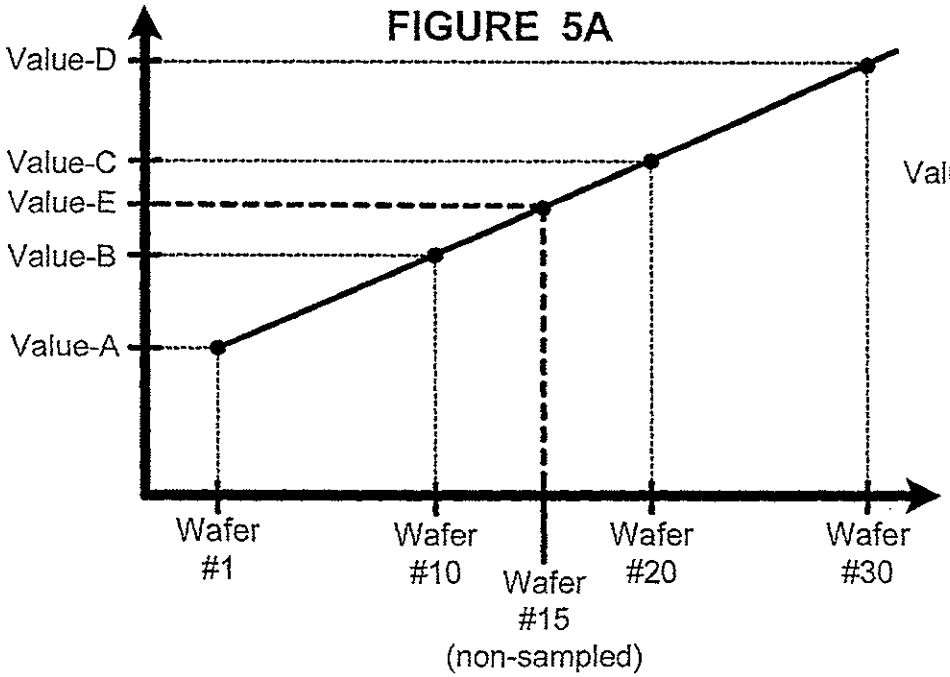


FIGURE 5B

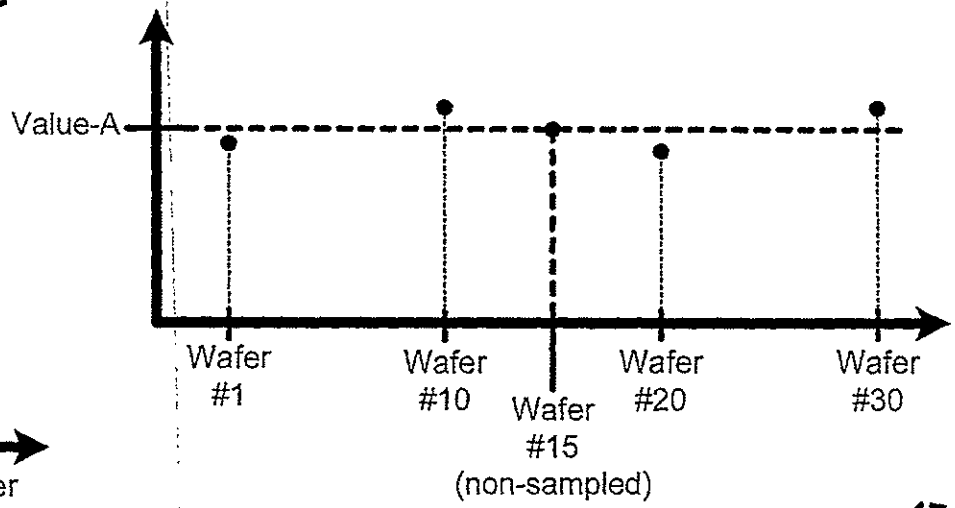


FIGURE 5C

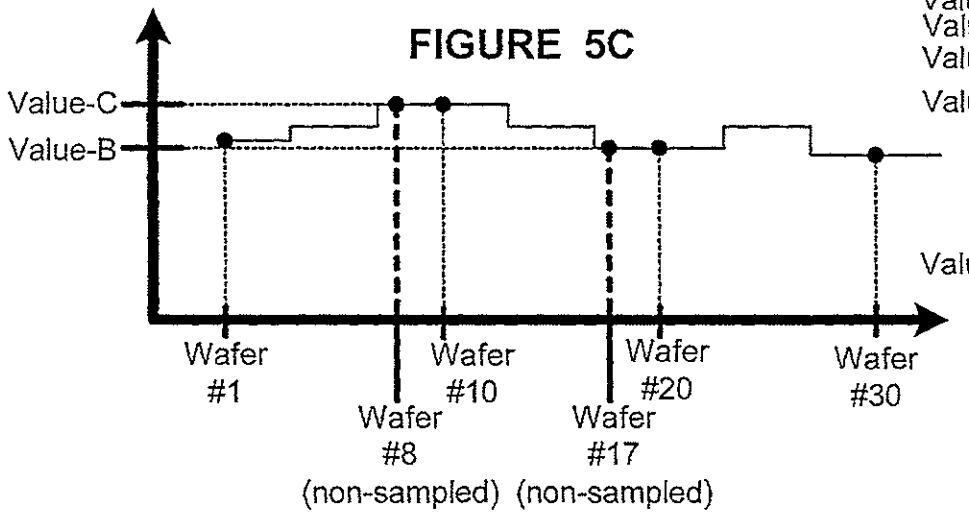
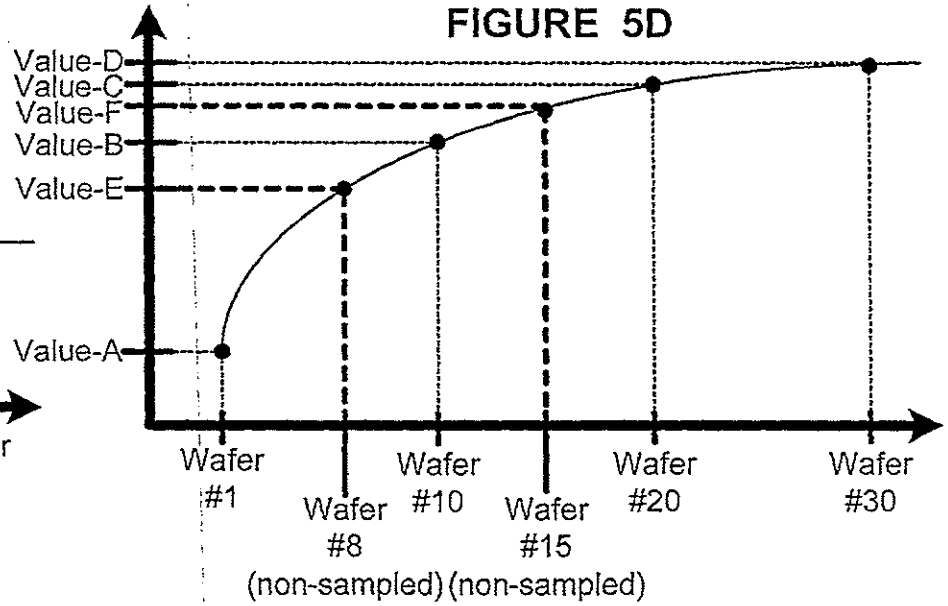


FIGURE 5D



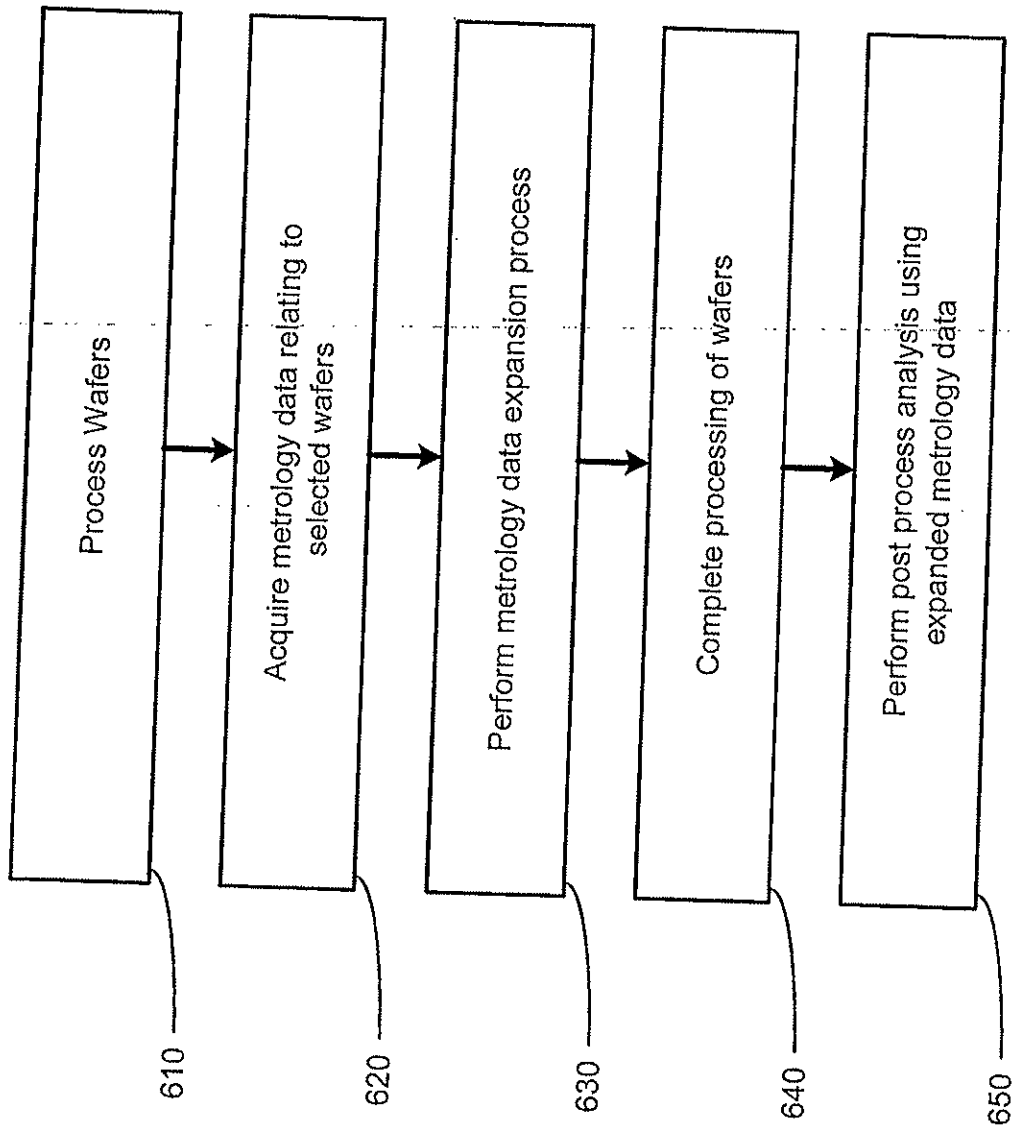

Process Wafers
Acquire metrology data relating to selected wafers
Perform metrology data expansion process
Complete processing of wafers
Perform post process analysis using expanded metrology data
610
620
630
640
650

FIGURE 6

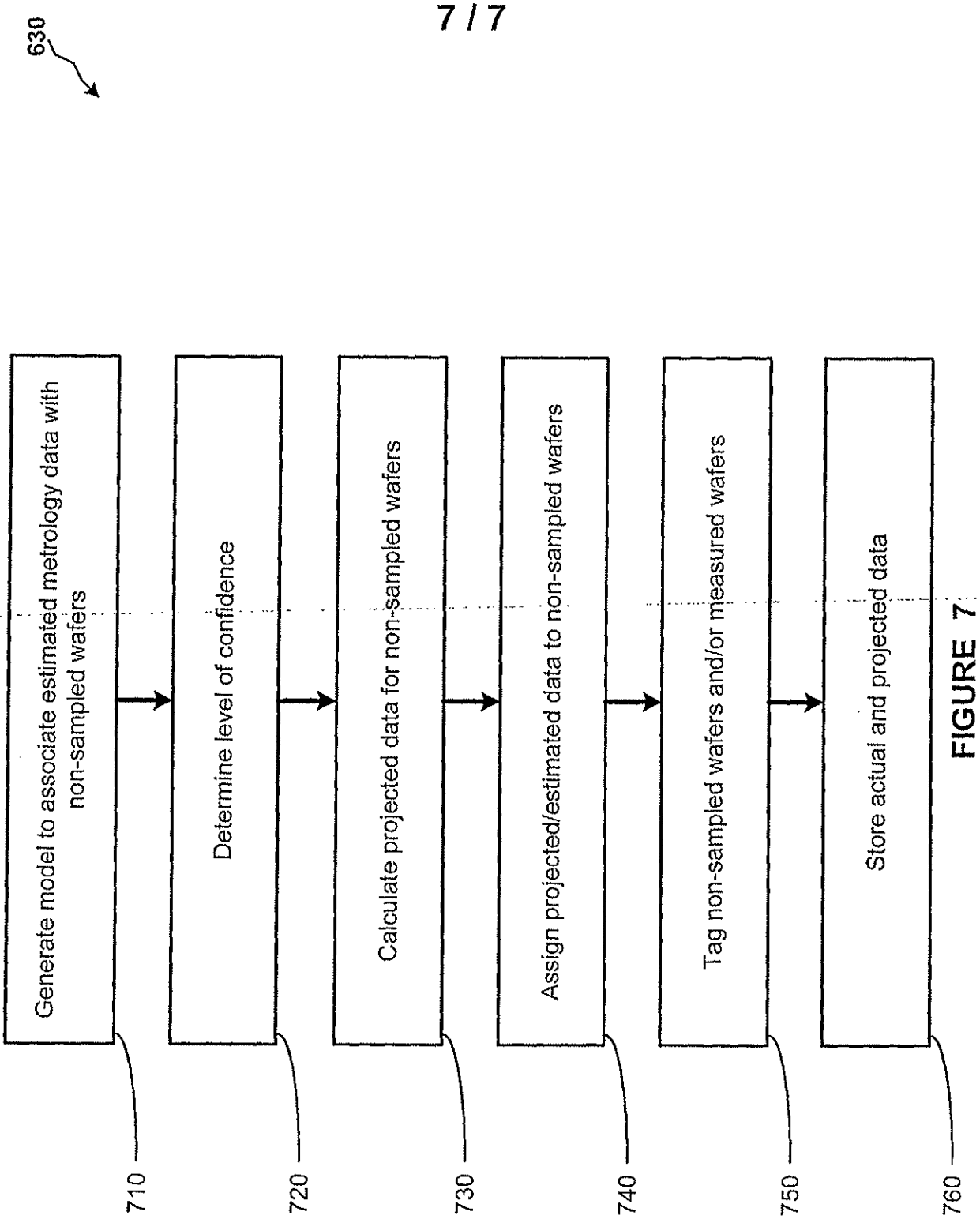

630
Generate model to associate estimated metrology data with non-sampled wafers
Determine level of confidence
Calculate projected data for non-sampled wafers
Assign projected/estimated data to non-sampled wafers
Tag non-sampled wafers and/or measured wafers
Store actual and projected data
710
720
730
740
750
760

FIGURE 7