FIG. 1

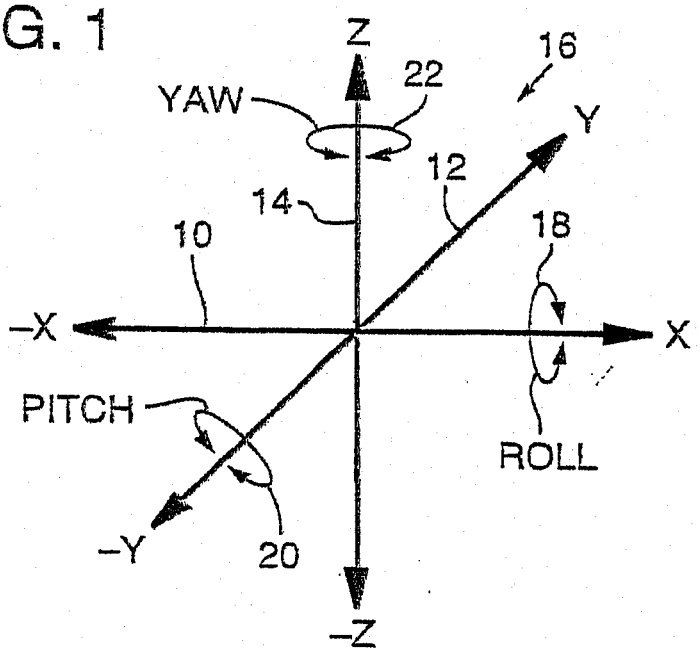


FIG. 3
(PRIOR ART)

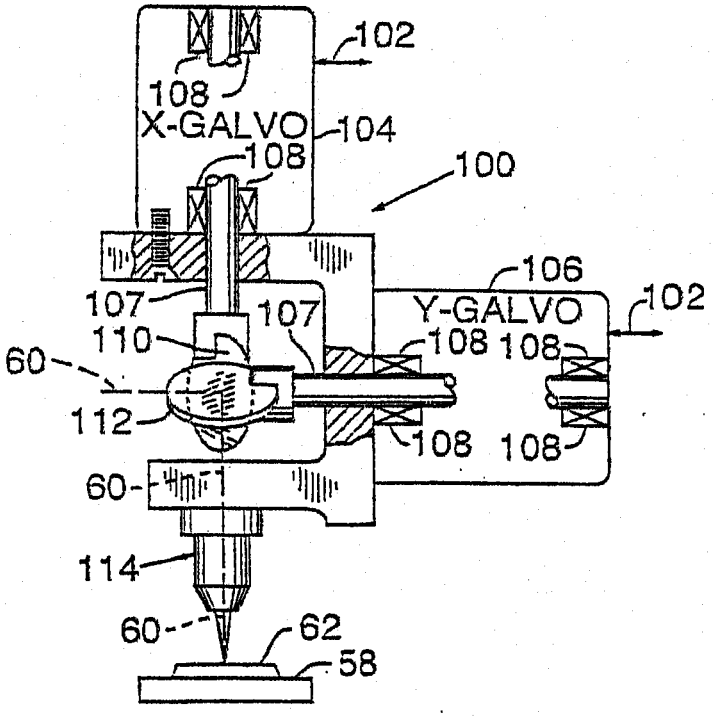
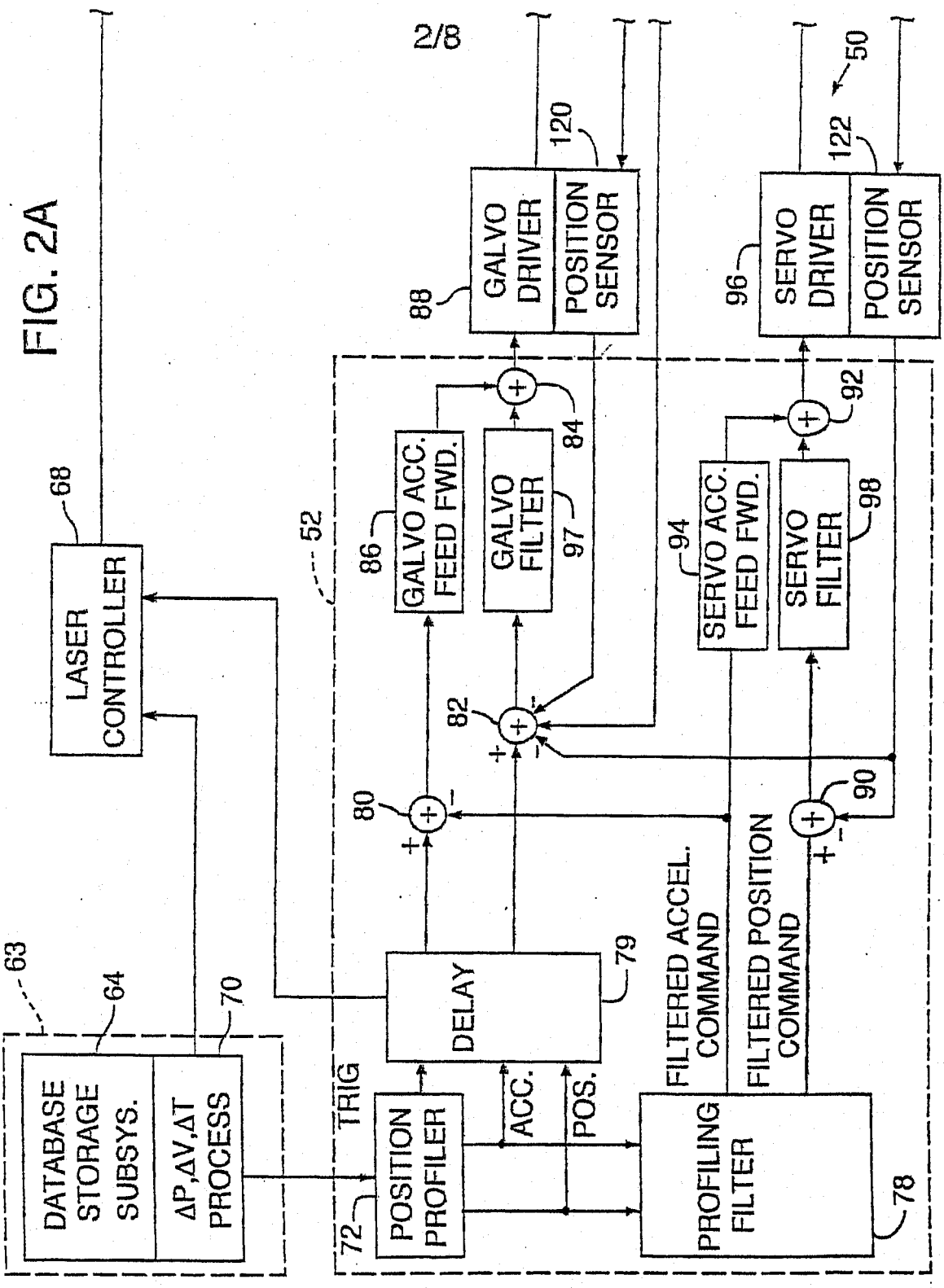


FIG. 2A


LASER CONTROLLER
68
52
63
64
70
DATABASE STORAGE SUBSYS.
ΔP,ΔV,ΔT PROCESS
TRIG
72
POSITION PROFILER
ACC.
POS.
DELAY
79
80
82
84
86
GALVO ACC. FEED FWD.
GALVO FILTER
97
88
GALVO DRIVER
POSITION SENSOR
120
FILTERED ACCEL. COMMAND
FILTERED POSITION COMMAND
PROFILING FILTER
78
90
92
94
SERVO ACC. FEED FWD.
SERVO FILTER
98
96
SERVO DRIVER
POSITION SENSOR
122
50

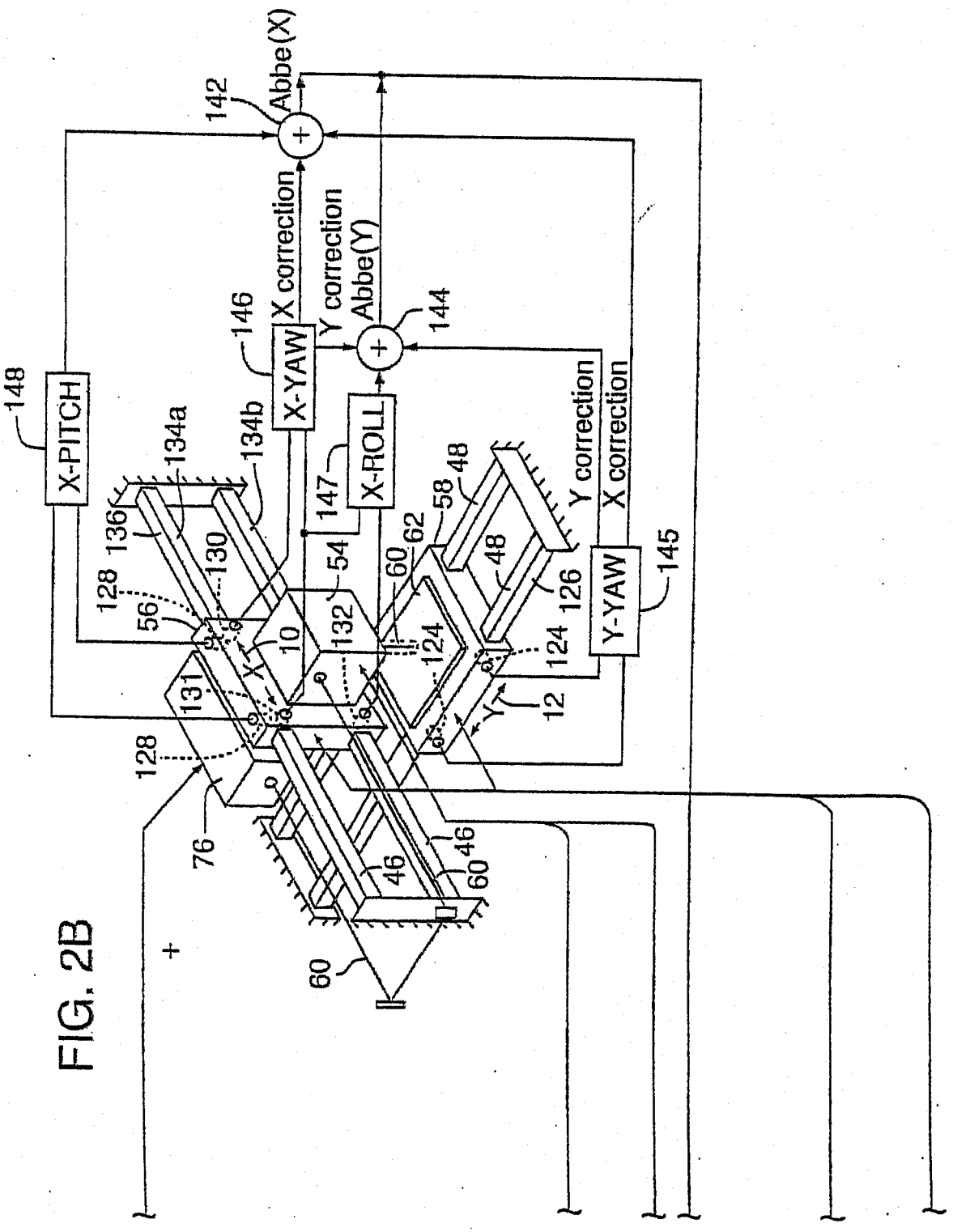

Abbe(X)
142
X correction
Y correction
Abbe(Y)
146
144
148
X-PITCH
X-YAW
X-ROLL
147
134a
134b
136
130
128
56
54
60
62
58
48
Y correction
X correction
Y-YAW
145
126
124
132
10
131
12
76
46
60

FIG. 2B

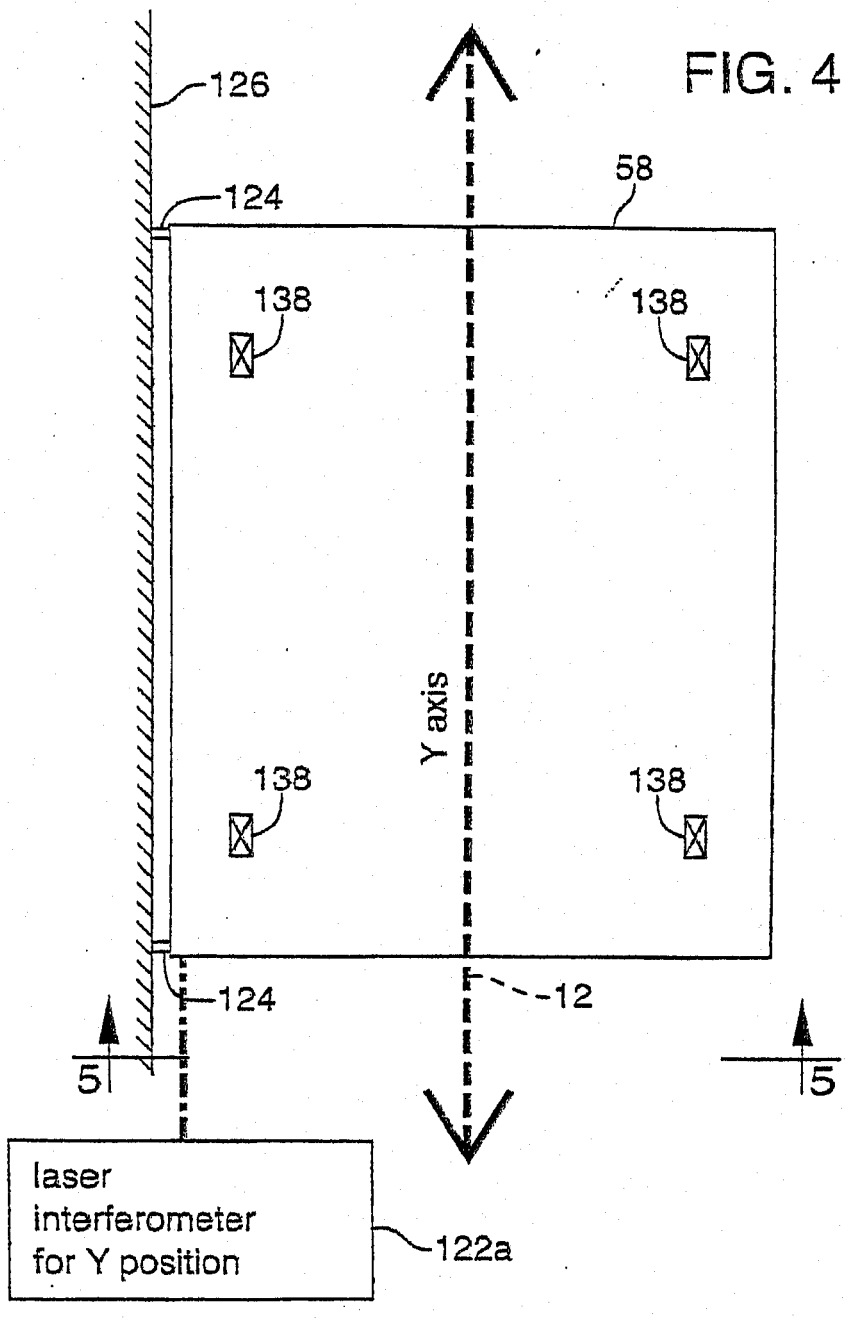

126
124
58
138
138
Y axis
138
138
124
12
5
5
laser
interferometer
for Y position
122a

FIG. 4

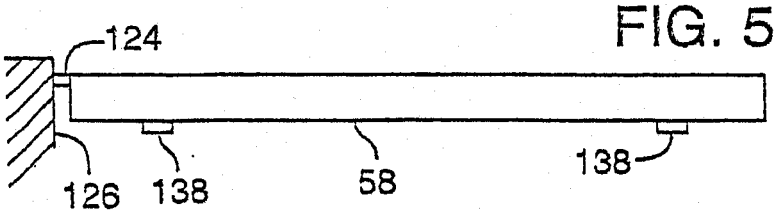

124
126
138
58
138

FIG. 5

FIG. 6

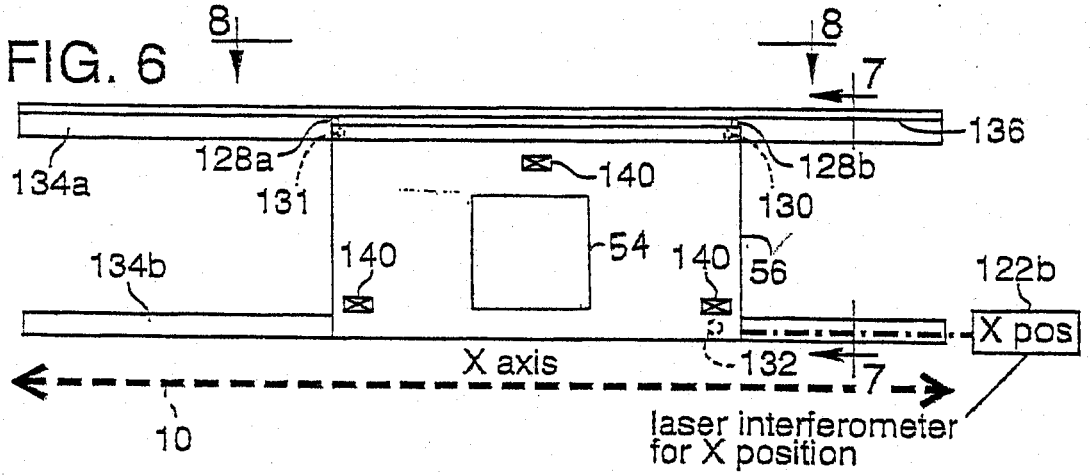


FIG. 7

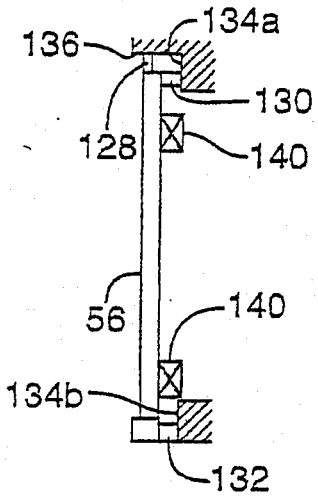
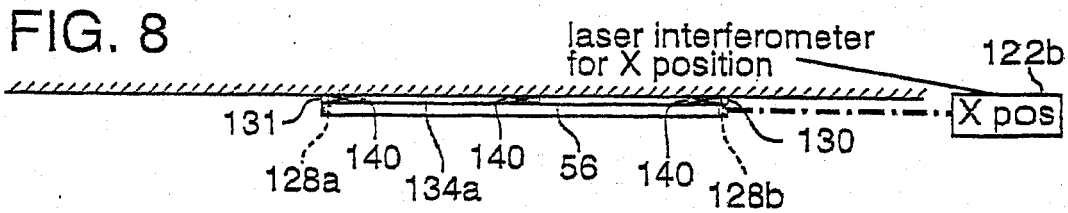


FIG. 8



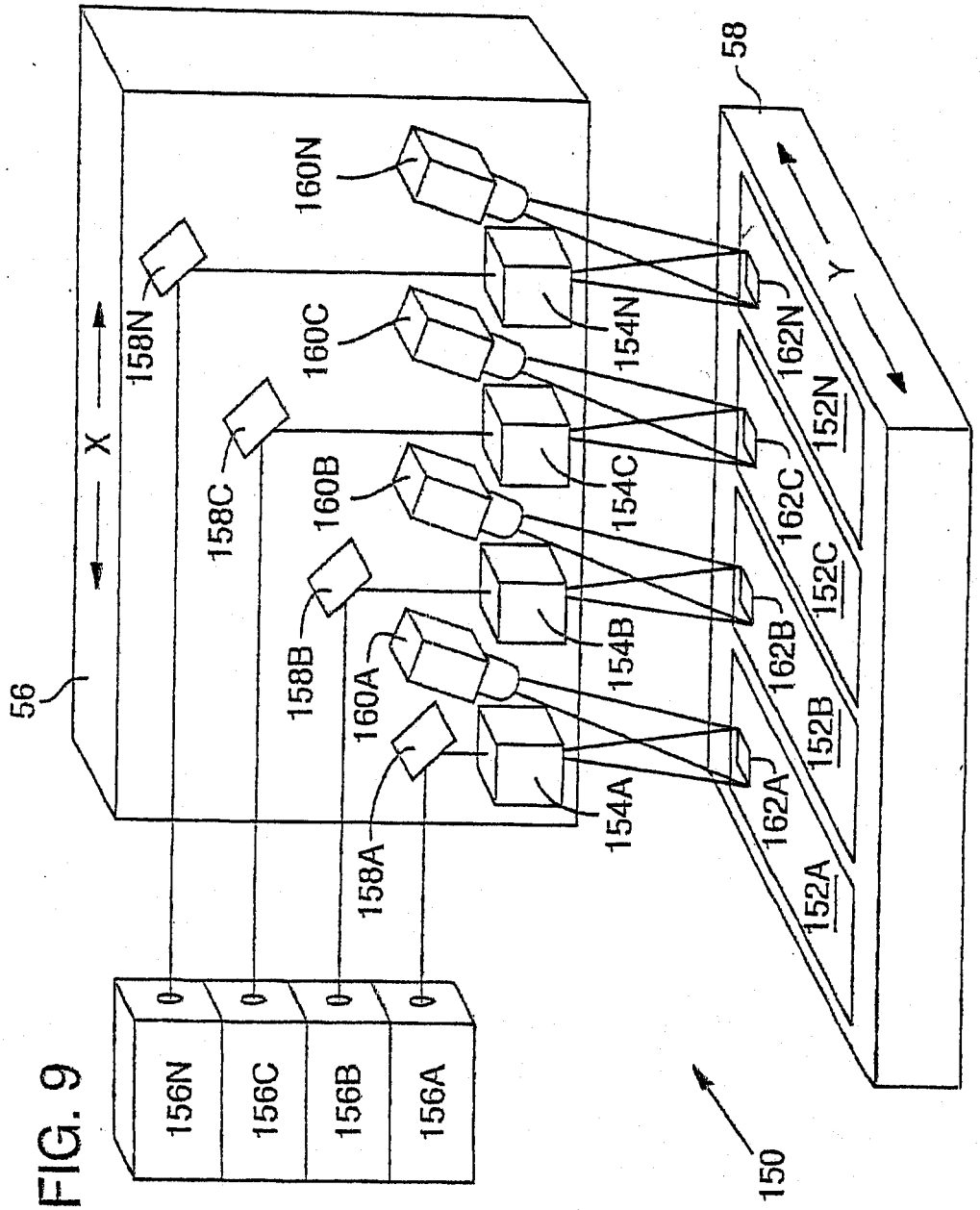
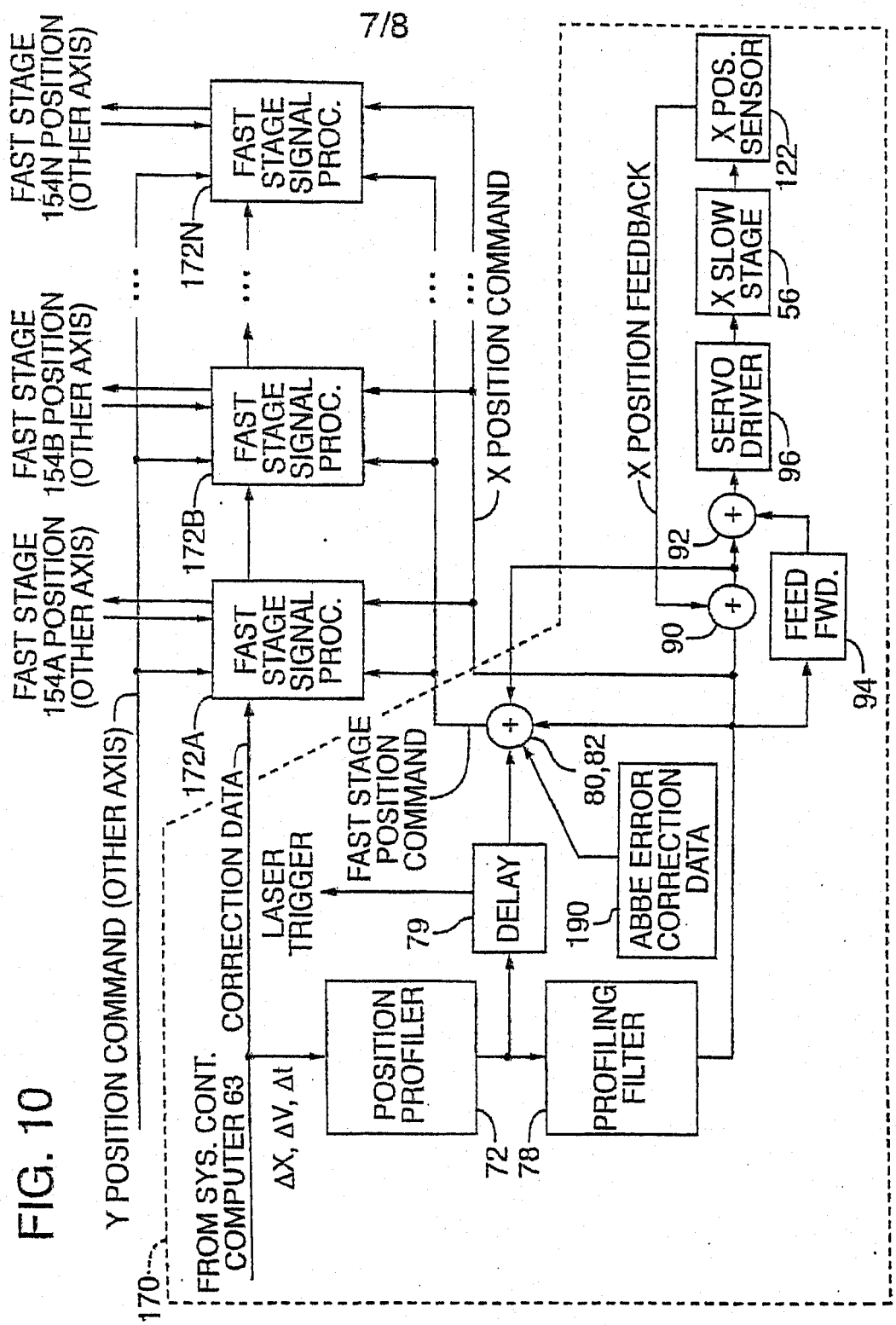

58
160N
158N
160C
158C
160B
158B
160A
158A
154N
154C
154B
154A
162N
162C
162B
162A
152N
152C
152B
152A
X
Y
56
156N
156C
156B
156A
150

FIG. 9

FIG. 10


FAST STAGE 154N POSITION (OTHER AXIS)
FAST STAGE 154B POSITION (OTHER AXIS)
FAST STAGE 154A POSITION (OTHER AXIS)
Y POSITION COMMAND (OTHER AXIS)
170
FROM SYS. CONT. COMPUTER 63
ΔX, ΔV, Δt
CORRECTION DATA
172A
172B
172N
FAST STAGE SIGNAL PROC.
FAST STAGE SIGNAL PROC.
FAST STAGE SIGNAL PROC.
LASER TRIGGER
FAST STAGE POSITION COMMAND
X POSITION COMMAND
POSITION PROFILER
DELAY
79
72
PROFILING FILTER
78
ABBE ERROR CORRECTION DATA
190
80,82
90
92
X POSITION FEEDBACK
SERVO DRIVER
96
FEED FWD.
94
X SLOW STAGE
56
X POS. SENSOR
122

26 MAY 2004

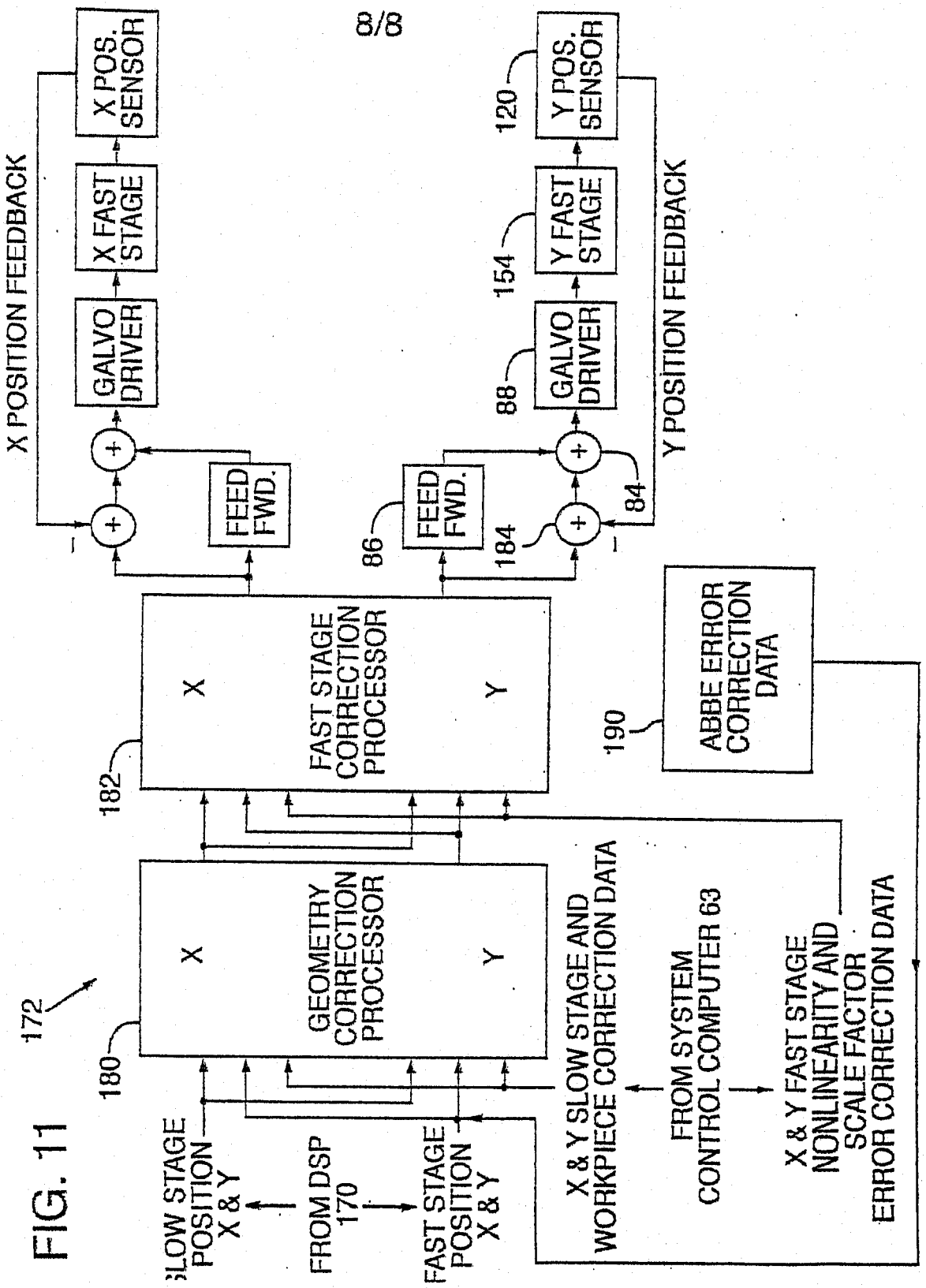


FIG. 11