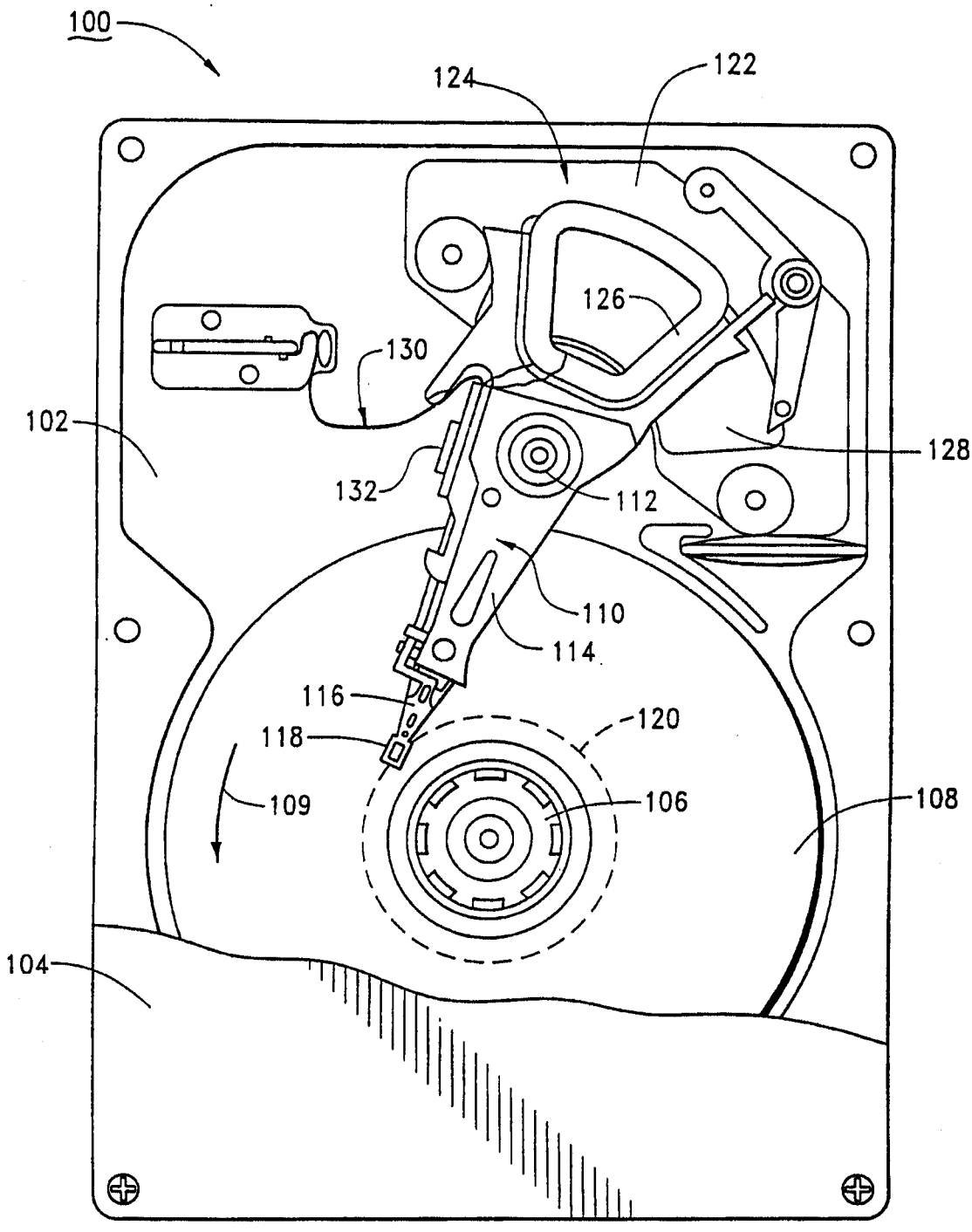

100
124
122
126
130
102
128
132
112
110
114
116
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104

FIG. 1

21 OCT 2003

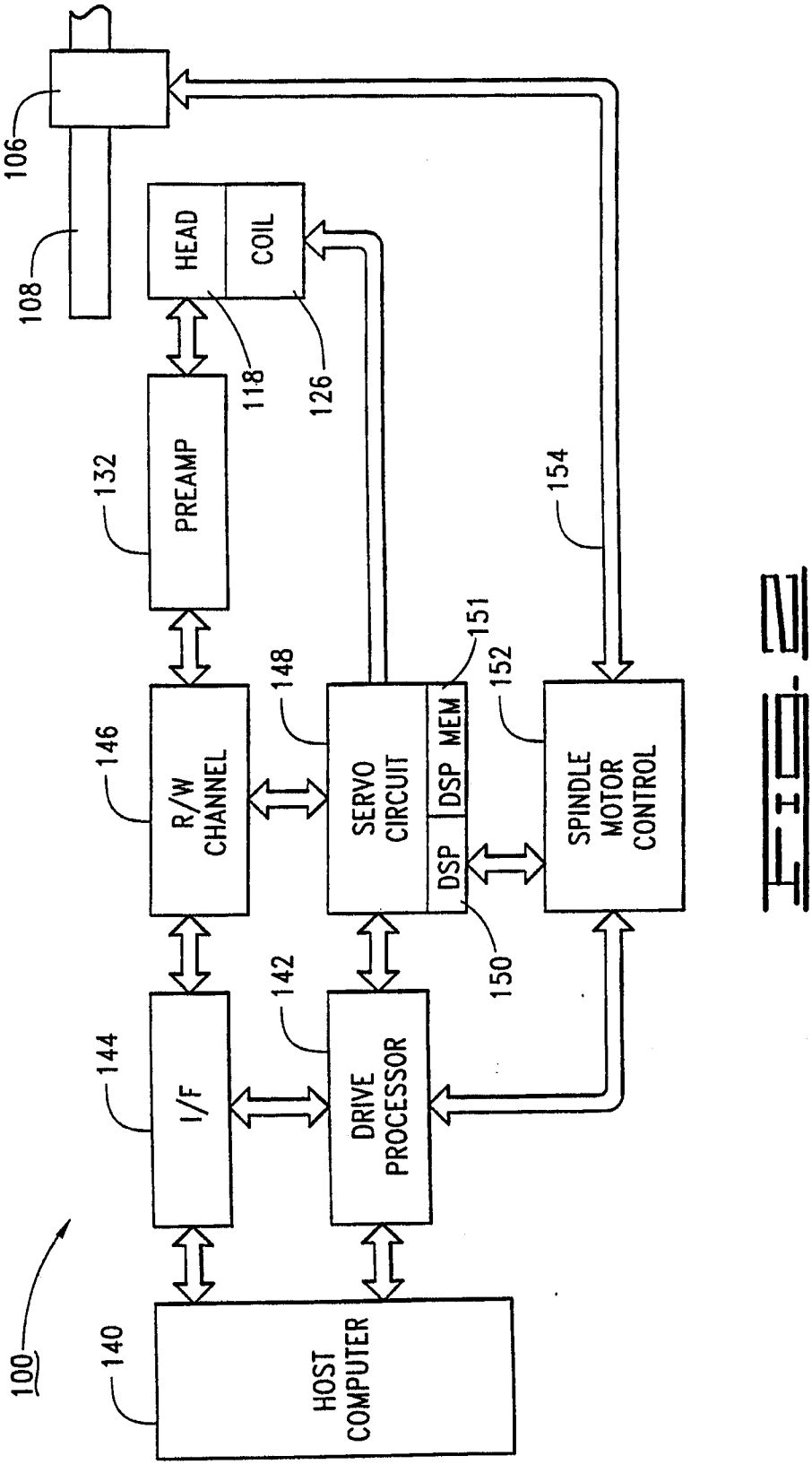


FIG-2

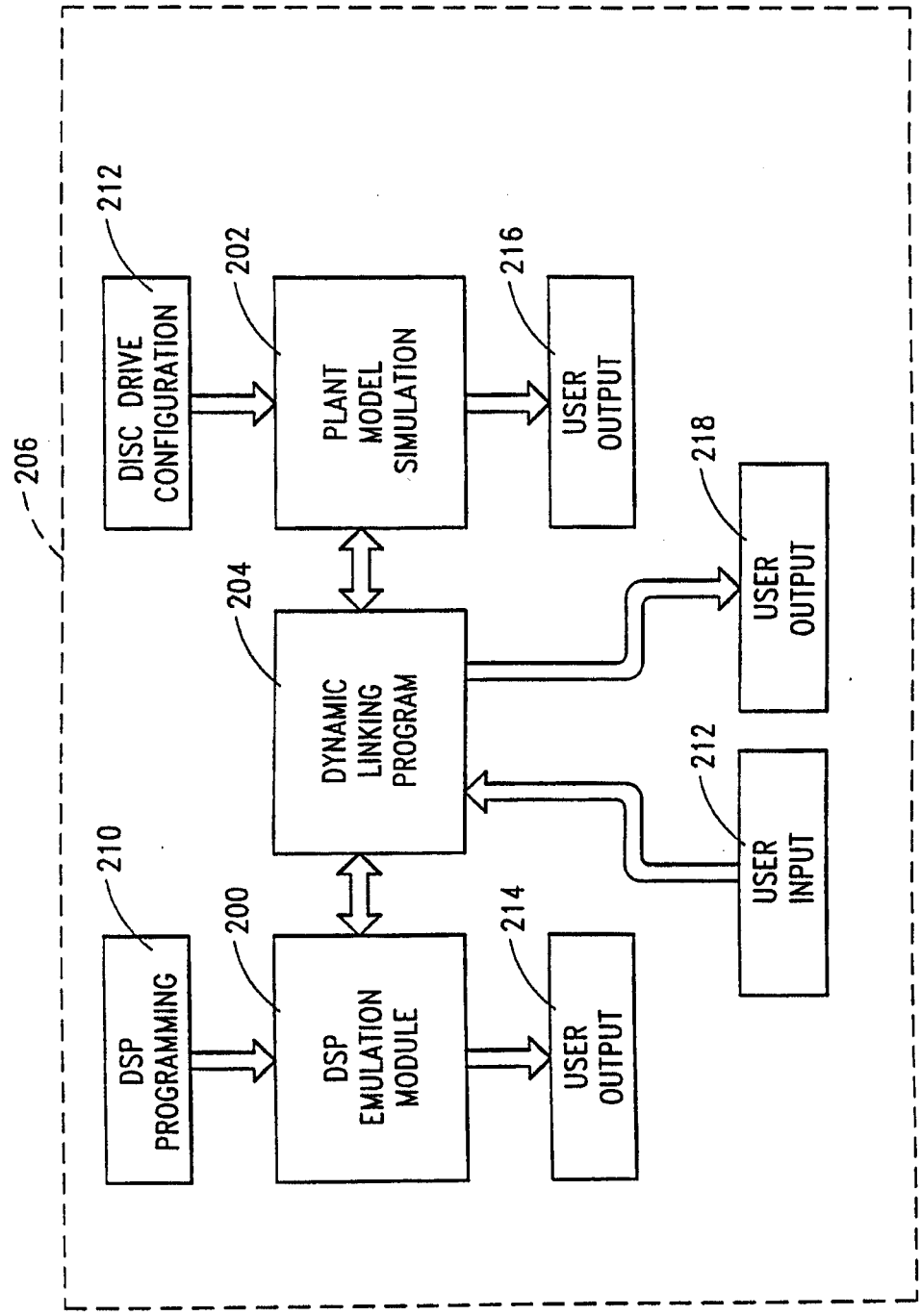

206
DISC DRIVE CONFIGURATION
212
PLANT MODEL SIMULATION
202
USER OUTPUT
216
DYNAMIC LINKING PROGRAM
204
USER OUTPUT
218
USER INPUT
212
DSP PROGRAMMING
210
DSP EMULATION MODULE
200
USER OUTPUT
214

FIG. 3

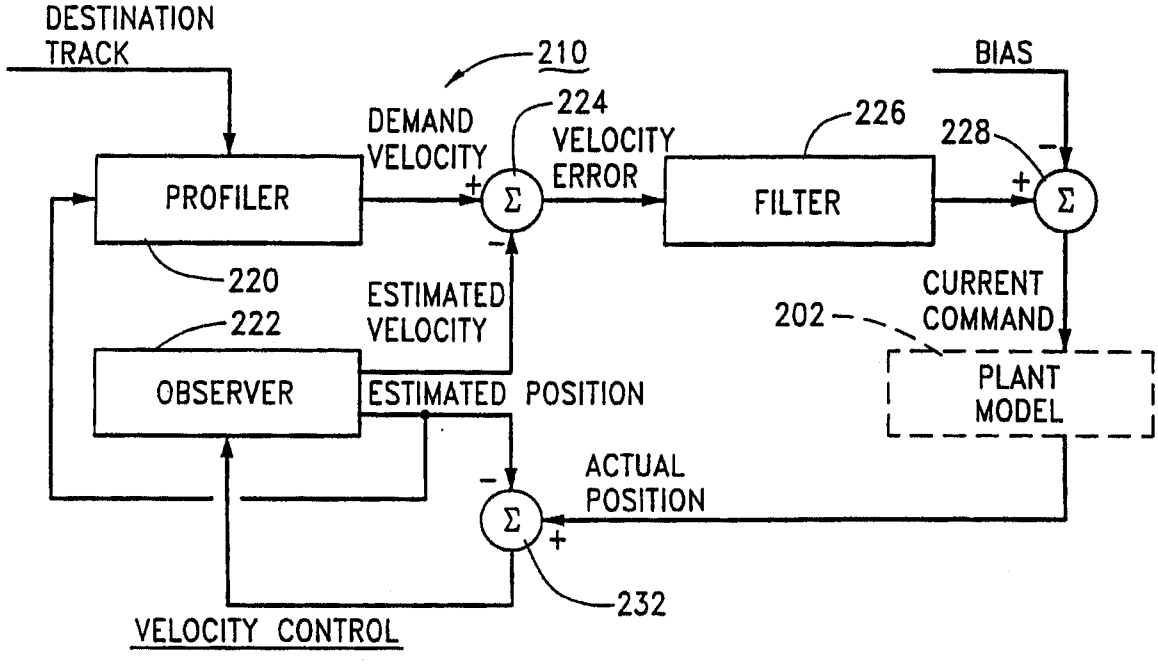

DESTINATION TRACK
210
BIAS
DEMAND VELOCITY
224
VELOCITY ERROR
226
228
PROFILER
FILTER
220
ESTIMATED VELOCITY
222
CURRENT COMMAND
202
OBSERVER
ESTIMATED POSITION
PLANT MODEL
ACTUAL POSITION
232
VELOCITY CONTROL

FIG. 4

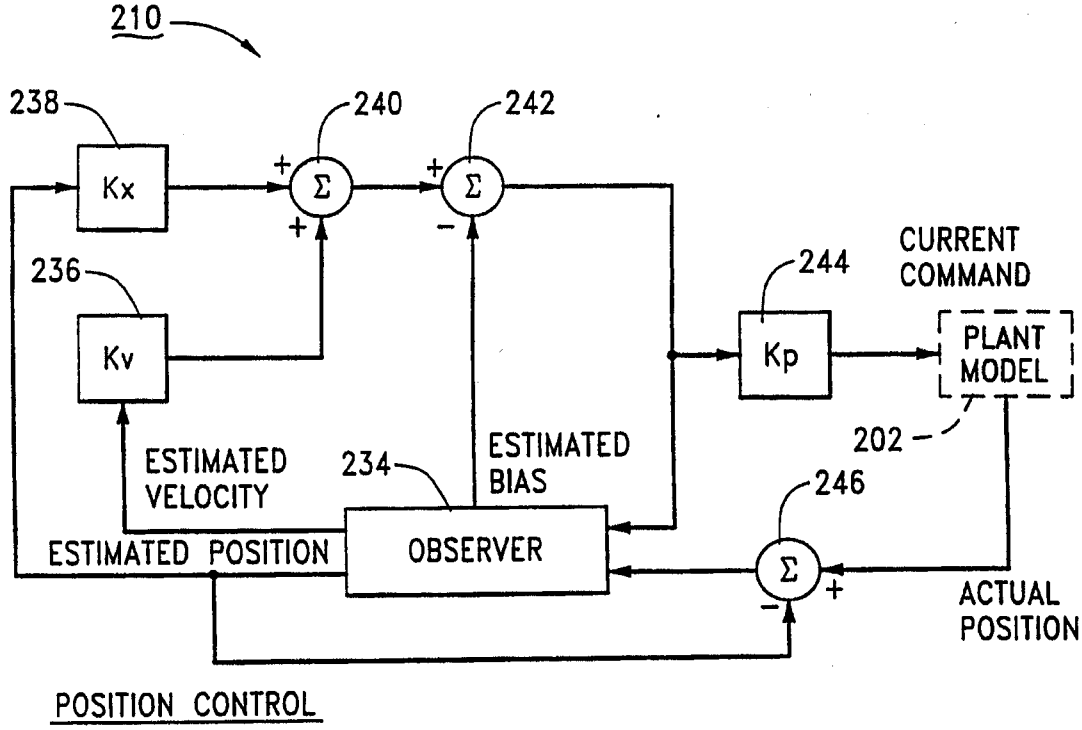

210
238
240
242
Kx
236
Kv
244
CURRENT COMMAND
Kp
PLANT MODEL
202
ESTIMATED VELOCITY
234
ESTIMATED BIAS
246
ESTIMATED POSITION
OBSERVER
ACTUAL POSITION
POSITION CONTROL

FIG. 5

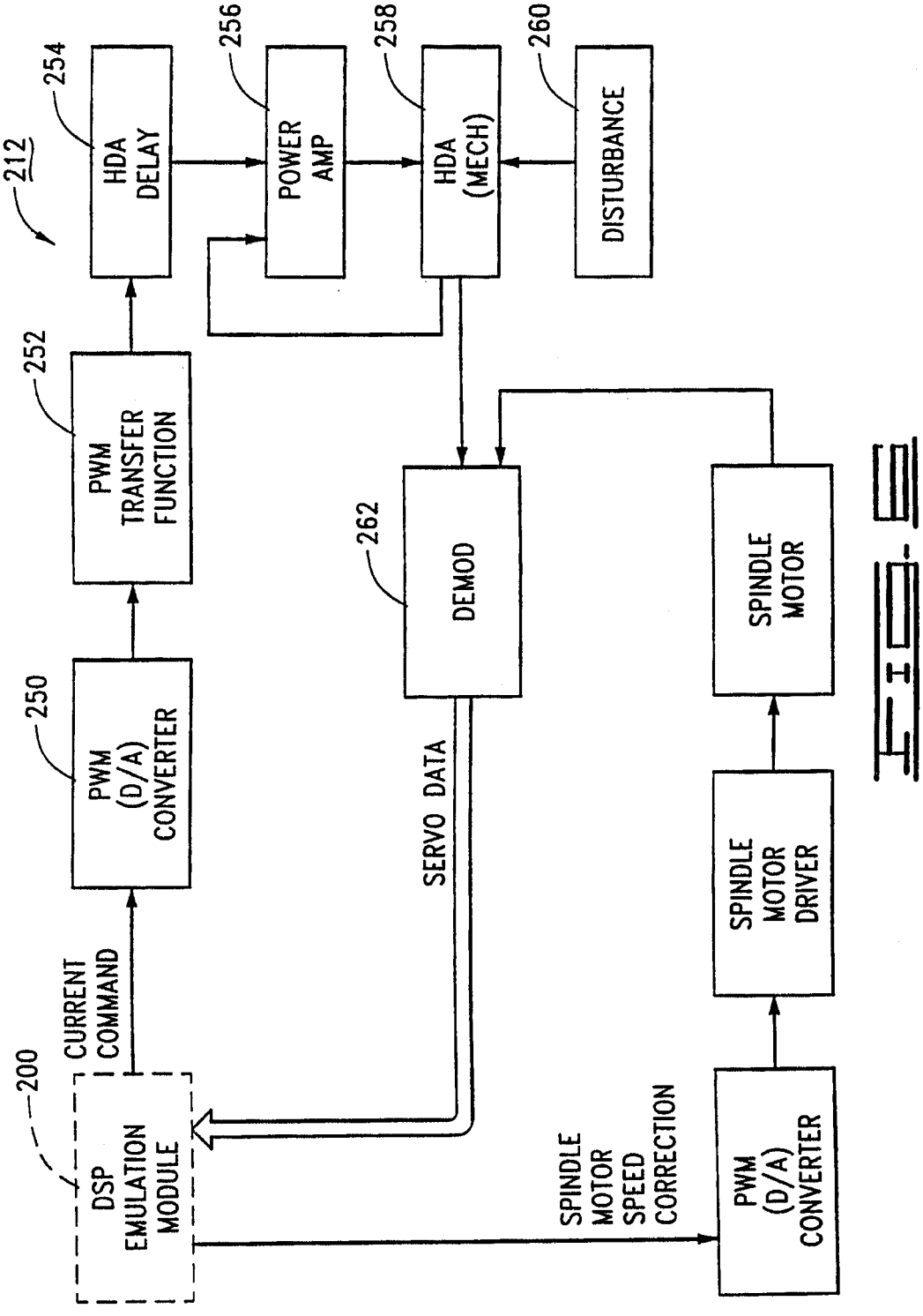

212
254
HDA DELAY
256
POWER AMP
258
HDA (MECH)
260
DISTURBANCE
252
PWM TRANSFER FUNCTION
262
DEMOD
SPINDLE MOTOR
250
PWM (D/A) CONVERTER
SERVO DATA
SPINDLE MOTOR DRIVER
200
CURRENT COMMAND
DSP EMULATION MODULE
SPINDLE MOTOR SPEED CORRECTION
PWM (D/A) CONVERTER

FIG. 3

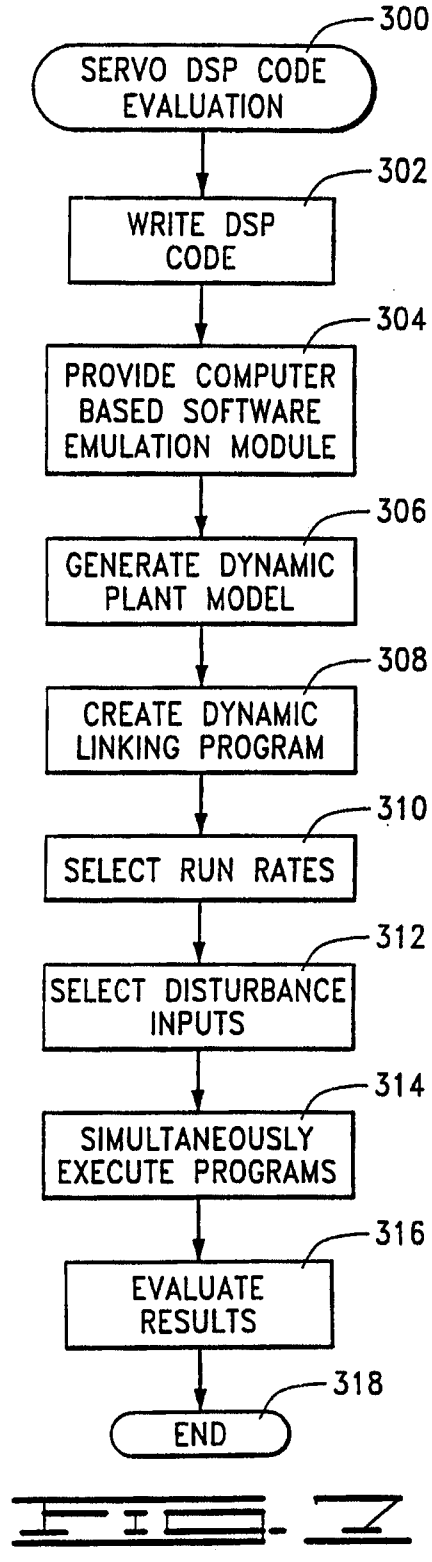

300
SERVO DSP CODE EVALUATION
302
WRITE DSP CODE
304
PROVIDE COMPUTER BASED SOFTWARE EMULATION MODULE
306
GENERATE DYNAMIC PLANT MODEL
308
CREATE DYNAMIC LINKING PROGRAM
310
SELECT RUN RATES
312
SELECT DISTURBANCE INPUTS
314
SIMULTANEOUSLY EXECUTE PROGRAMS
316
EVALUATE RESULTS
318
END

FIG. 7