Interrupt Vector Table 100

Entry 101	Bundle 111
	Bundle 112
	Bundle 113
	Bundle 114
	Bundle 115
	Bundle 116
	Bundle 117
	Bundle 118
Entry 102	Bundle 119
	Bundle 120
	Bundle 121
	Bundle 122
	Bundle 123
	Bundle 124
	Bundle 125
	Bundle 126
Entry 103	Bundle 127
	Bundle 128
	Bundle 129
	Bundle 130
Entry 104	Bundle 131
	Bundle 132
	Bundle 133
	Bundle 134
Entry 105	Bundle 135
	Bundle 136
	Bundle 137
	Bundle 138
Entry 106	Bundle 139
	Bundle 140
	Bundle 141
	Bundle 142

FIG. 1

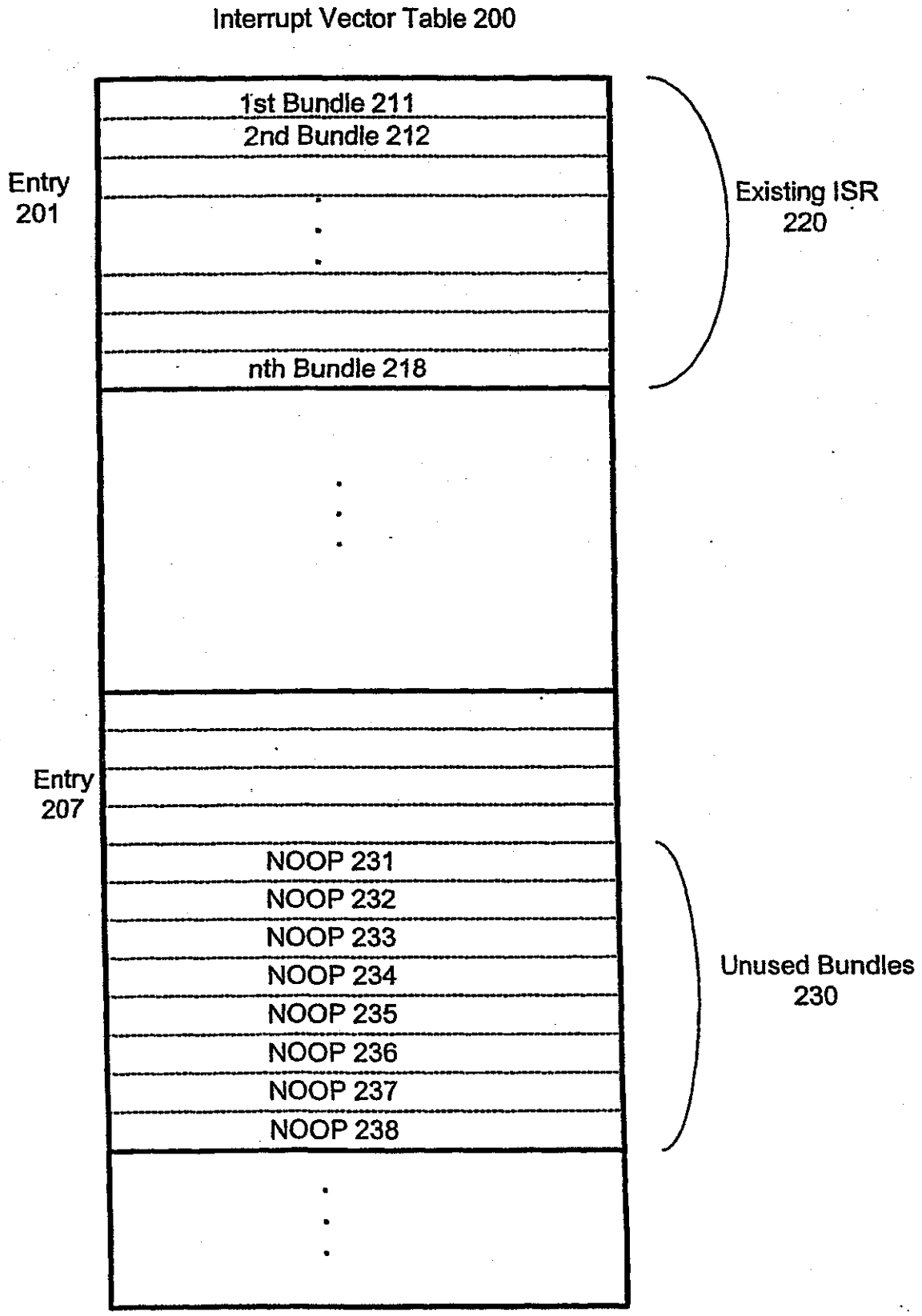

Interrupt Vector Table 200
1st Bundle 211
2nd Bundle 212
Entry 201
nth Bundle 218
Existing ISR 220
Entry 207
NOOP 231
NOOP 232
NOOP 233
NOOP 234
NOOP 235
NOOP 236
NOOP 237
NOOP 238
Unused Bundles 230

FIG. 2

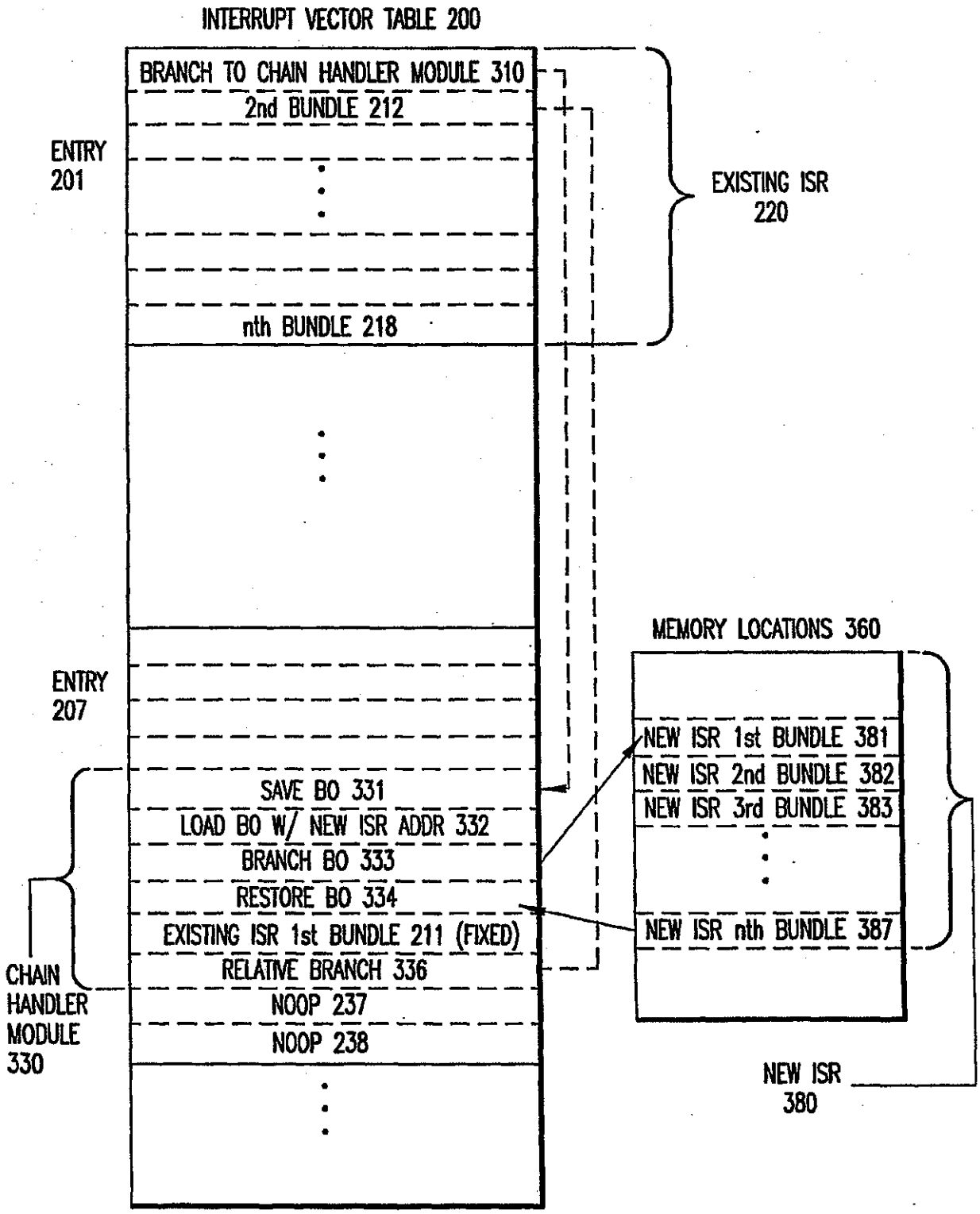

INTERRUPT VECTOR TABLE 200
BRANCH TO CHAIN HANDLER MODULE 310
2nd BUNDLE 212
ENTRY 201
nth BUNDLE 218
EXISTING ISR 220
ENTRY 207
SAVE BO 331
LOAD BO W/ NEW ISR ADDR 332
BRANCH BO 333
RESTORE BO 334
EXISTING ISR 1st BUNDLE 211 (FIXED)
RELATIVE BRANCH 336
NOOP 237
NOOP 238
CHAIN HANDLER MODULE 330
MEMORY LOCATIONS 360
NEW ISR 1st BUNDLE 381
NEW ISR 2nd BUNDLE 382
NEW ISR 3rd BUNDLE 383
NEW ISR nth BUNDLE 387
NEW ISR 380

FIG.3

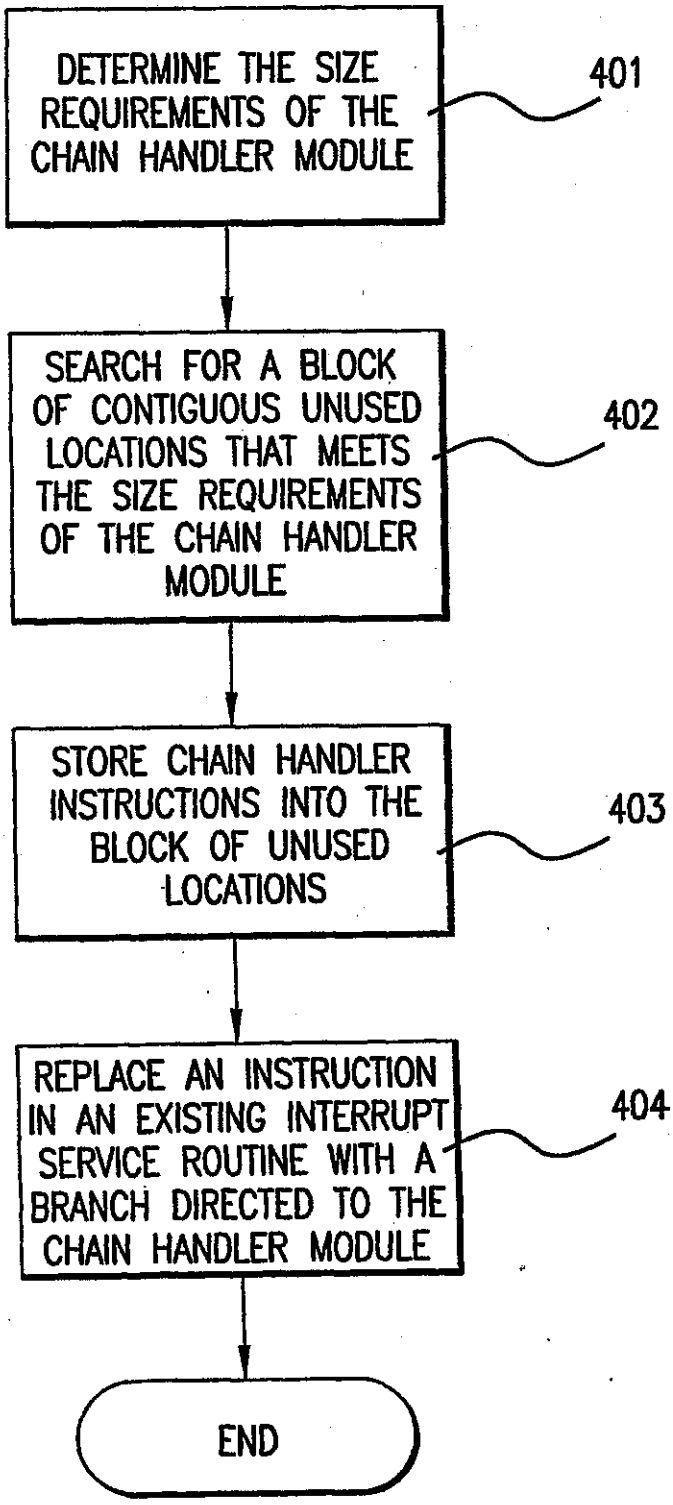

DETERMINE THE SIZE REQUIREMENTS OF THE CHAIN HANDLER MODULE
401
SEARCH FOR A BLOCK OF CONTIGUOUS UNUSED LOCATIONS THAT MEETS THE SIZE REQUIREMENTS OF THE CHAIN HANDLER MODULE
402
STORE CHAIN HANDLER INSTRUCTIONS INTO THE BLOCK OF UNUSED LOCATIONS
403
REPLACE AN INSTRUCTION IN AN EXISTING INTERRUPT SERVICE ROUTINE WITH A BRANCH DIRECTED TO THE CHAIN HANDLER MODULE
404
END

FIG.4

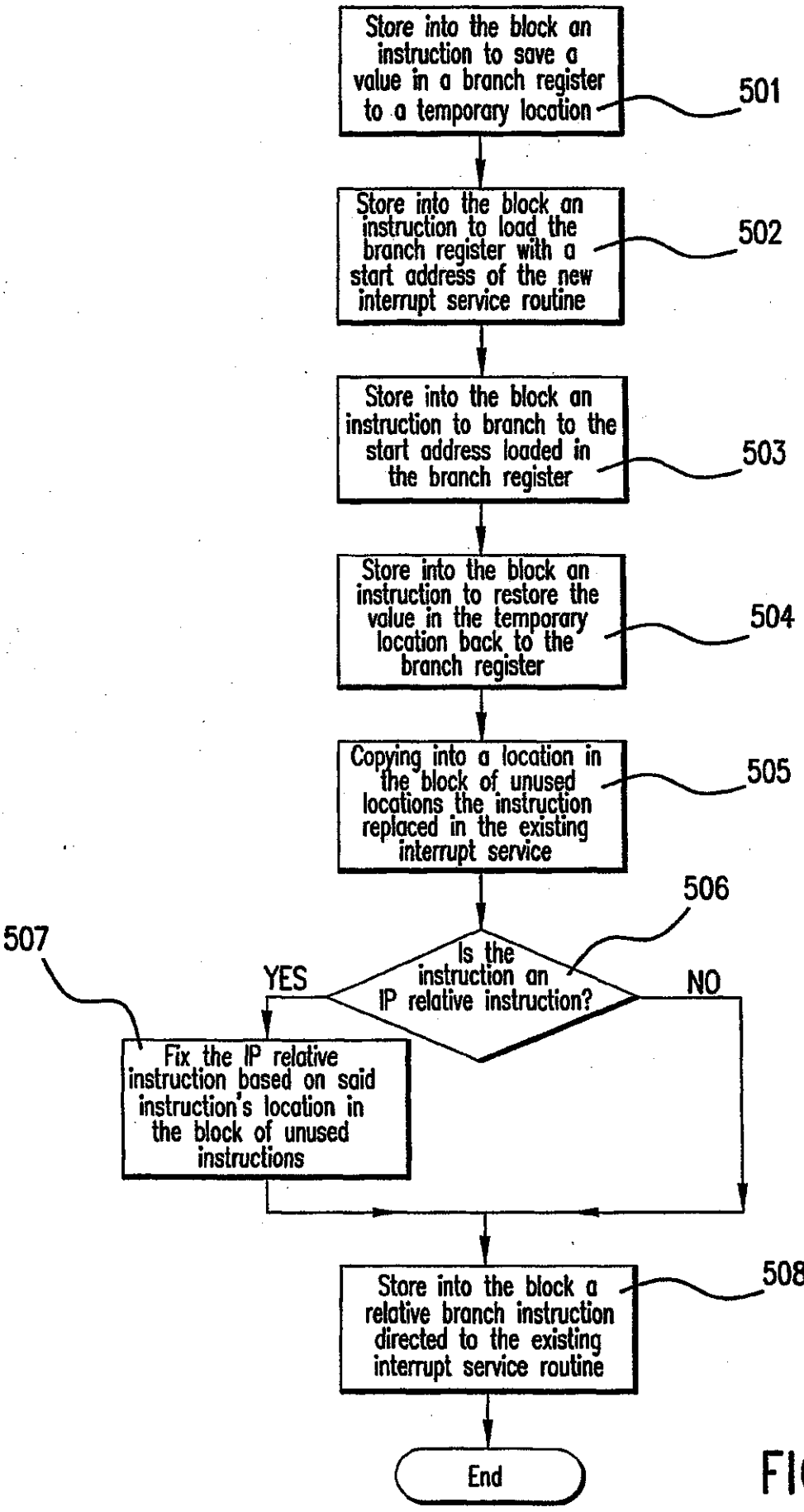

Store into the block an instruction to save a value in a branch register to a temporary location
501
Store into the block an instruction to load the branch register with a start address of the new interrupt service routine
502
Store into the block an instruction to branch to the start address loaded in the branch register
503
Store into the block an instruction to restore the value in the temporary location back to the branch register
504
Copying into a location in the block of unused locations the instruction replaced in the existing interrupt service
505
506
Is the instruction an IP relative instruction?
YES
NO
507
Fix the IP relative instruction based on said instruction's location in the block of unused instructions
Store into the block a relative branch instruction directed to the existing interrupt service routine
508
End

FIG.5

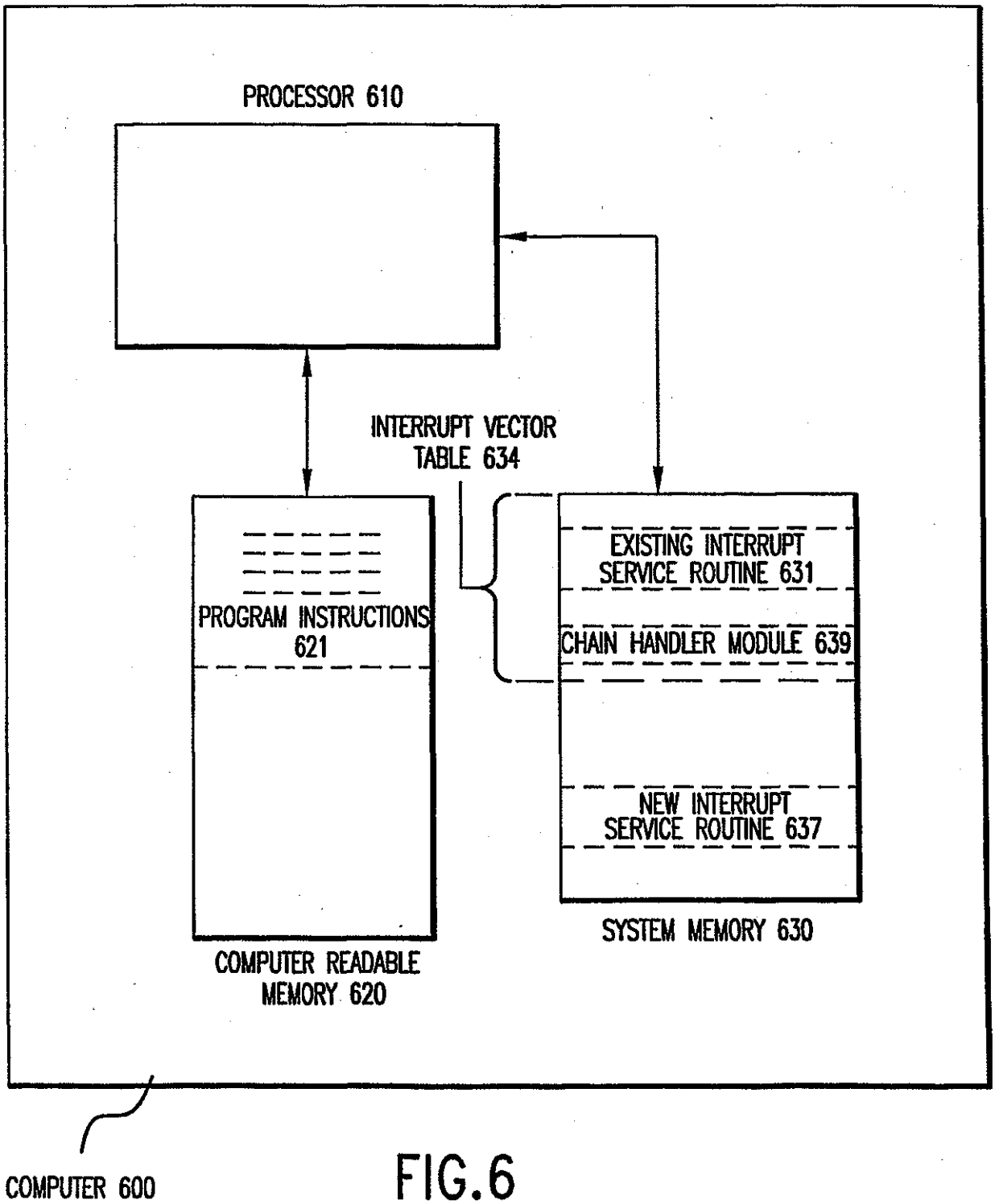

PROCESSOR 610
INTERRUPT VECTOR TABLE 634
PROGRAM INSTRUCTIONS 621
COMPUTER READABLE MEMORY 620
EXISTING INTERRUPT SERVICE ROUTINE 631
CHAIN HANDLER MODULE 639
NEW INTERRUPT SERVICE ROUTINE 637
SYSTEM MEMORY 630
COMPUTER 600

FIG.6