

G00002

103103



163163

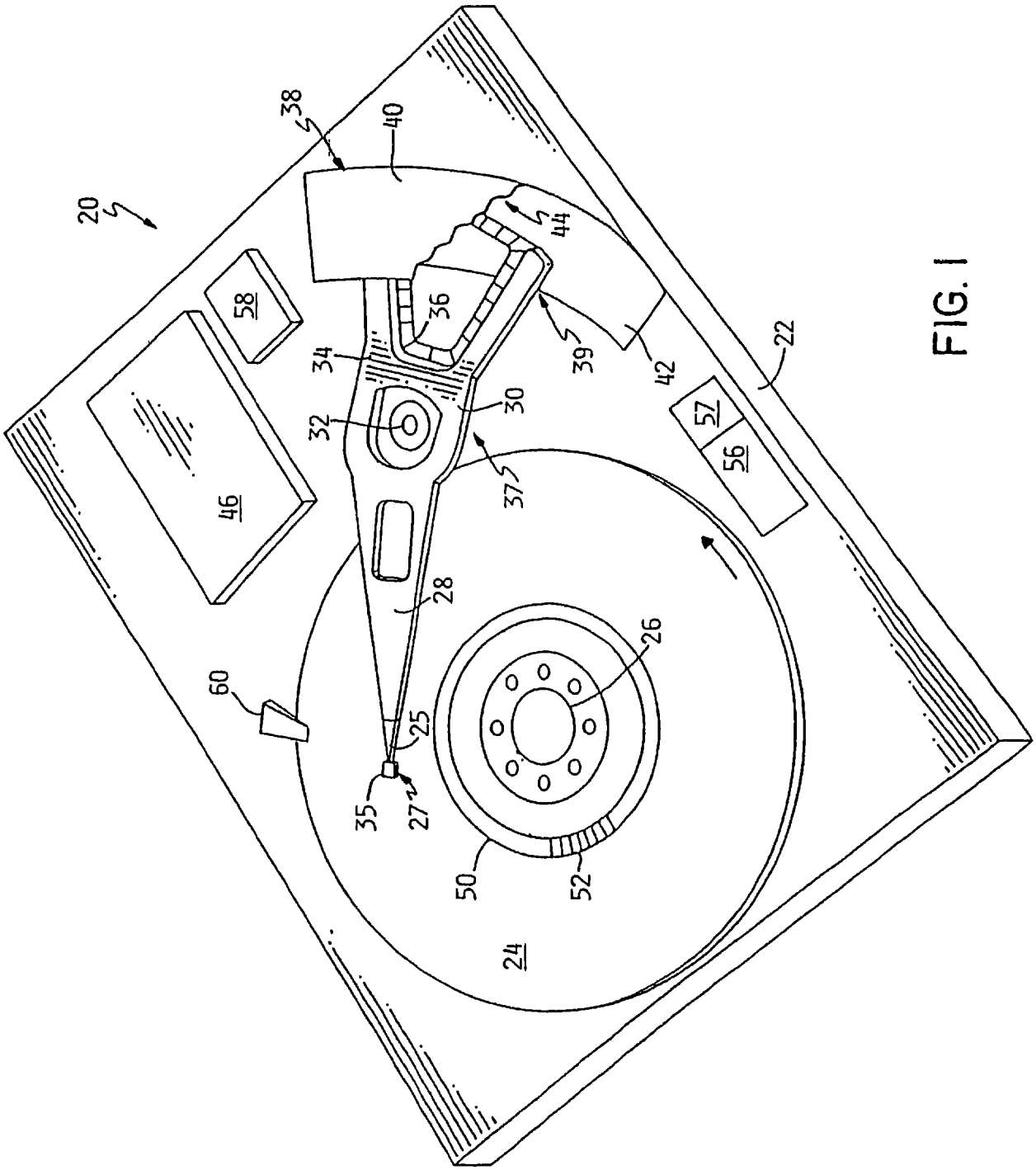


FIG. 1

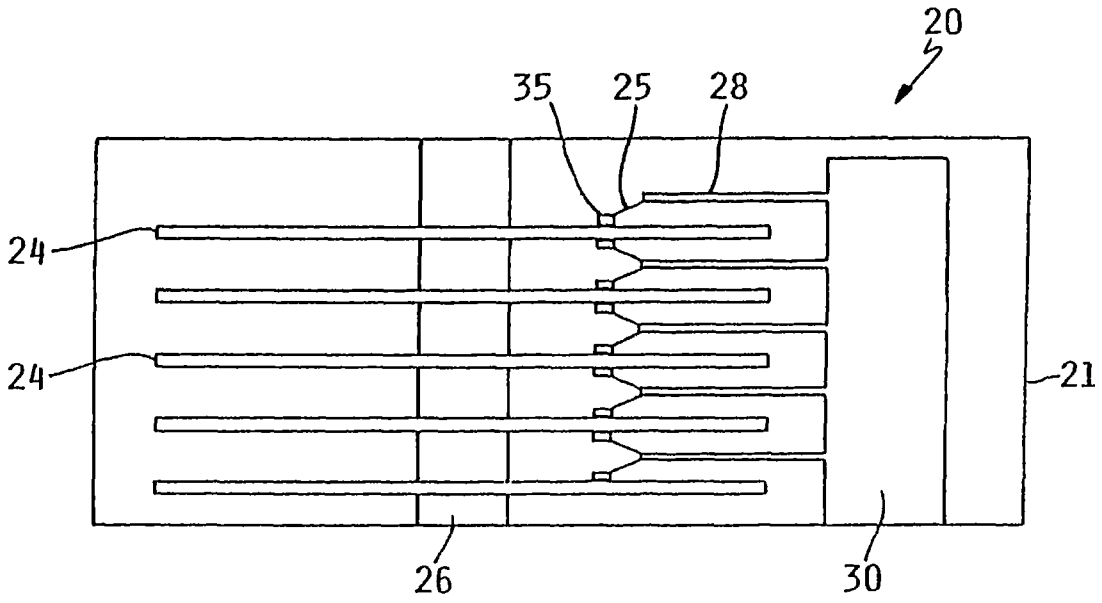


FIG. 2

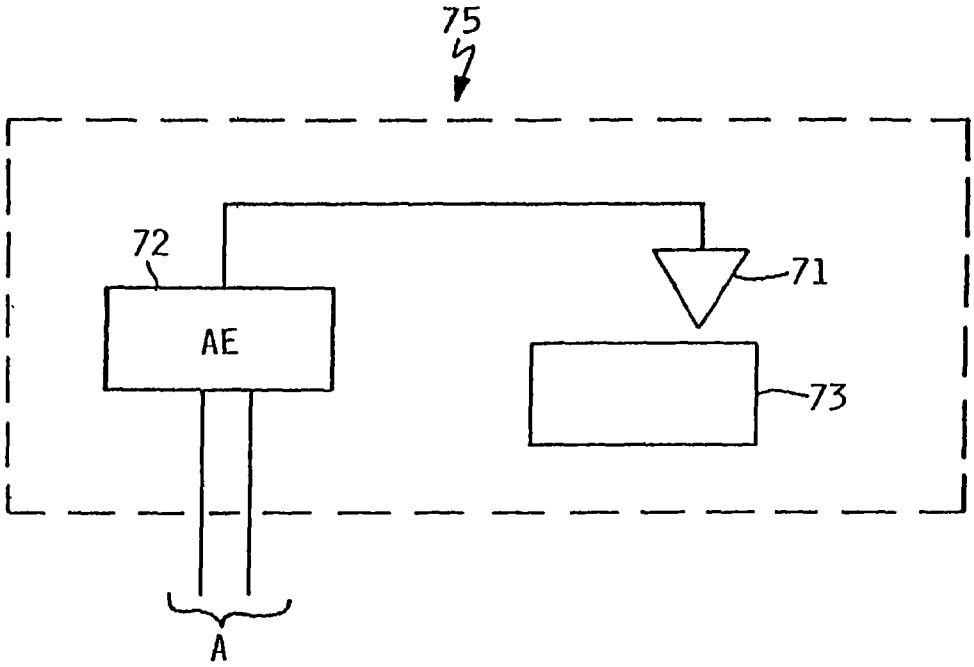


FIG. 3A

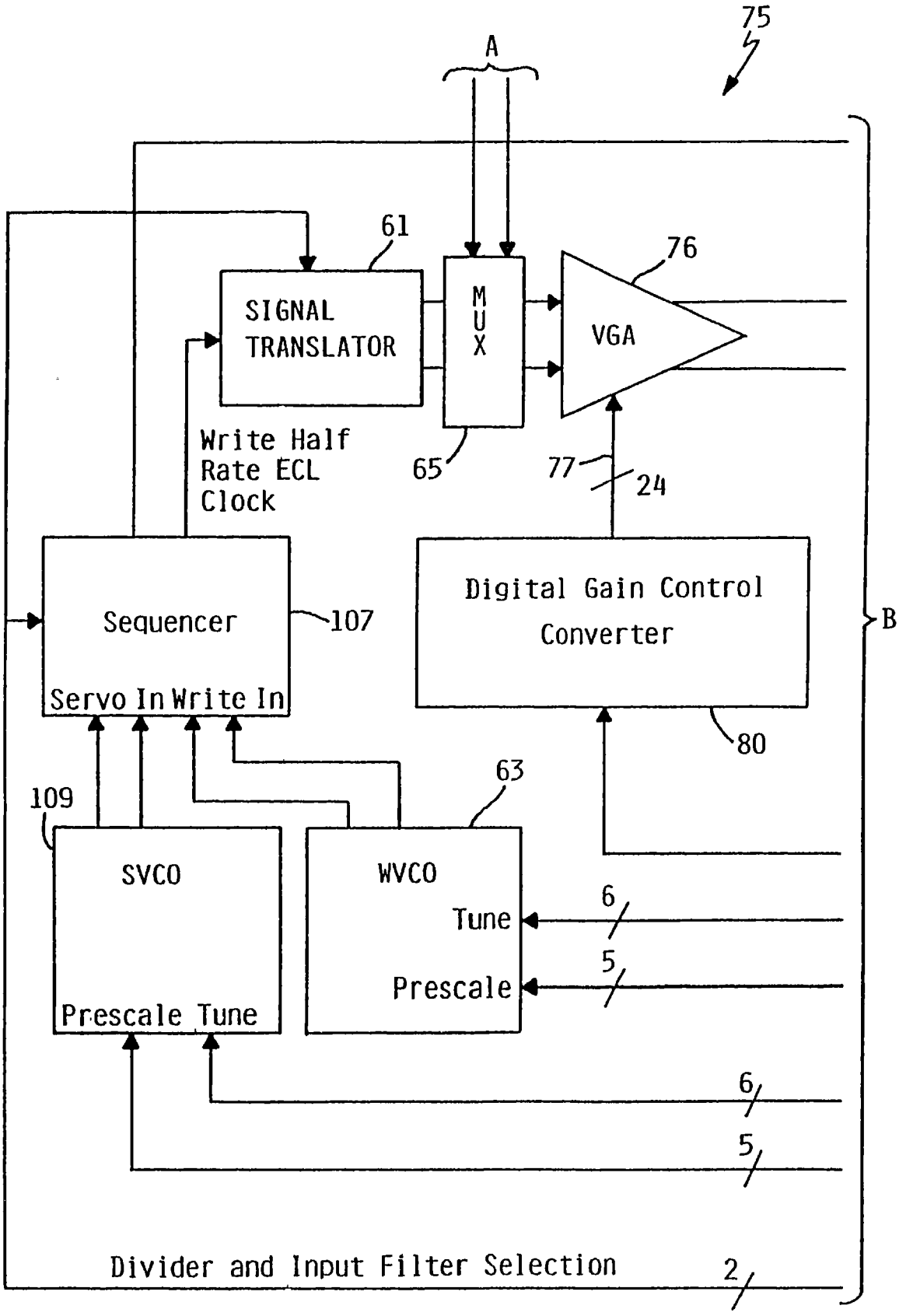

75
A
61
76
SIGNAL TRANSLATOR
MUX
VGA
Write Half Rate ECL Clock
65
77
24
Sequencer
107
Servo In Write In
Digital Gain Control Converter
B
80
109
63
SVCO
WVCO
Tune
6
Prescale
5
Prescale Tune
6
5
Divider and Input Filter Selection
2

FIG. 3B

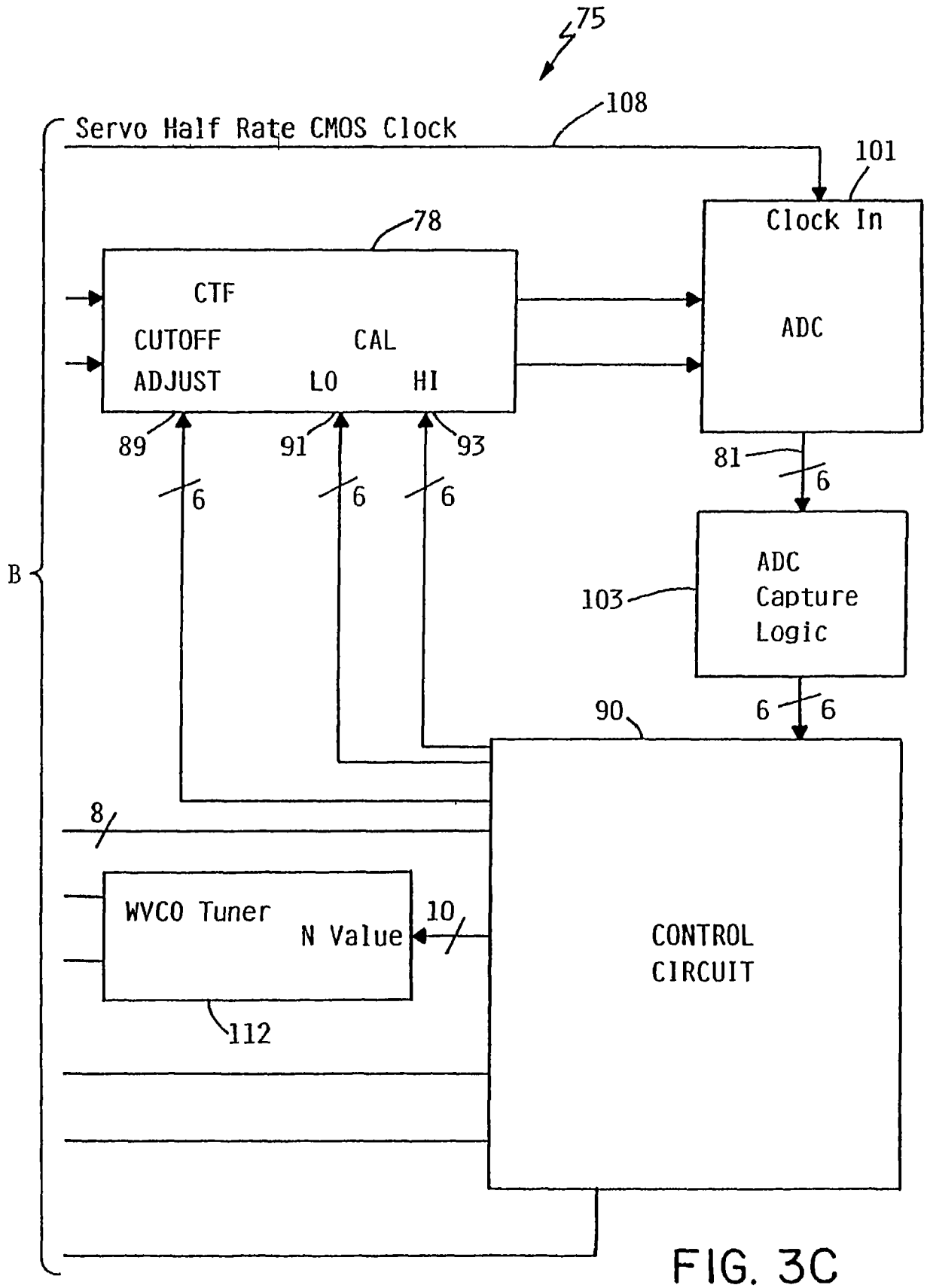

75
108
Servo Half Rate CMOS Clock
101
Clock In
78
CTF
CUTOFF
ADJUST
CAL
LO
HI
ADC
89
91
93
81
6
6
6
6
6
ADC
Capture
Logic
103
B
90
6
6
8
WVCO Tuner
N Value
10
CONTROL
CIRCUIT
112

FIG. 3C

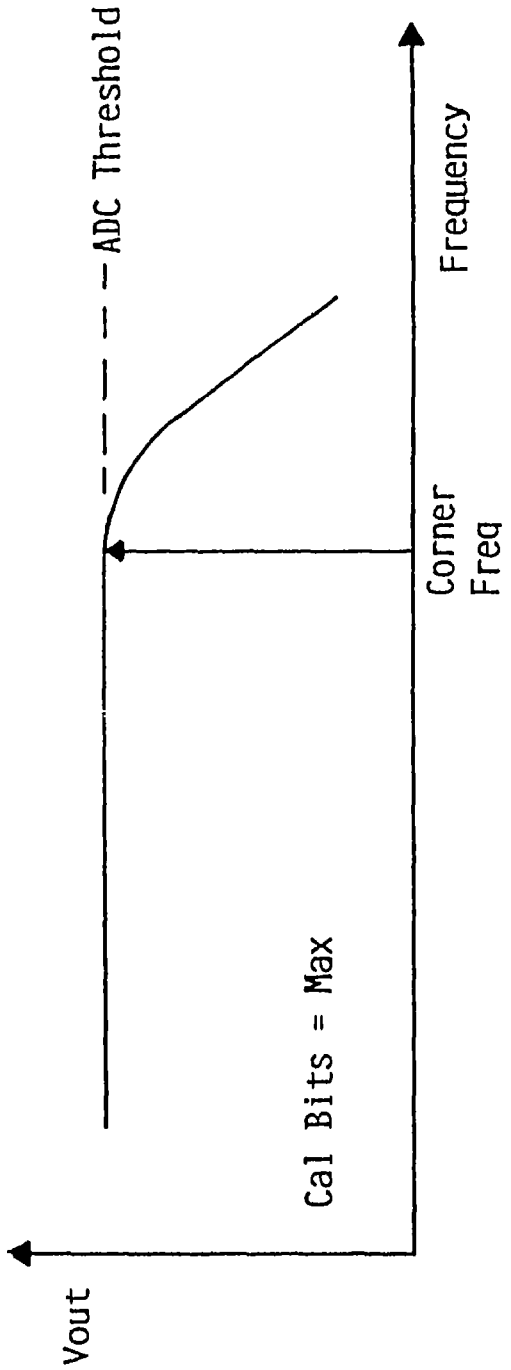

Set Digital Gain to stop at ADC Threshold
ADC Threshold
Frequency
Corner Freq
Cal Bits = Max
Vout

FIG. 4

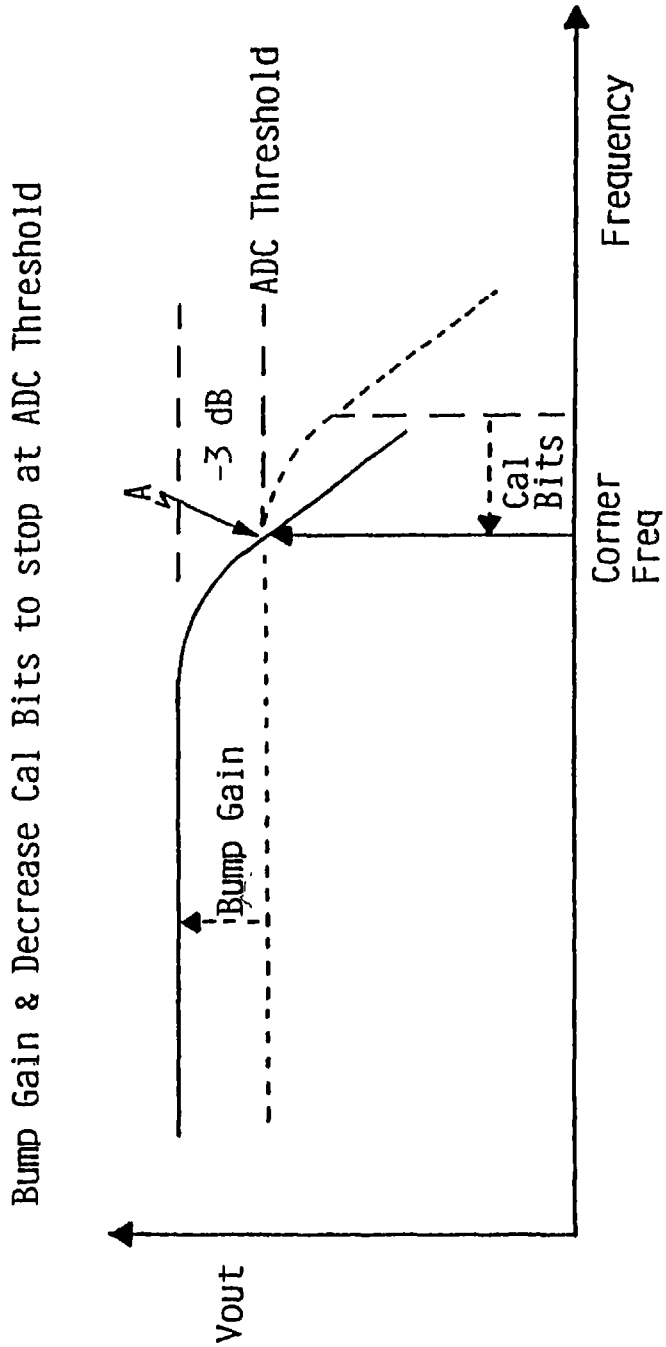

Bump Gain & Decrease Cal Bits to stop at ADC Threshold
Vout
Frequency
ADC Threshold
-3 dB
A
Bump Gain
Cal Bits
Corner Freq

FIG. 5

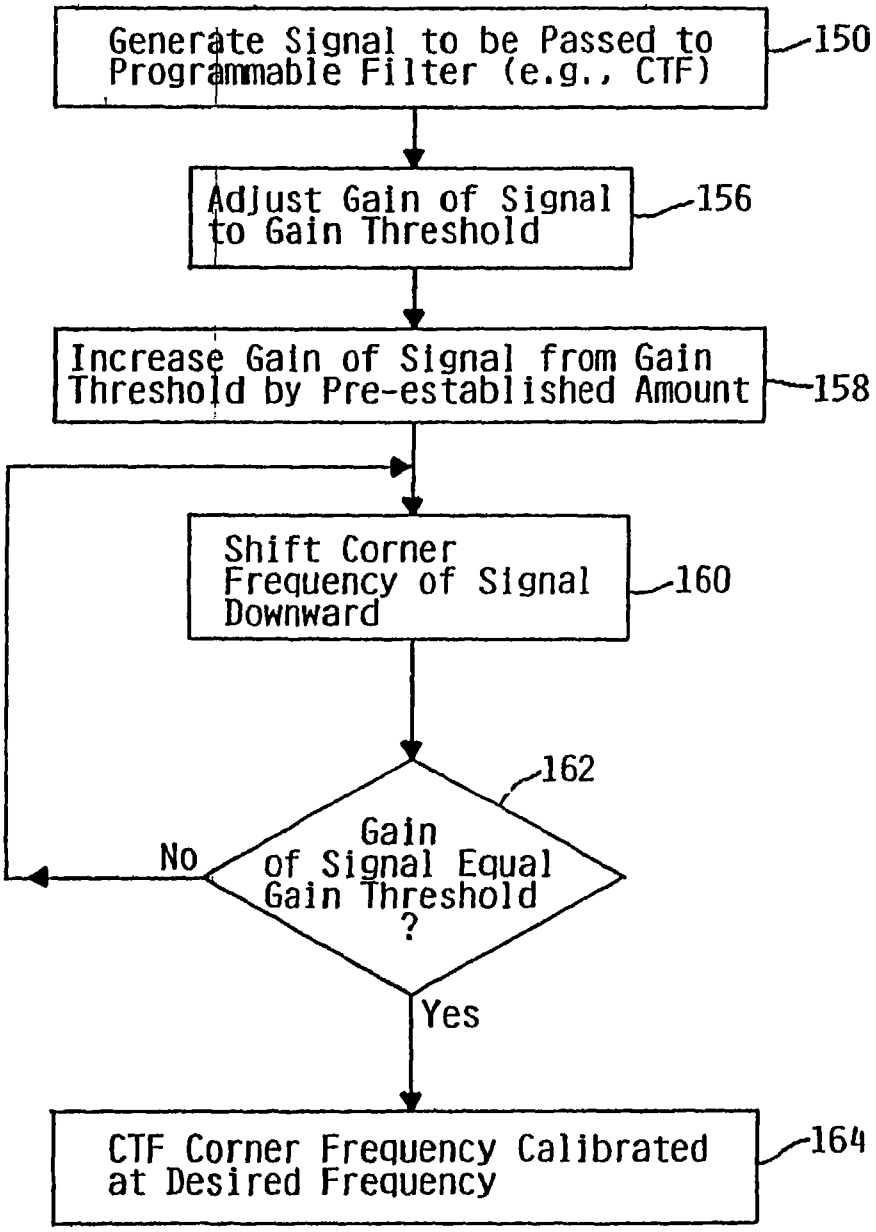

Generate Signal to be Passed to Programmable Filter (e.g., CTF)
150
Adjust Gain of Signal to Gain Threshold
156
Increase Gain of Signal from Gain Threshold by Pre-established Amount
158
Shift Corner Frequency of Signal Downward
160
162
Gain of Signal Equal Gain Threshold ?
No
Yes
CTF Corner Frequency Calibrated at Desired Frequency
164

FIG. 6

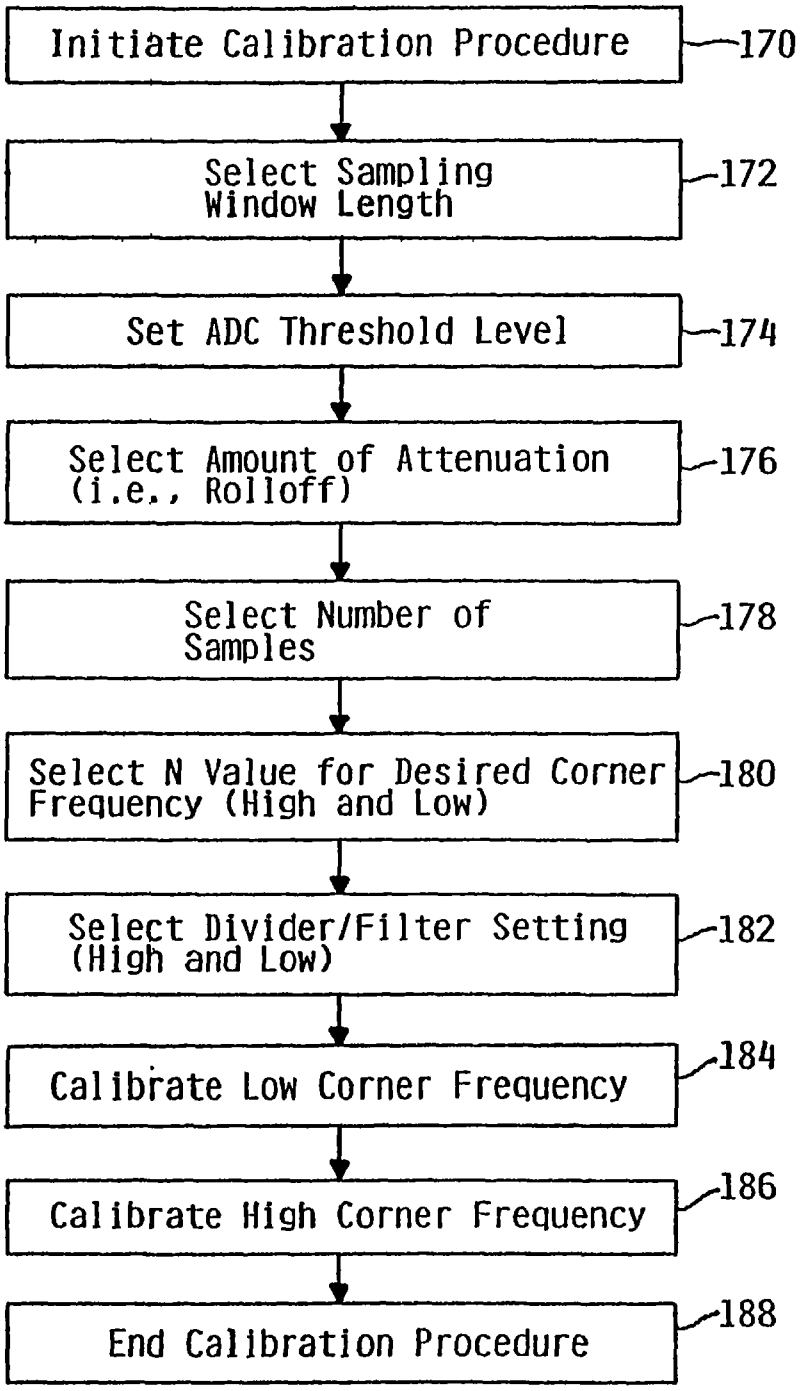

Initiate Calibration Procedure
170
Select Sampling Window Length
172
Set ADC Threshold Level
174
Select Amount of Attenuation (i.e., Rolloff)
176
Select Number of Samples
178
Select N Value for Desired Corner Frequency (High and Low)
180
Select Divider/Filter Setting (High and Low)
182
Calibrate Low Corner Frequency
184
Calibrate High Corner Frequency
186
End Calibration Procedure
188

FIG. 7

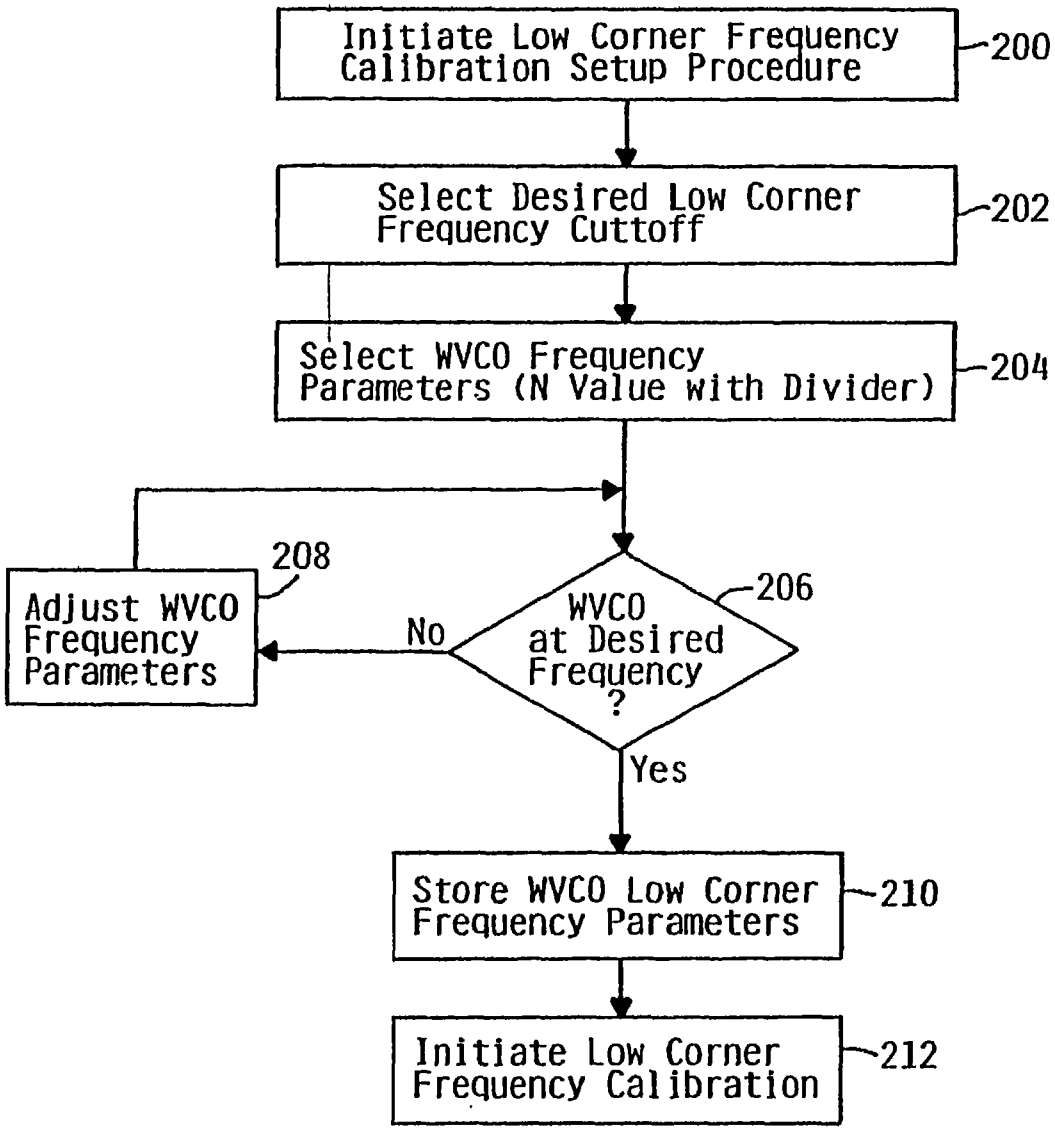

Initiate Low Corner Frequency Calibration Setup Procedure
200
Select Desired Low Corner Frequency Cuttoff
202
Select WVCO Frequency Parameters (N Value with Divider)
204
208
Adjust WVCO Frequency Parameters
No
WVCO at Desired Frequency ?
206
Yes
Store WVCO Low Corner Frequency Parameters
210
Initiate Low Corner Frequency Calibration
212

FIG. 8

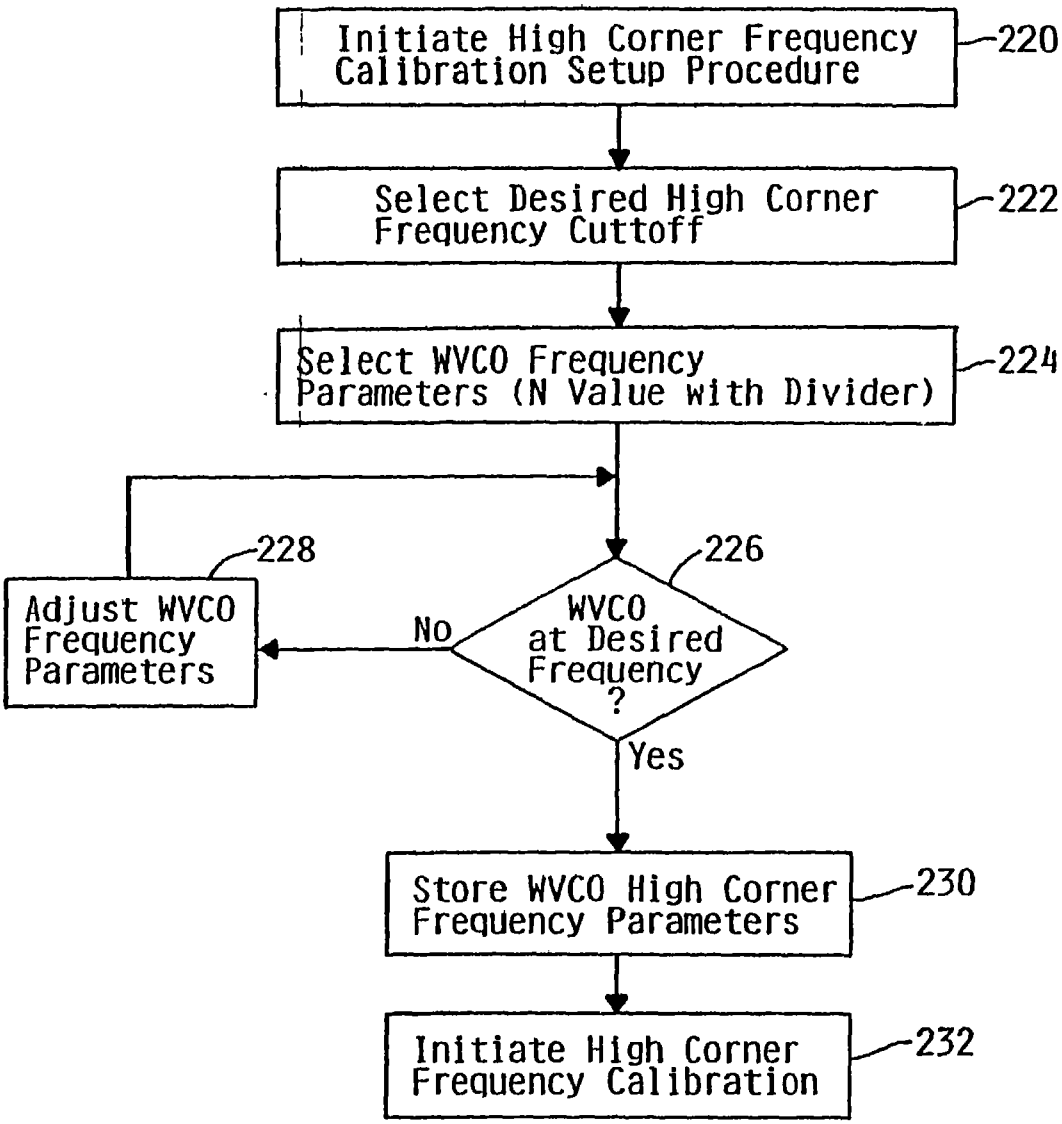

Initiate High Corner Frequency Calibration Setup Procedure
220
Select Desired High Corner Frequency Cuttoff
222
Select WVCO Frequency Parameters (N Value with Divider)
224
228
226
Adjust WVCO Frequency Parameters
No
WVCO at Desired Frequency ?
Yes
Store WVCO High Corner Frequency Parameters
230
Initiate High Corner Frequency Calibration
232

FIG. 9

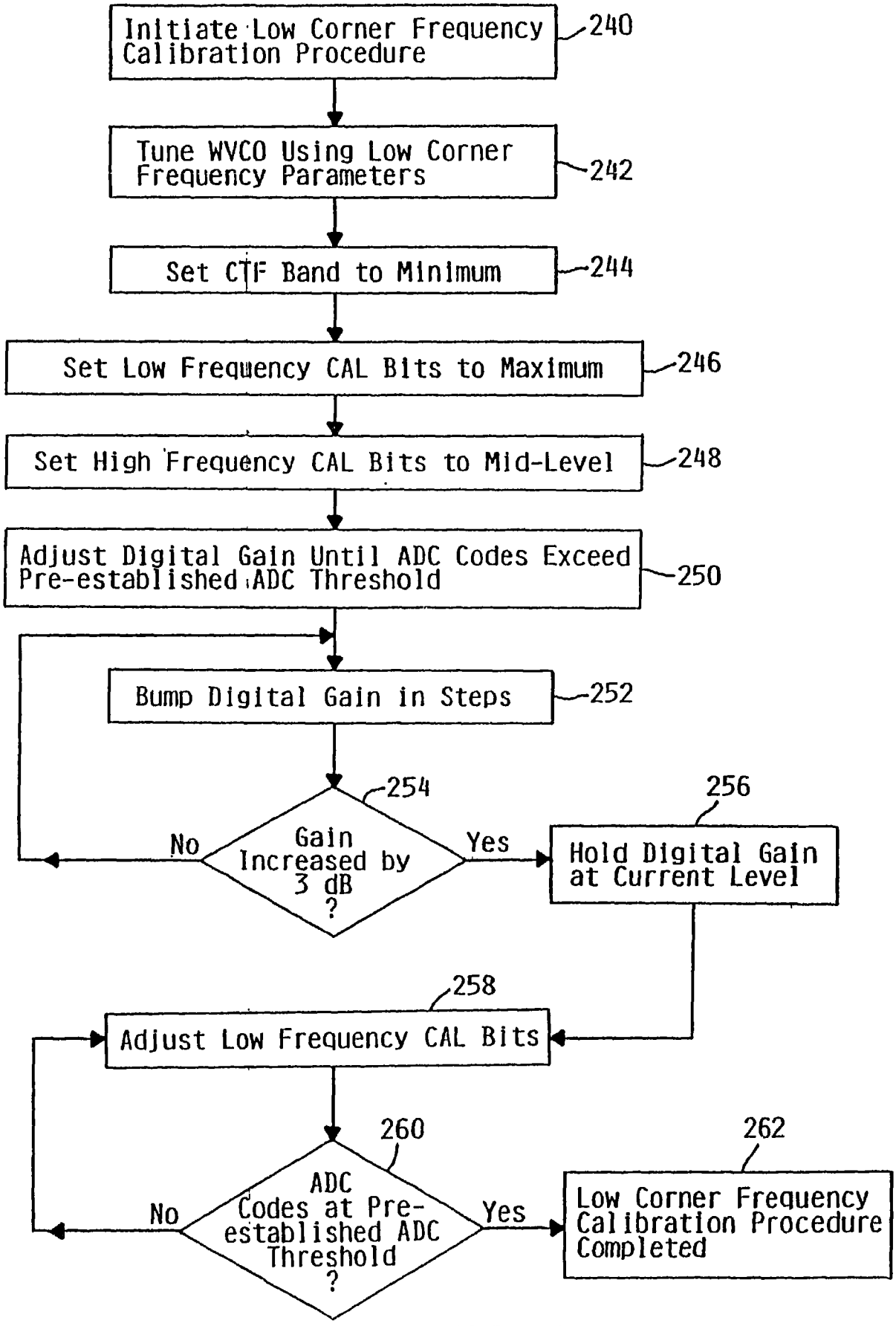

Initiate Low Corner Frequency Calibration Procedure
240
Tune WVCO Using Low Corner Frequency Parameters
242
Set CTF Band to Minimum
244
Set Low Frequency CAL Bits to Maximum
246
Set High Frequency CAL Bits to Mid-Level
248
Adjust Digital Gain Until ADC Codes Exceed Pre-established ADC Threshold
250
Bump Digital Gain in Steps
252
254
Gain Increased by 3 dB ?
No
Yes
256
Hold Digital Gain at Current Level
258
Adjust Low Frequency CAL Bits
260
ADC Codes at Pre-established ADC Threshold ?
No
Yes
262
Low Corner Frequency Calibration Procedure Completed

FIG. 10

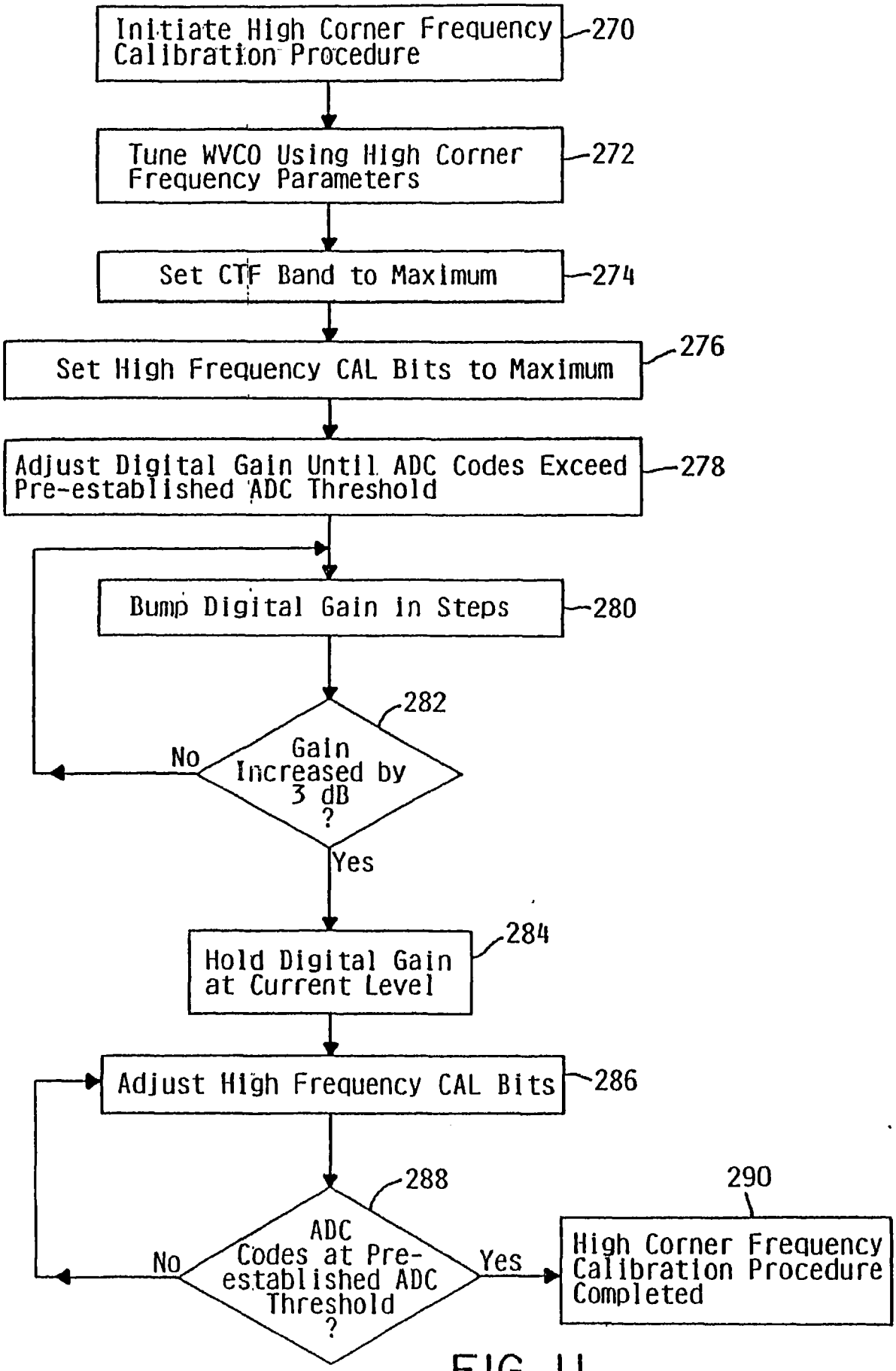

Initiate High Corner Frequency Calibration Procedure
270
Tune WVCO Using High Corner Frequency Parameters
272
Set CTF Band to Maximum
274
Set High Frequency CAL Bits to Maximum
276
Adjust Digital Gain Until ADC Codes Exceed Pre-established ADC Threshold
278
Bump Digital Gain in Steps
280
282
Gain Increased by 3 dB ?
No
Yes
Hold Digital Gain at Current Level
284
Adjust High Frequency CAL Bits
286
288
ADC Codes at Pre-established ADC Threshold ?
No
Yes
290
High Corner Frequency Calibration Procedure Completed

FIG. 11