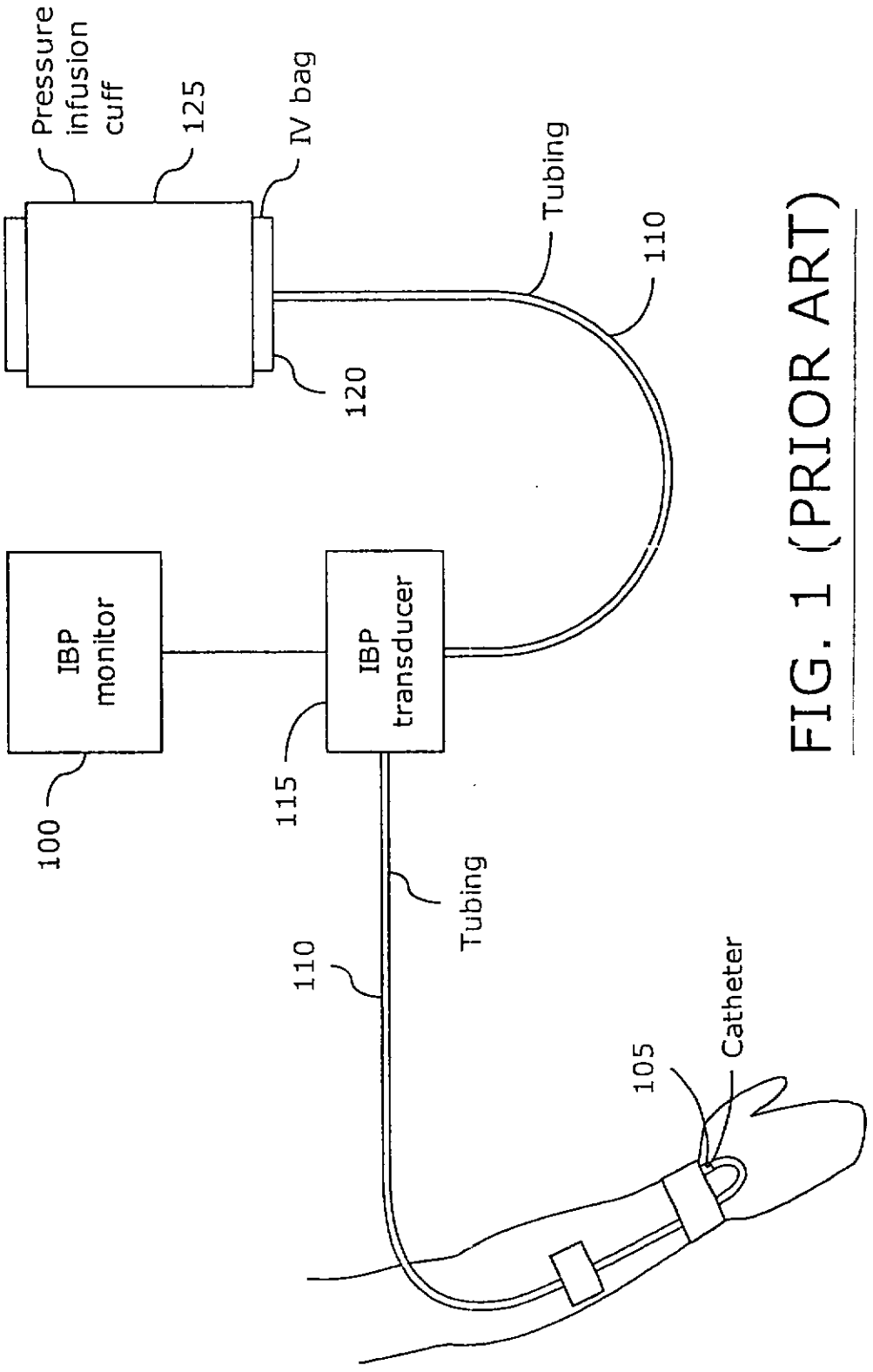


FIG. 1 (PRIOR ART)

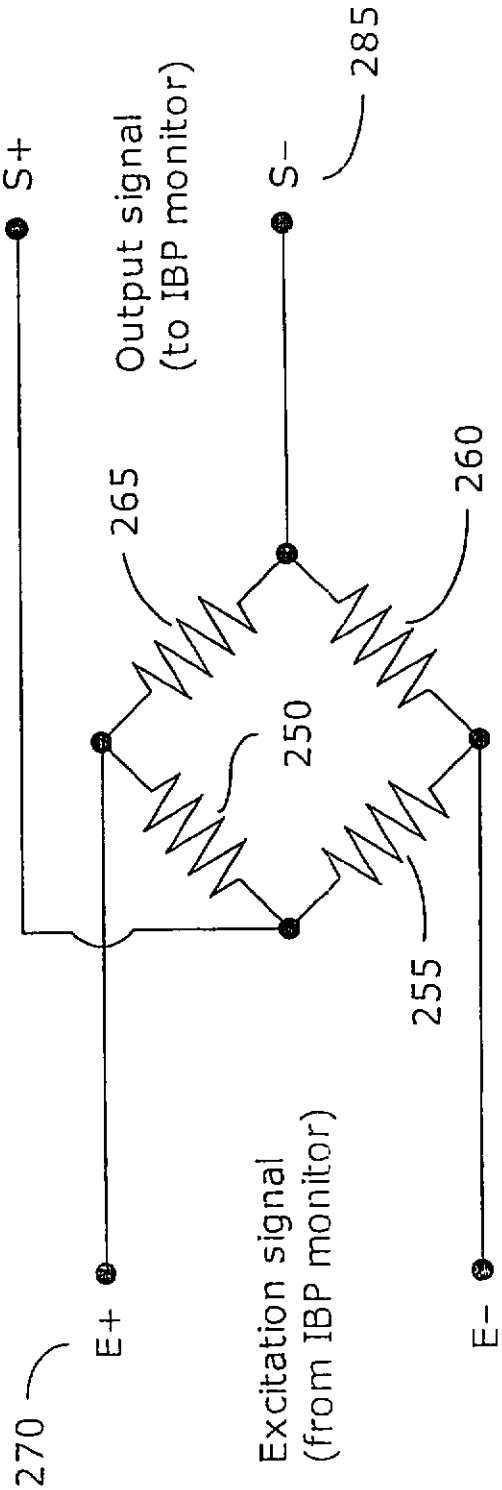


FIG. 4 (PRIOR ART)

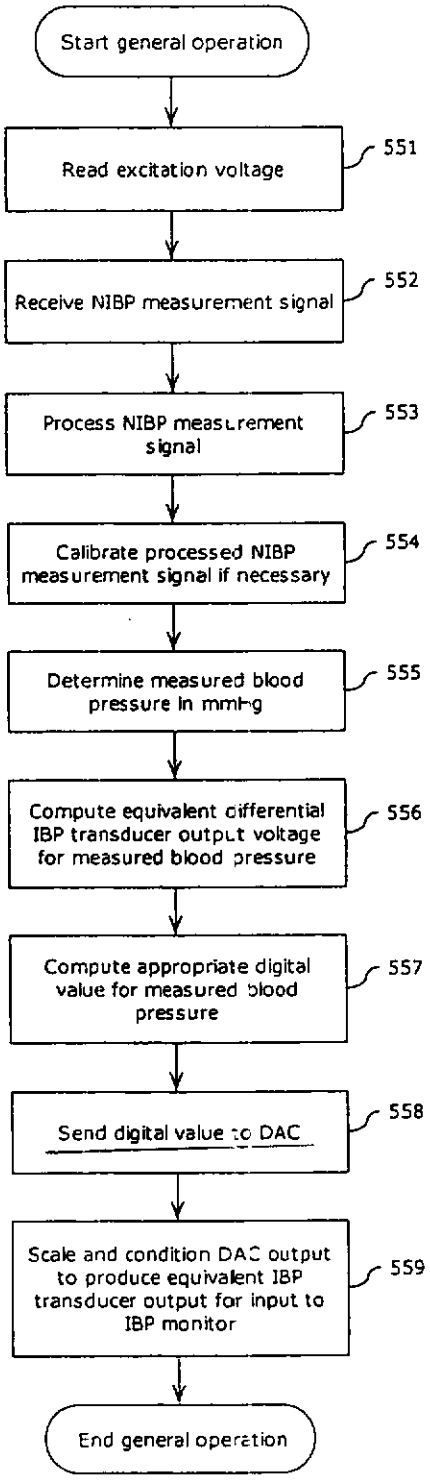

Start general operation
Read excitation voltage
551
Receive NIBP measurement signal
552
Process NIBP measurement signal
553
Calibrate processed NIBP measurement signal if necessary
554
Determine measured blood pressure in mmHg
555
Compute equivalent differential IBP transducer output voltage for measured blood pressure
556
Compute appropriate digital value for measured blood pressure
557
Send digital value to DAC
558
Scale and condition DAC output to produce equivalent IBP transducer output for input to IBP monitor
559
End general operation

FIG. 10

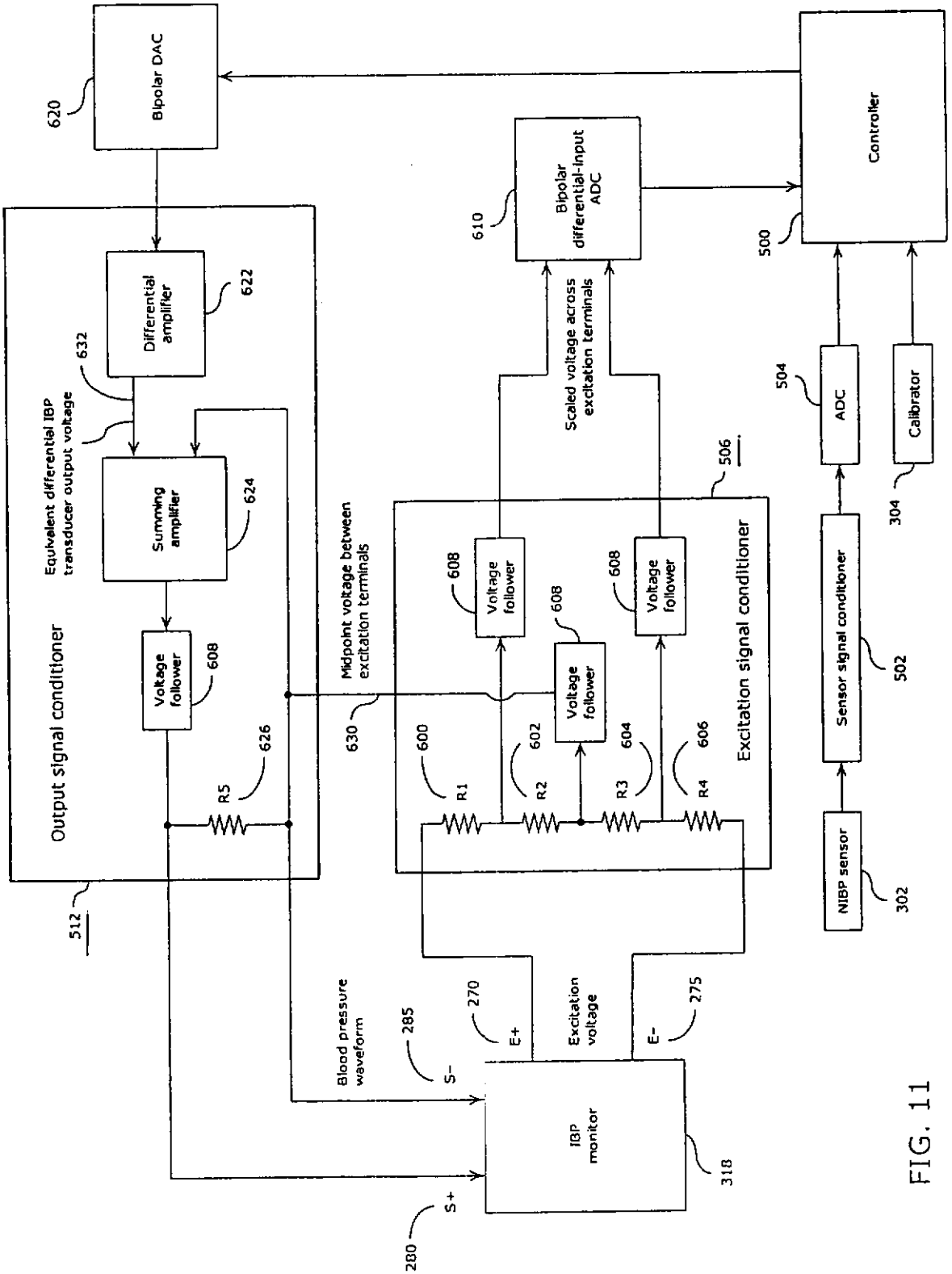

Bipolar DAC
620
Controller
500
Bipolar differential-input ADC
610
Differential amplifier
622
632
Equivalent differential IBP transducer output voltage
Summing amplifier
624
Output signal conditioner
Voltage follower
608
626
R5
512
Midpoint voltage between excitation terminals
630
Scaled voltage across excitation terminals
506
Excitation signal conditioner
600
R1
602
R2
604
R3
606
R4
ADC
504
Calibrator
304
Sensor signal conditioner
502
NIBP sensor
302
Blood pressure waveform
285
S-
270
E+
Excitation voltage
E-
275
IBP monitor
318
S+
280

FIG. 11

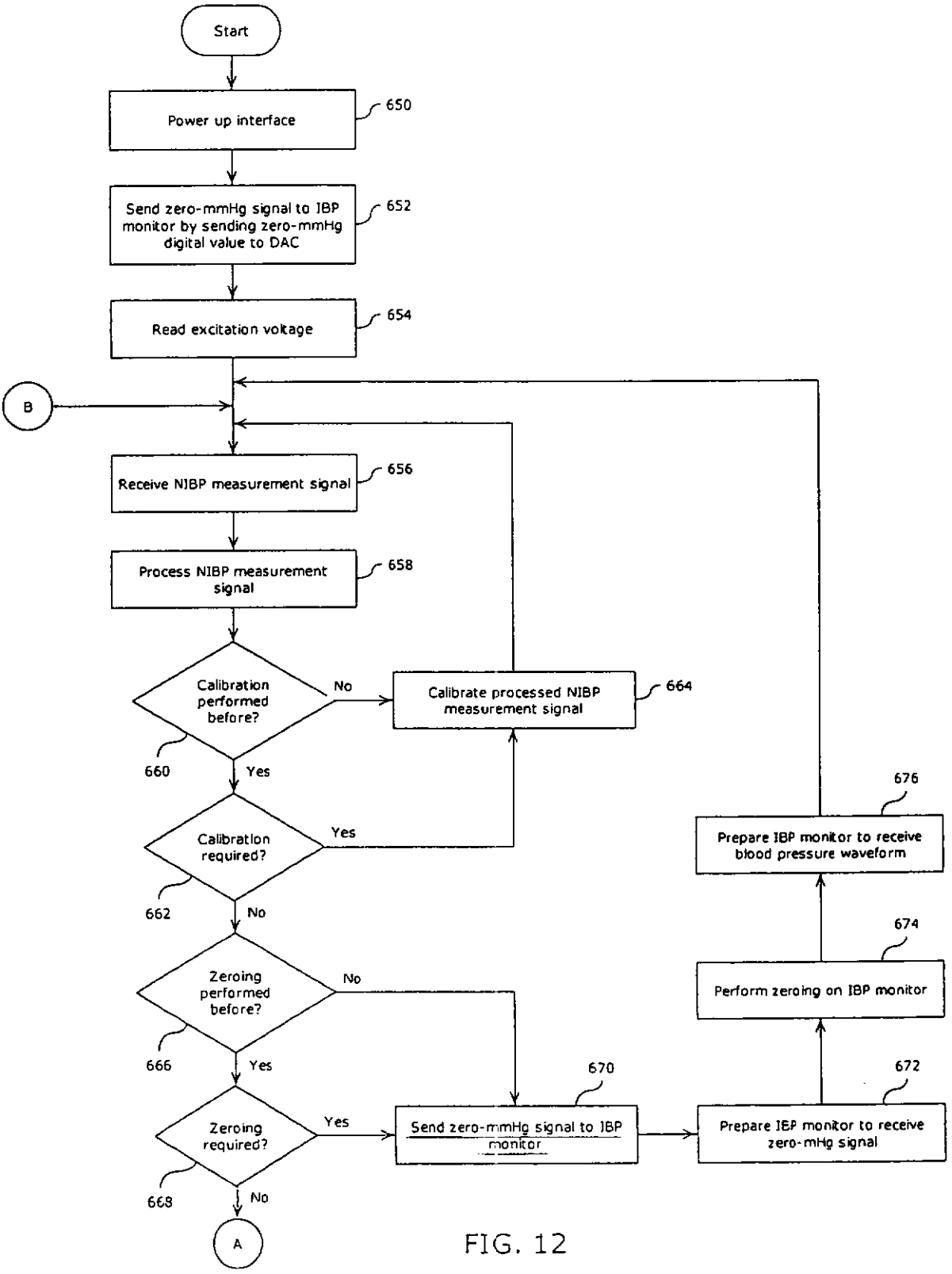

Start
Power up interface
650
Send zero-mmHg signal to IBP monitor by sending zero-mmHg digital value to DAC
652
Read excitation voltage
654
B
Receive NIBP measurement signal
656
Process NIBP measurement signal
658
Calibration performed before?
No
Calibrate processed NIBP measurement signal
664
660
Yes
Calibration required?
Yes
662
No
Zeroing performed before?
No
666
Yes
Zeroing required?
Yes
Send zero-mmHg signal to IBP monitor
670
668
No
A
Prepare IBP monitor to receive zero-mHg signal
672
Perform zeroing on IBP monitor
674
Prepare IBP monitor to receive blood pressure waveform
676

FIG. 12