
100
IN
ATTENUATION CIRCUIT
OUT

FIG.1

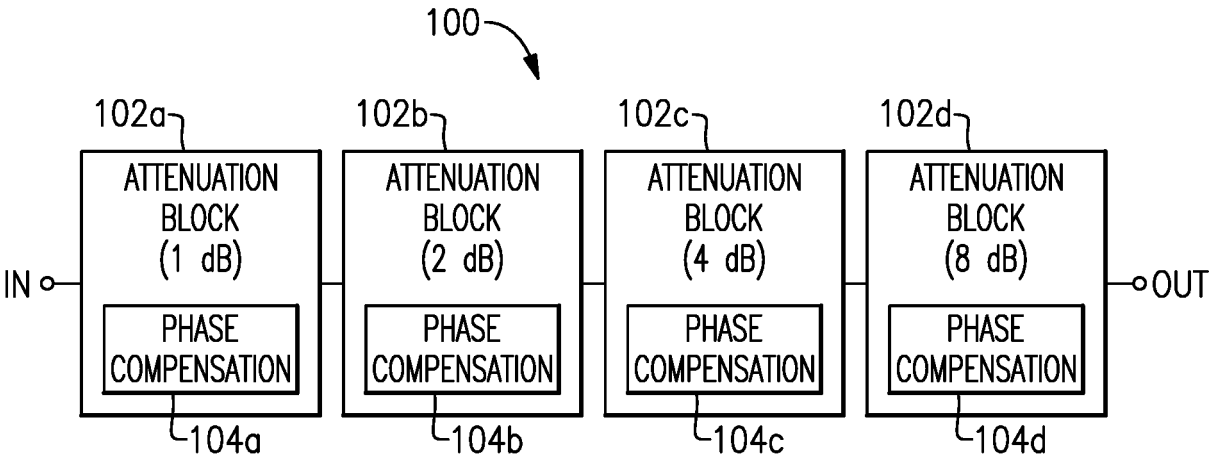

100
102a
102b
102c
102d
IN
ATTENUATION BLOCK (1 dB)
ATTENUATION BLOCK (2 dB)
ATTENUATION BLOCK (4 dB)
ATTENUATION BLOCK (8 dB)
PHASE COMPENSATION
PHASE COMPENSATION
PHASE COMPENSATION
PHASE COMPENSATION
OUT
104a
104b
104c
104d

FIG.2

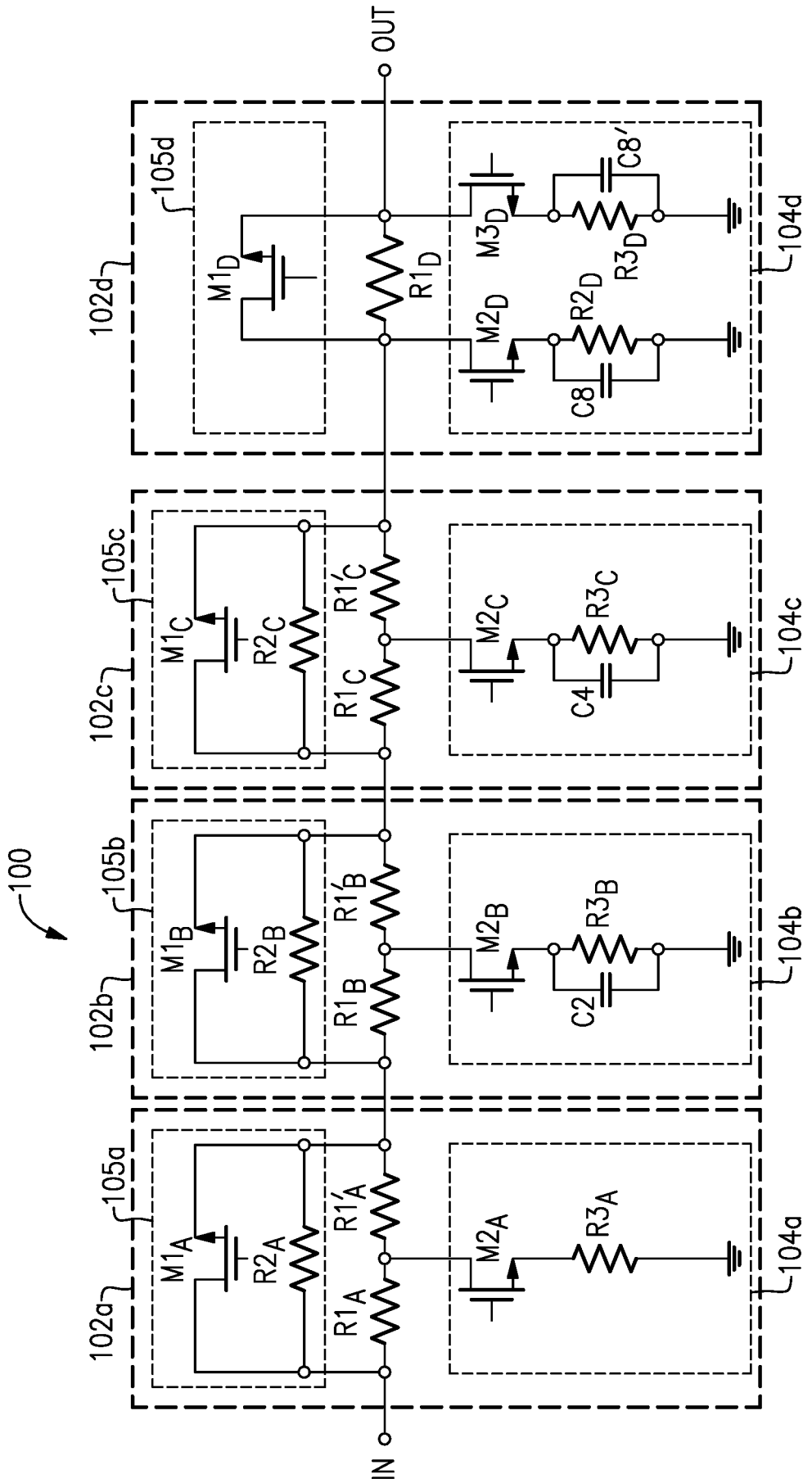

100
IN
OUT
102a
102b
102c
102d
104a
104b
104c
104d
105a
105b
105c
105d
M1A
R2A
R1A
R1'A
M2A
R3A
M1B
R2B
R1B
R1'B
M2B
R3B
C2
M1C
R2C
R1C
R1'C
M2C
R3C
C4
M1D
R1D
M2D
R2D
C8
M3D
R3D
C8'

FIG.3

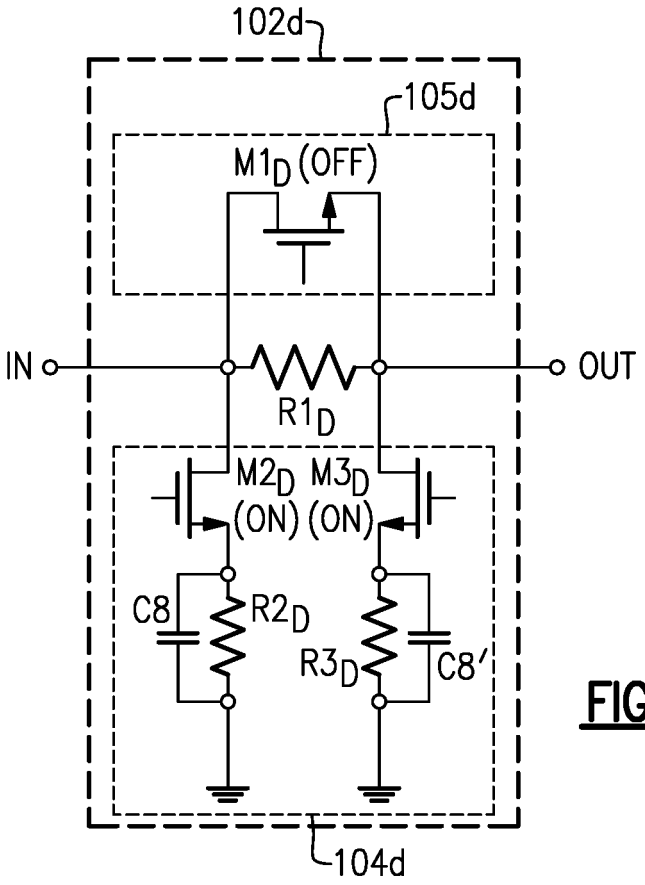

102d
105d
M1D (OFF)
IN
OUT
R1D
M2D M3D
(ON) (ON)
C8
R2D
R3D
C8'
104d

FIG.4

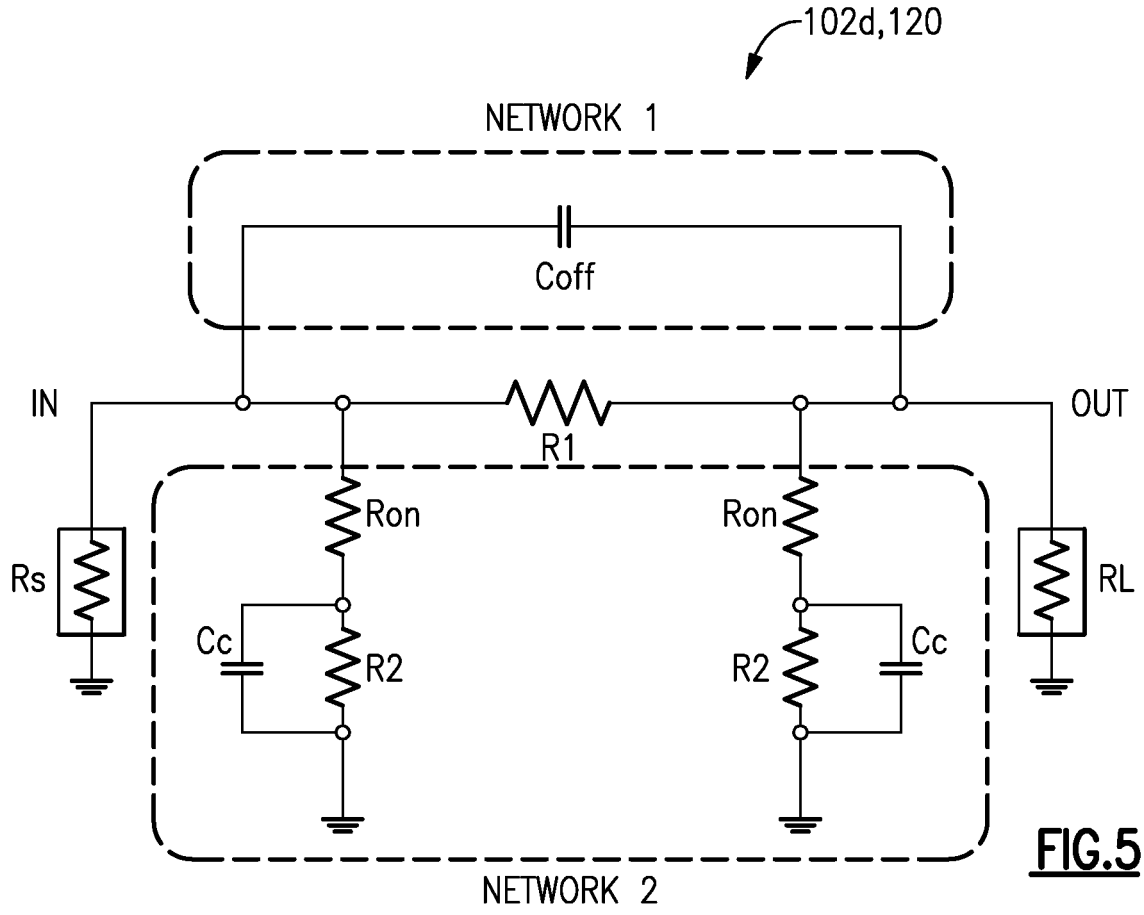

102d,120
NETWORK 1
Coff
IN
OUT
R1
Ron
Ron
Rs
RL
Cc
R2
R2
Cc
NETWORK 2

FIG.5

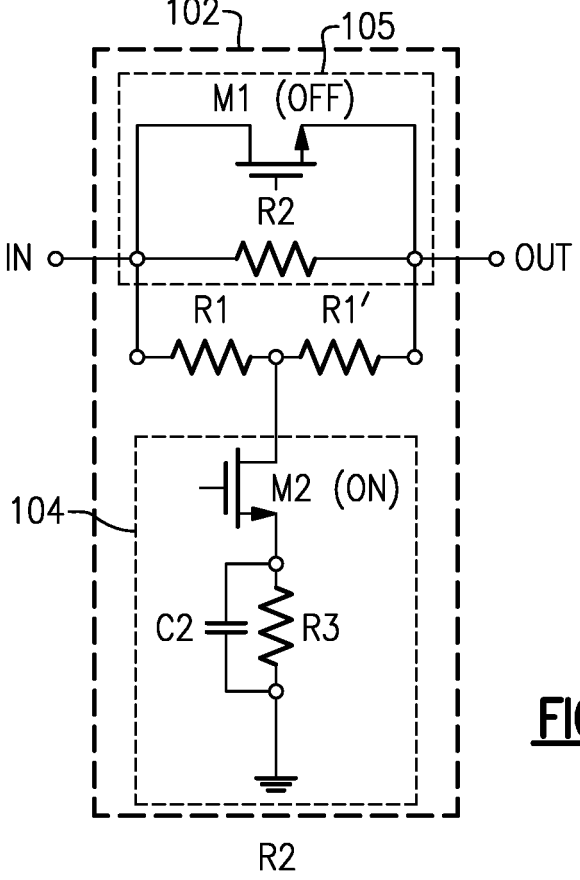

102
105
M1 (OFF)
R2
IN
OUT
R1
R1′
M2 (ON)
104
C2
R3
R2

FIG.6

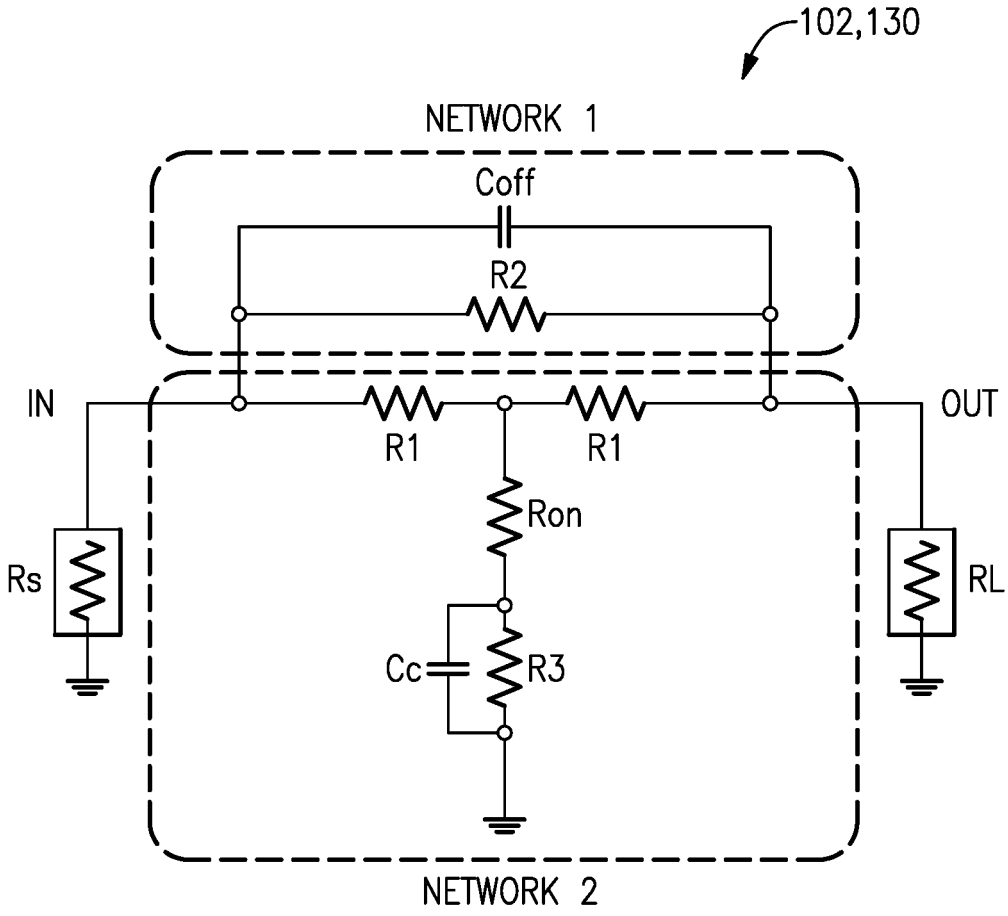

102,130
NETWORK 1
Coff
R2
IN
R1
R1
OUT
Ron
Rs
RL
Cc
R3
NETWORK 2

FIG.7

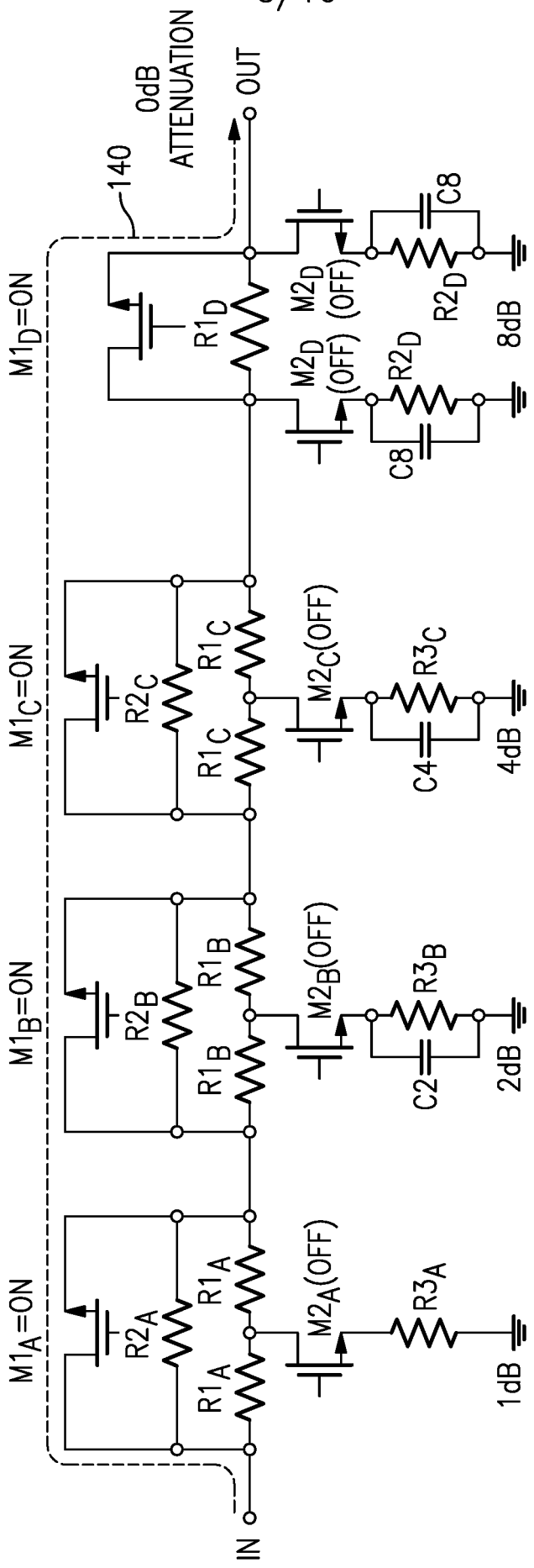

0dB ATTENUATION
OUT
140
M1D=ON
M1C=ON
M1B=ON
M1A=ON
IN
R1D
R2D
M2D (OFF)
C8
8dB
R1C
R2C
M2C(OFF)
R3C
C4
4dB
R1B
R2B
M2B(OFF)
R3B
C2
2dB
R1A
R2A
M2A(OFF)
R3A
1dB

FIG.8A

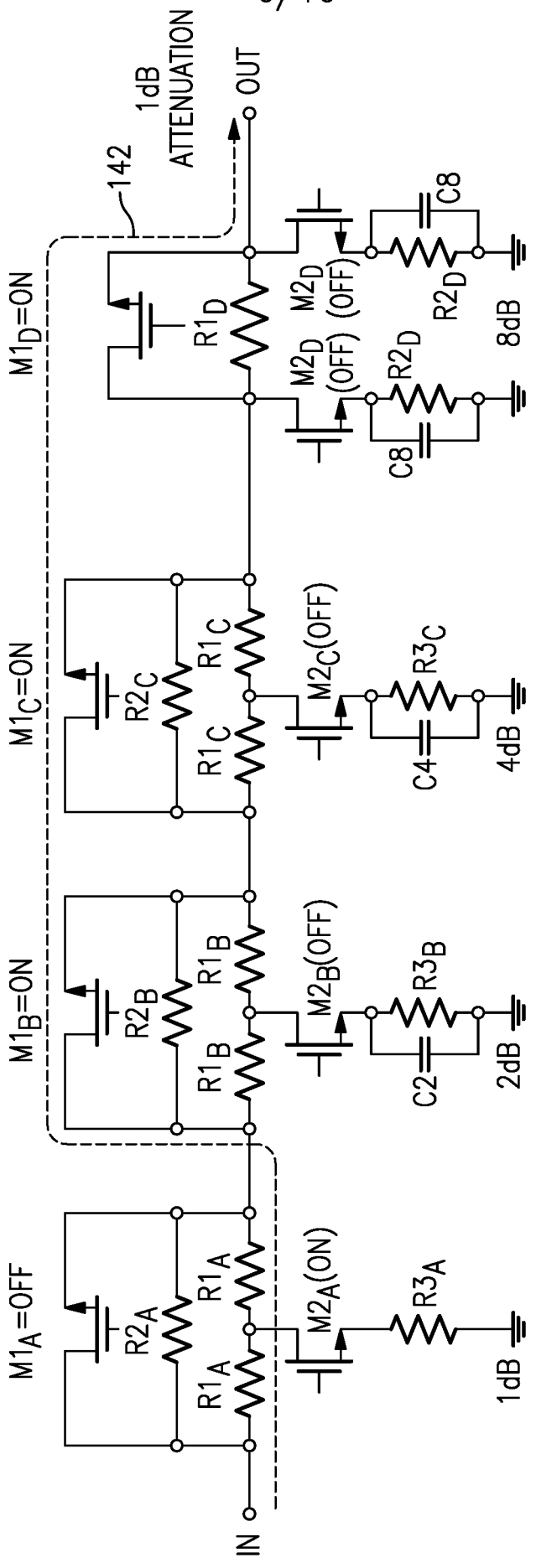

1dB ATTENUATION
OUT
142
M1D=ON
M1C=ON
M1B=ON
M1A=OFF
R1D
M2D (OFF)
R2D
C8
8dB
R1C
R2C
M2C(OFF)
R3C
C4
4dB
R1B
R2B
M2B(OFF)
R3B
C2
2dB
R1A
R2A
M2A(ON)
R3A
1dB
IN

FIG.8B

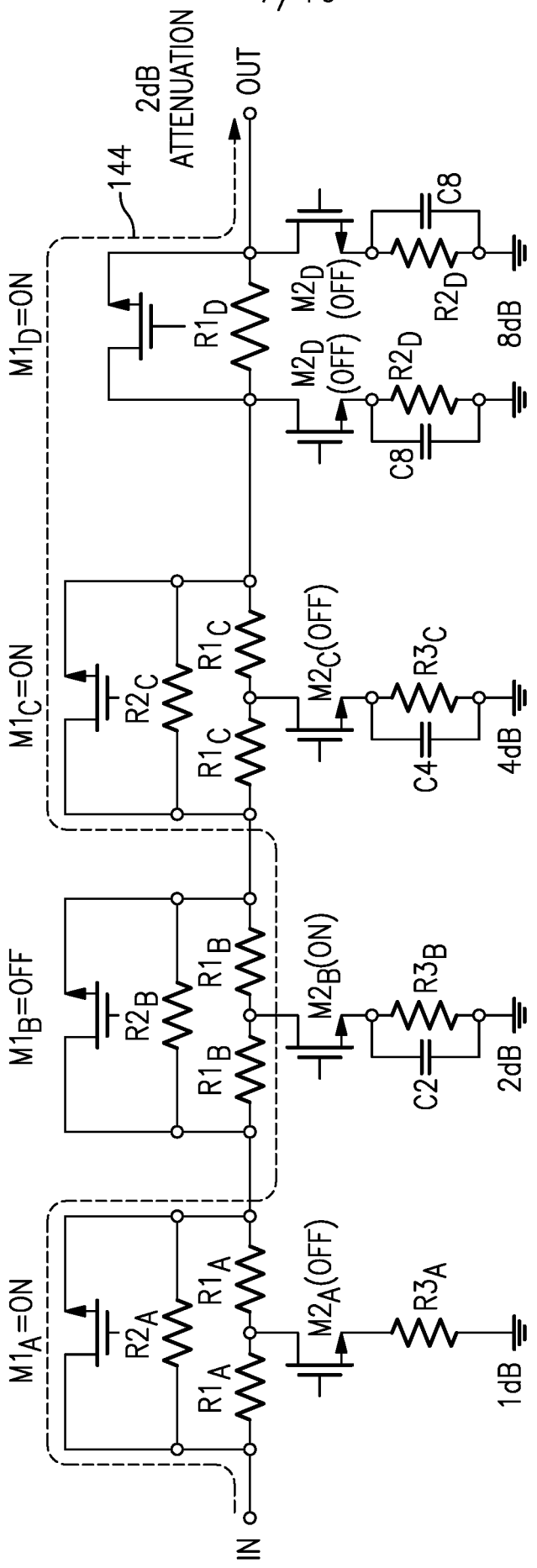

144
2dB ATTENUATION
OUT
IN
M1D=ON
M1C=ON
M1B=OFF
M1A=ON
R1D
R2D
M2D (OFF)
C8
8dB
R1C
R2C
M2C(OFF)
R3C
C4
4dB
R1B
R2B
M2B(ON)
R3B
C2
2dB
R1A
R2A
M2A(OFF)
R3A
1dB

FIG.8C

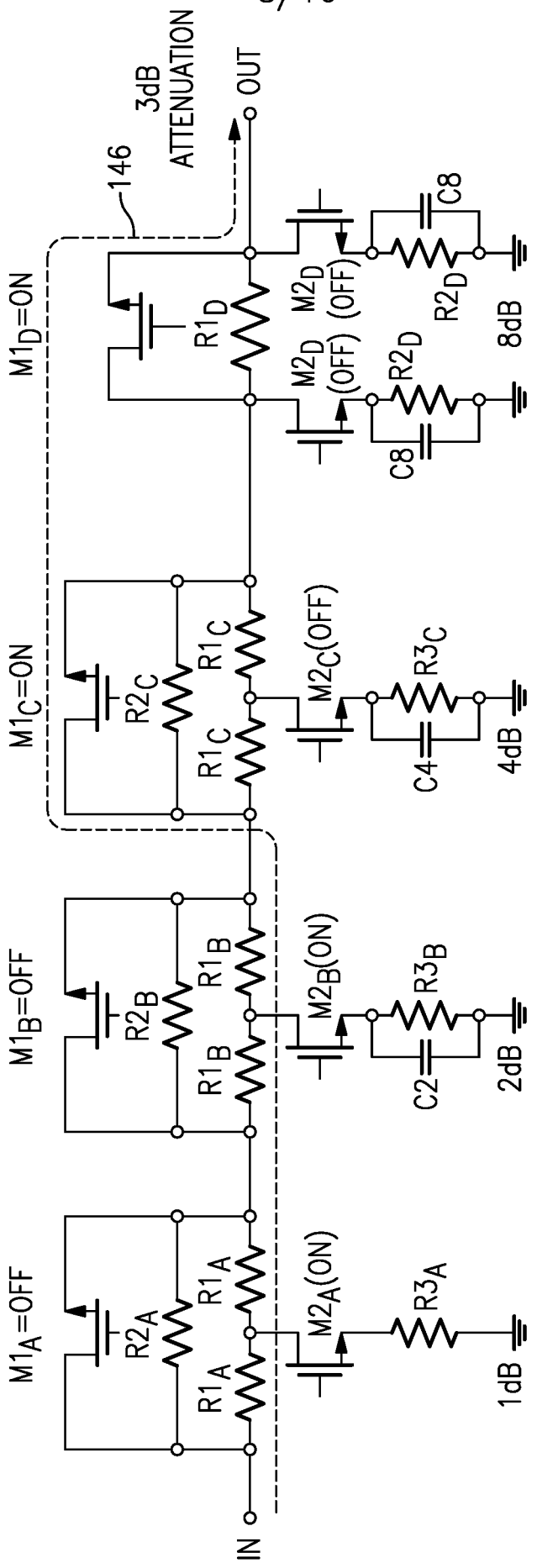

3dB ATTENUATION
OUT
146
M1D=ON
M1C=ON
M1B=OFF
M1A=OFF
R1D
R2D
M2D (OFF)
C8
8dB
R1C
R2C
M2C(OFF)
R3C
C4
4dB
R1B
R2B
M2B(ON)
R3B
C2
2dB
R1A
R2A
M2A(ON)
R3A
1dB
IN

FIG.8D

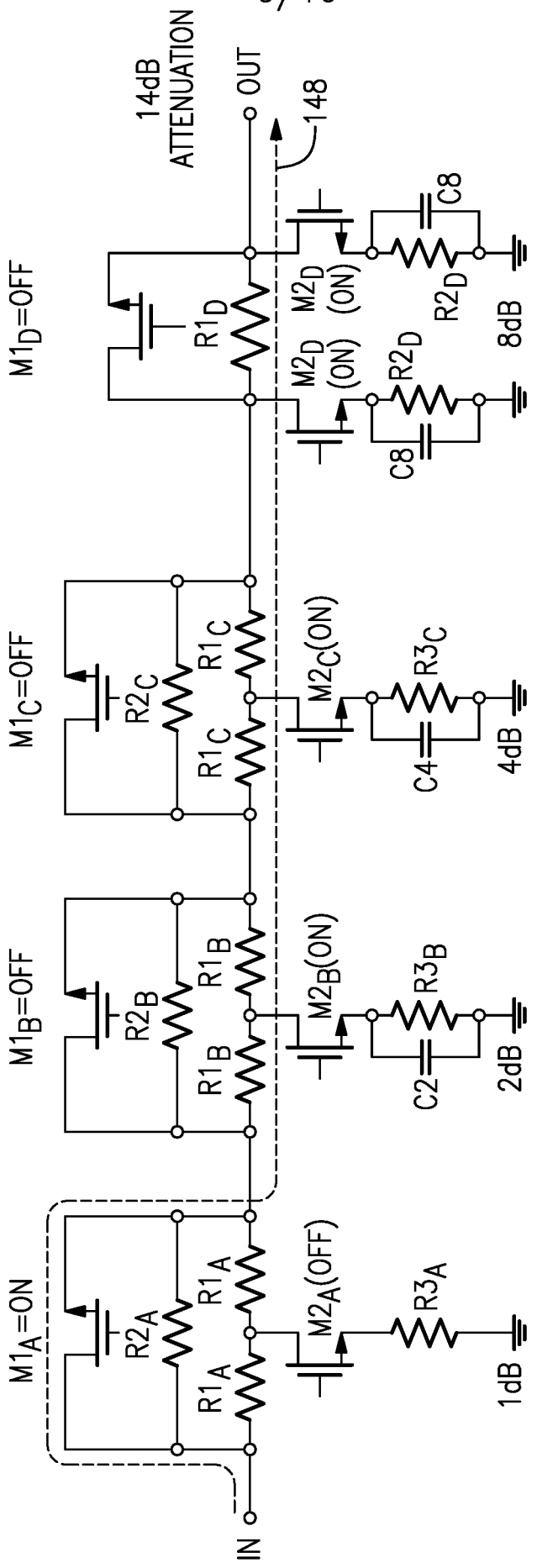

14dB ATTENUATION
OUT
148
IN
M1A=ON
M1B=OFF
M1C=OFF
M1D=OFF
R1A
R2A
R3A
M2A(OFF)
1dB
R1B
R2B
R3B
M2B(ON)
2dB
C2
R1C
R2C
R3C
M2C(ON)
4dB
C4
R1D
R2D
M2D (ON)
8dB
C8

FIG.8E

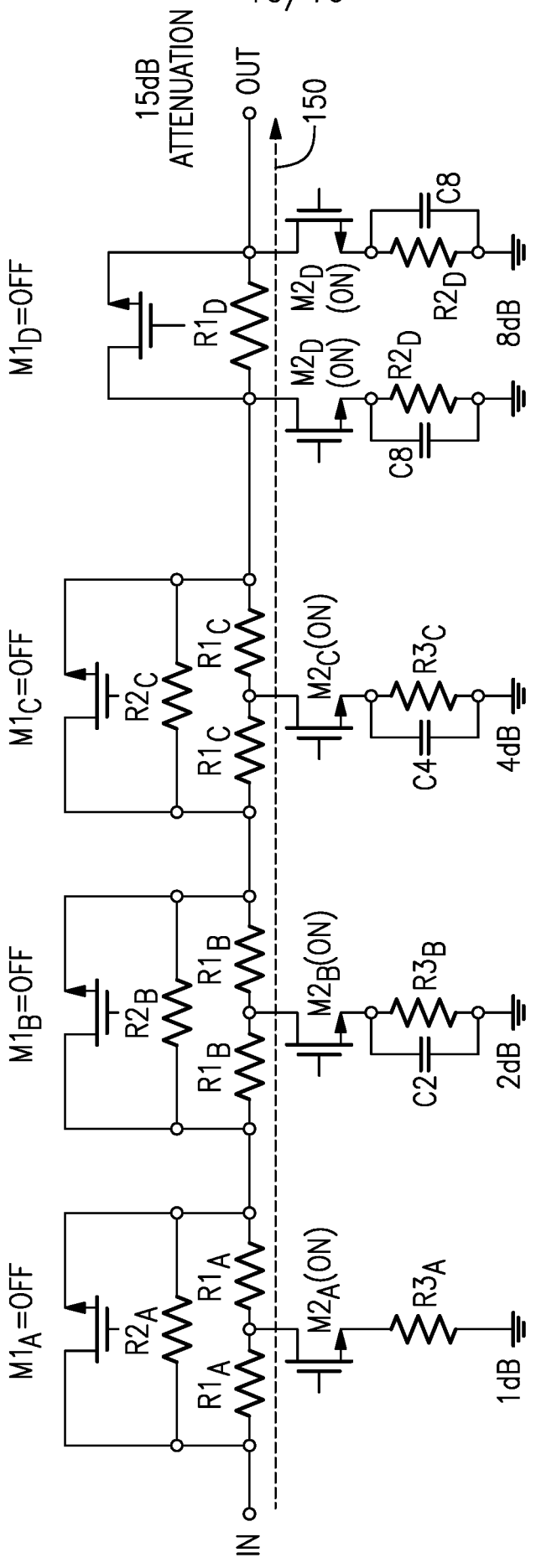

15dB ATTENUATION
OUT
150
IN
M1D=OFF
R1D
M2D (ON)
R2D
C8
8dB
M1C=OFF
R1C
R2C
M2C(ON)
R3C
C4
4dB
M1B=OFF
R1B
R2B
M2B(ON)
R3B
C2
2dB
M1A=OFF
R1A
R2A
M2A(ON)
R3A
1dB

FIG.8F

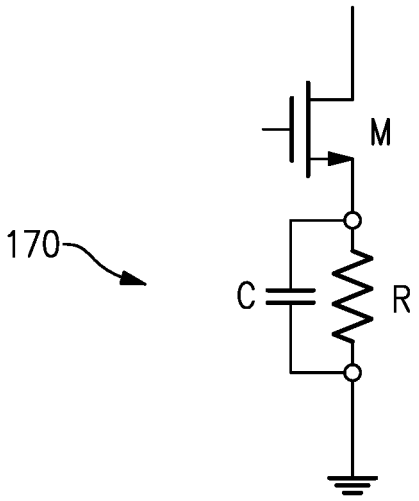


FIG.9A

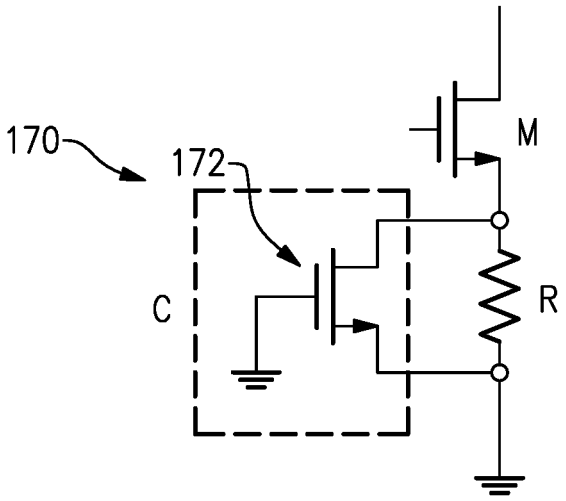


FIG.9B

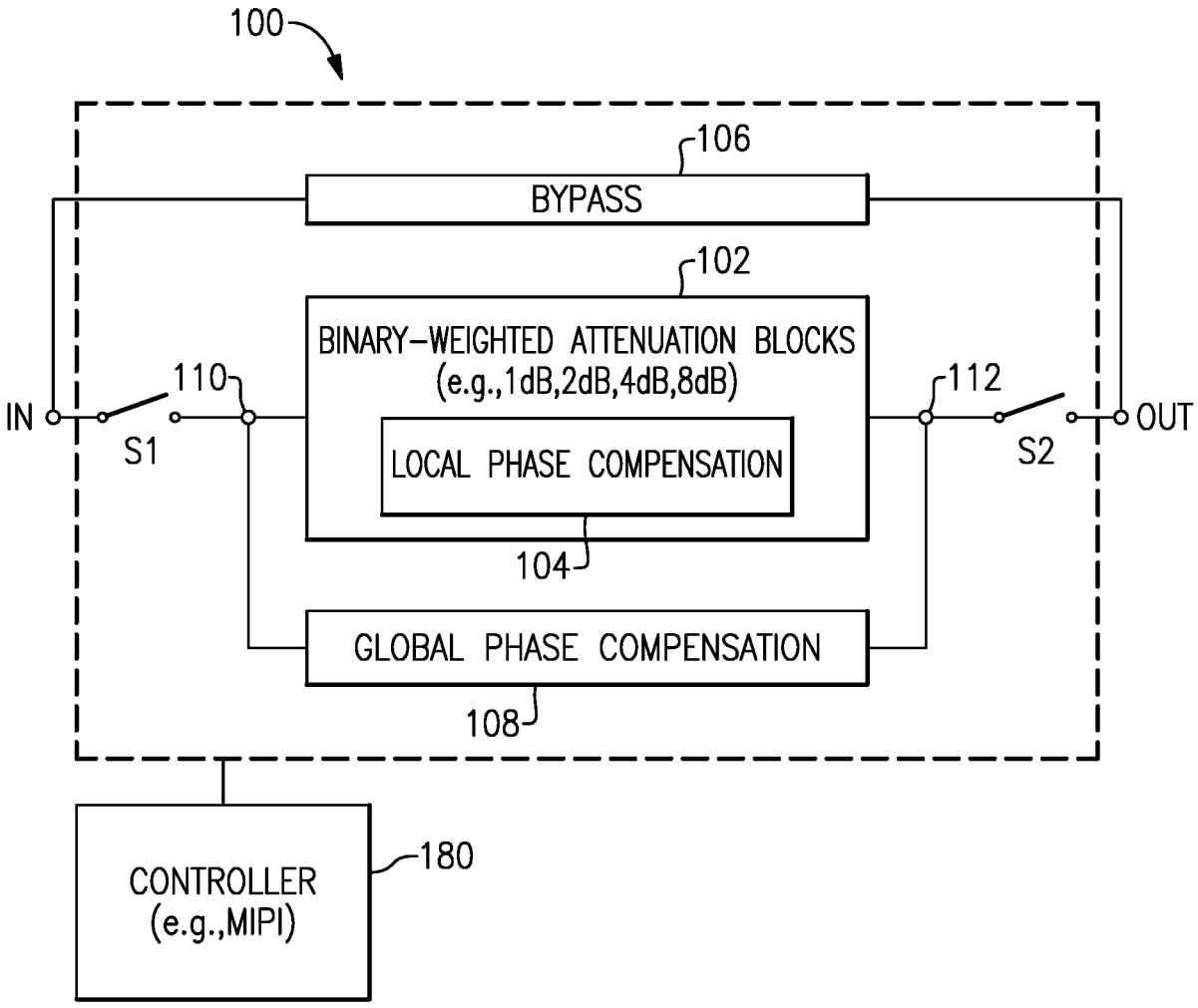

100
106
BYPASS
102
BINARY-WEIGHTED ATTENUATION BLOCKS
(e.g.,1dB,2dB,4dB,8dB)
LOCAL PHASE COMPENSATION
104
110
112
IN
S1
S2
OUT
GLOBAL PHASE COMPENSATION
108
CONTROLLER
(e.g.,MIPI)
180

FIG.10

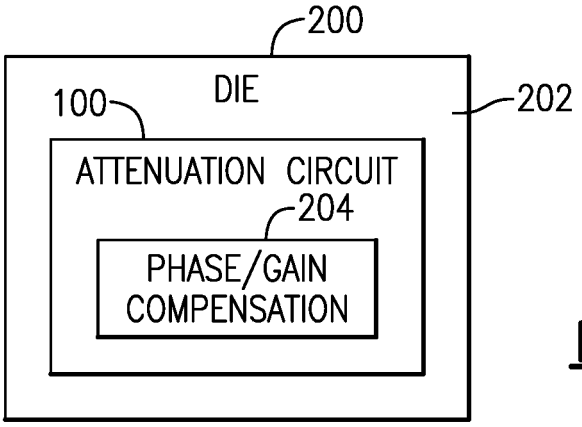


FIG.11

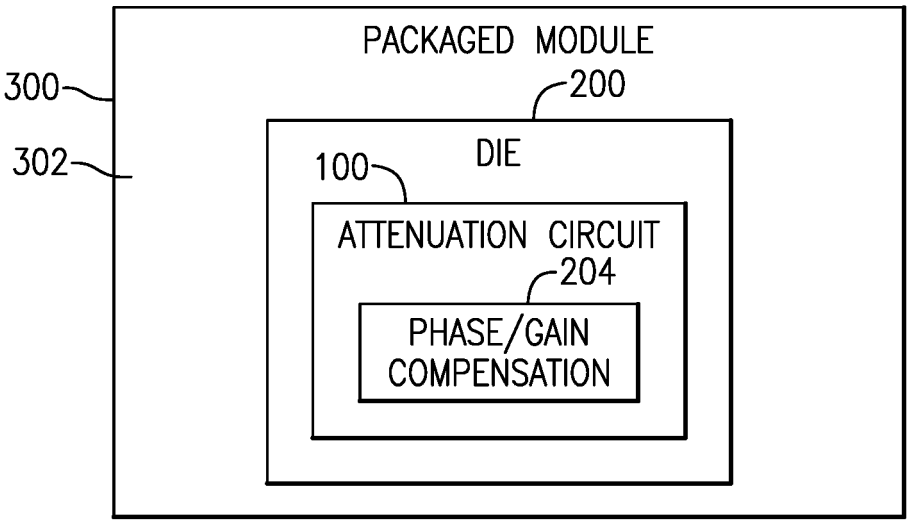


FIG.12

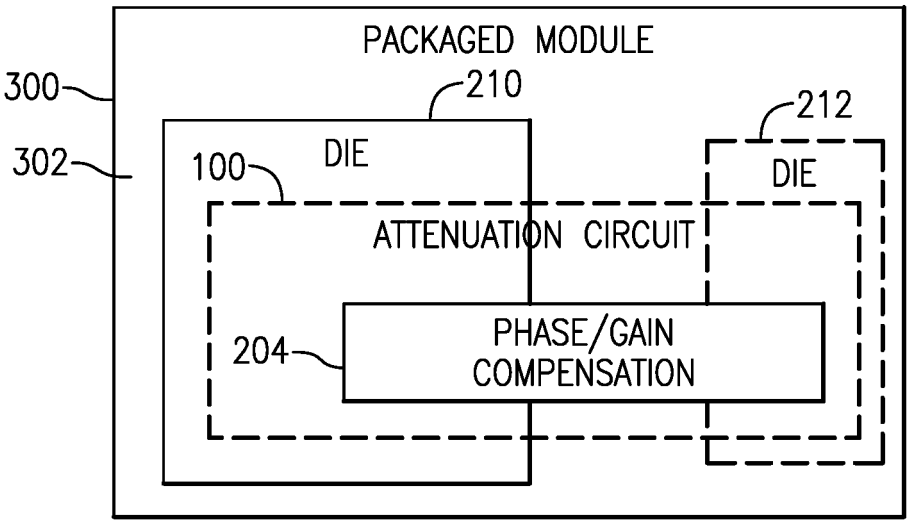


FIG.13

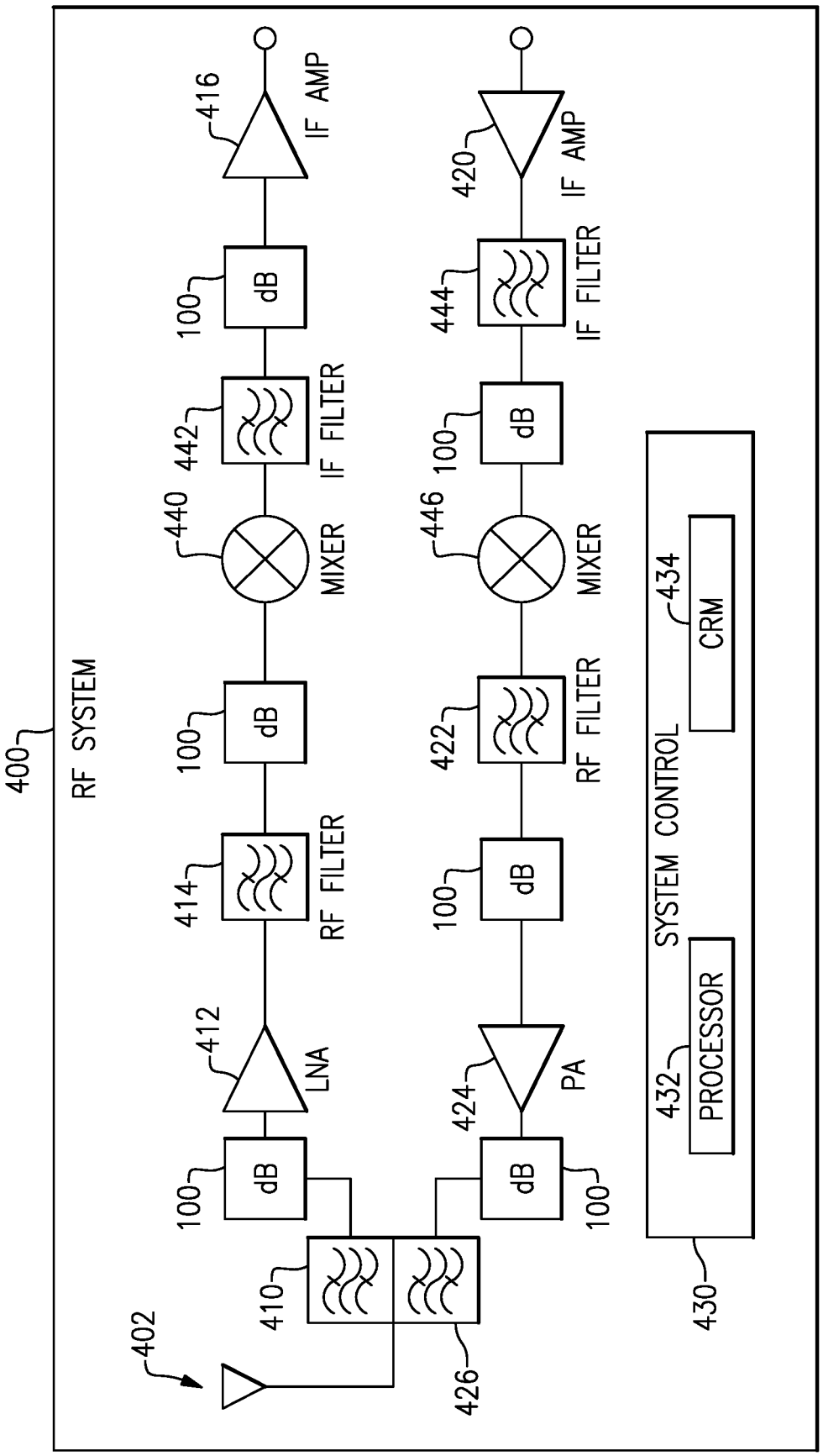

400
RF SYSTEM
402
410
426
100
dB
412
LNA
414
RF FILTER
440
MIXER
442
IF FILTER
416
IF AMP
424
PA
422
RF FILTER
446
MIXER
444
IF FILTER
420
IF AMP
SYSTEM CONTROL
432
PROCESSOR
434
CRM
430

FIG.14

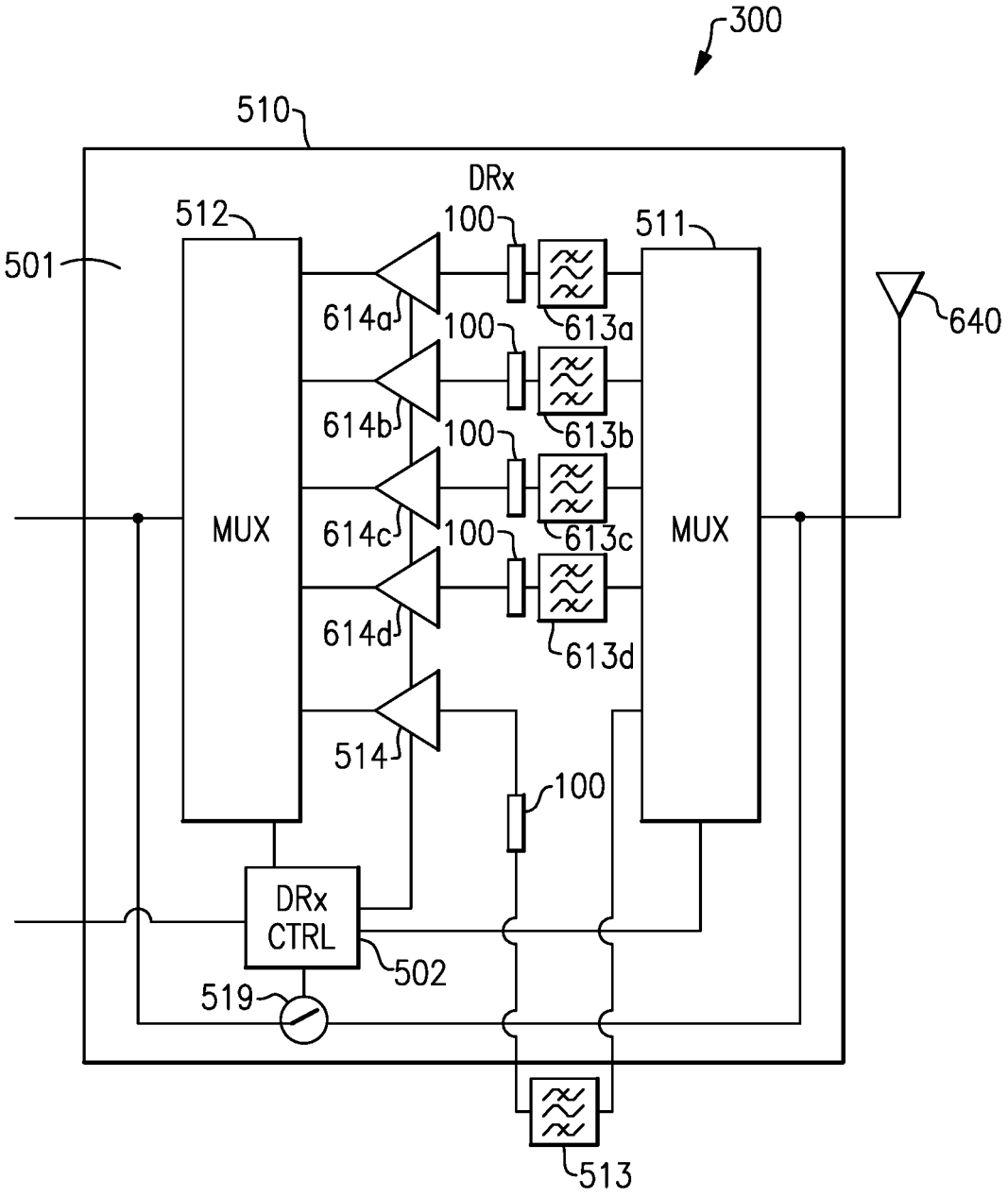

300
510
DRx
512
100
511
501
614a
613a
640
100
614b
613b
100
MUX
614c
613c
MUX
100
614d
613d
514
100
DRx
CTRL
502
519
513

FIG.15

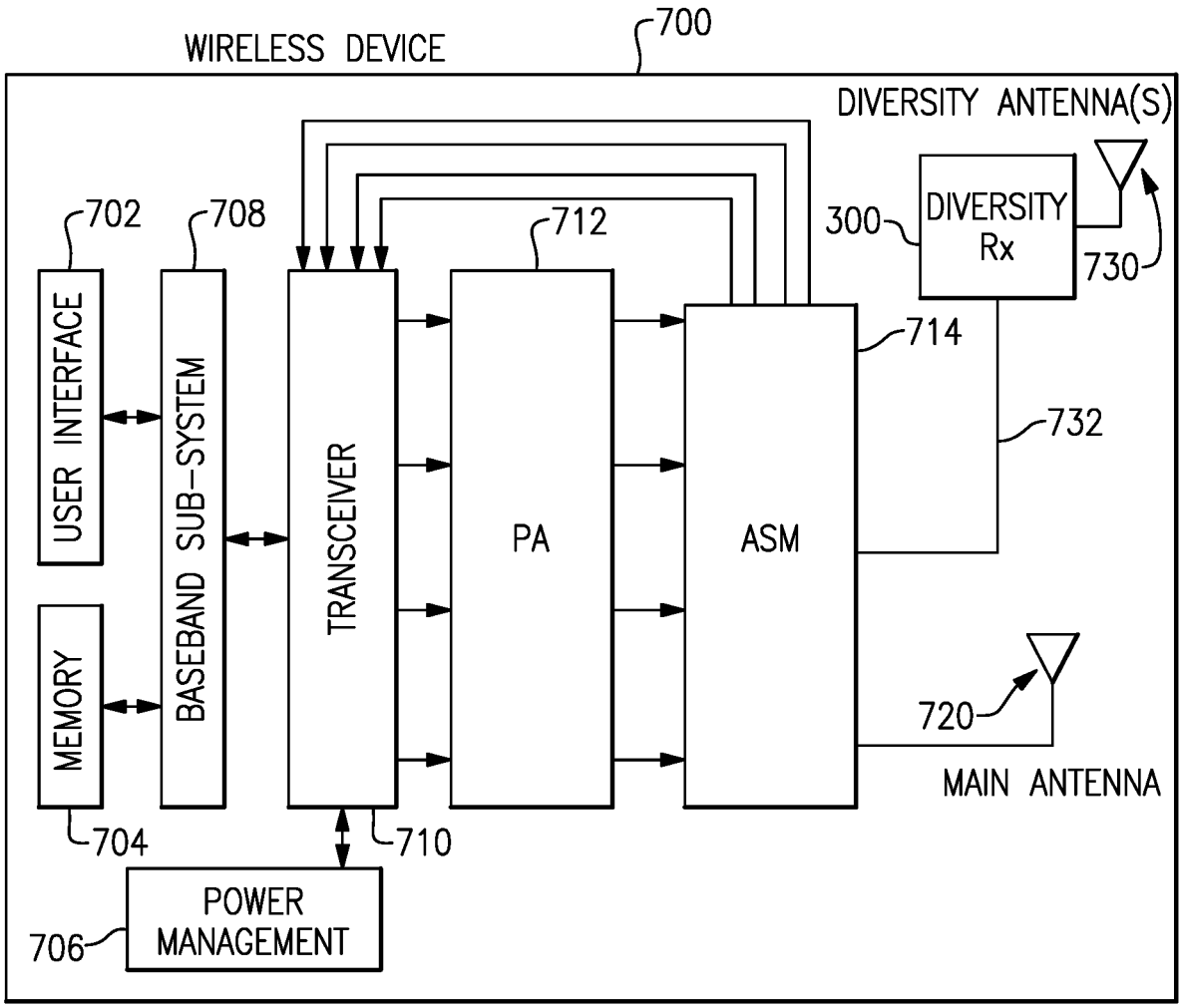

WIRELESS DEVICE
700
DIVERSITY ANTENNA(S)
DIVERSITY Rx
300
730
702
708
712
714
732
USER INTERFACE
BASEBAND SUB-SYSTEM
TRANSCEIVER
PA
ASM
MEMORY
720
MAIN ANTENNA
704
710
POWER MANAGEMENT
706

FIG.16