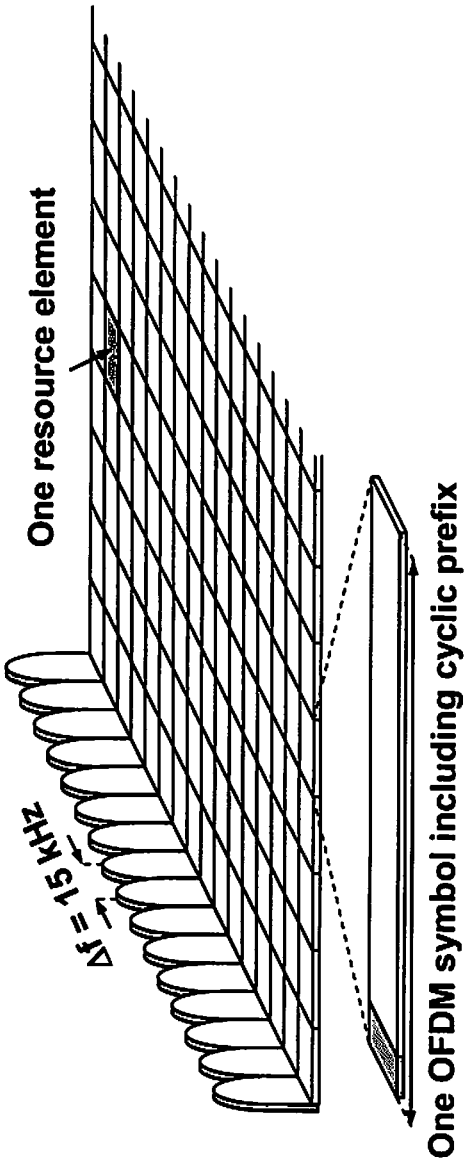



FIGURE 1

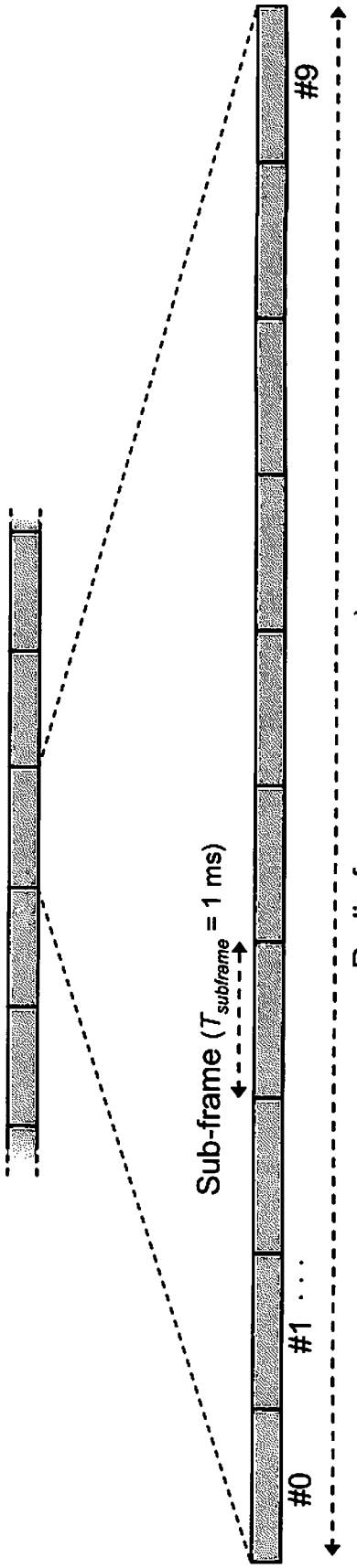



FIGURE 2

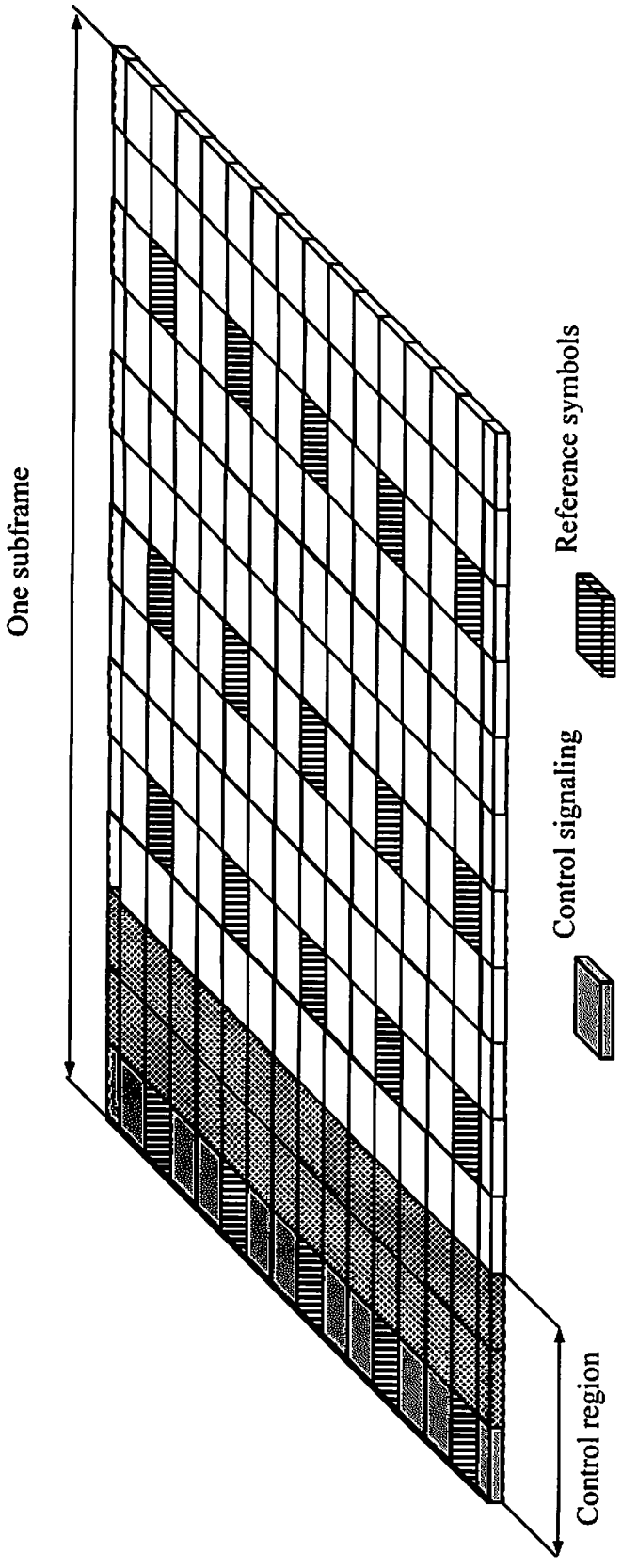



FIGURE 3

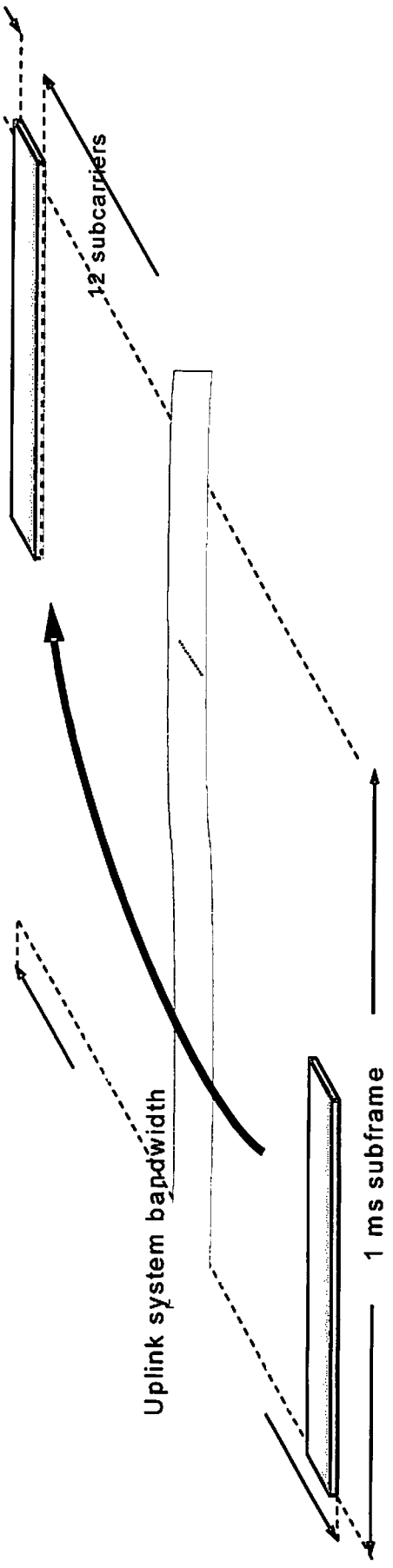
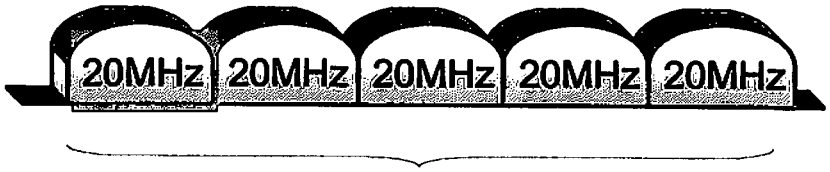
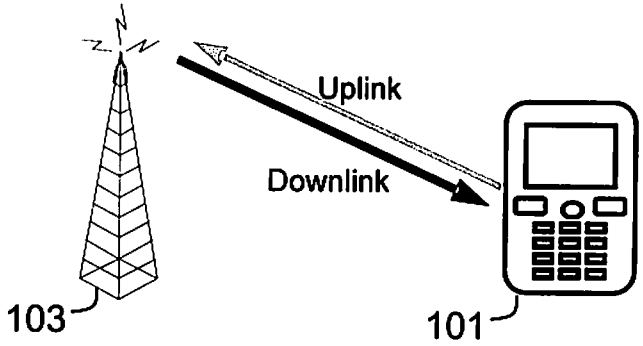


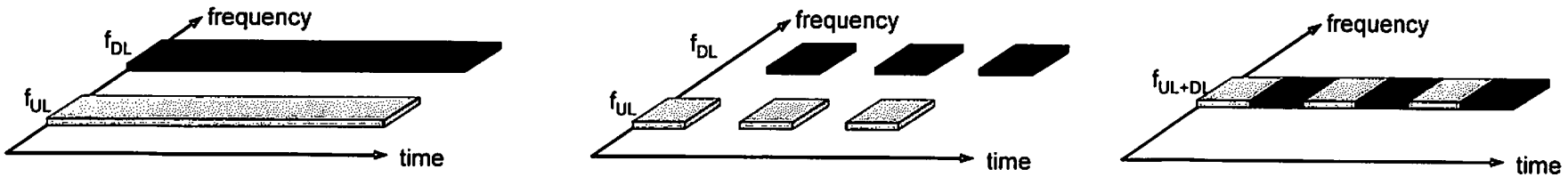

FIGURE 4




*Aggregated bandwidth of 100 MHz*

**FIGURE 5**




FDD

Half-duplex FDD
(terminal-side only)

TDD

**FIGURE 6**

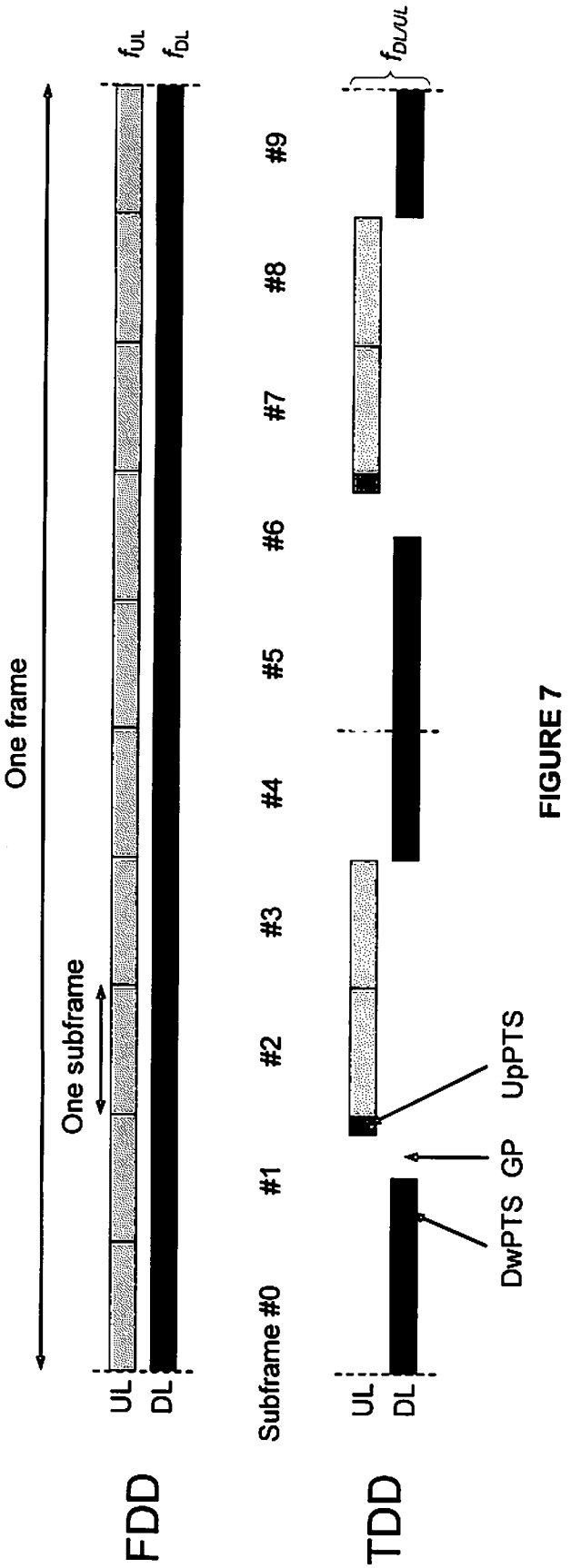

FDD
TDD
One frame
One subframe
$f_{UL}$
$f_{DL}$
$f_{DL/UL}$
UL
DL
Subframe #0
#1
#2
#3
#4
#5
#6
#7
#8
#9
DwPTS
GP
UpPTS

FIGURE 7

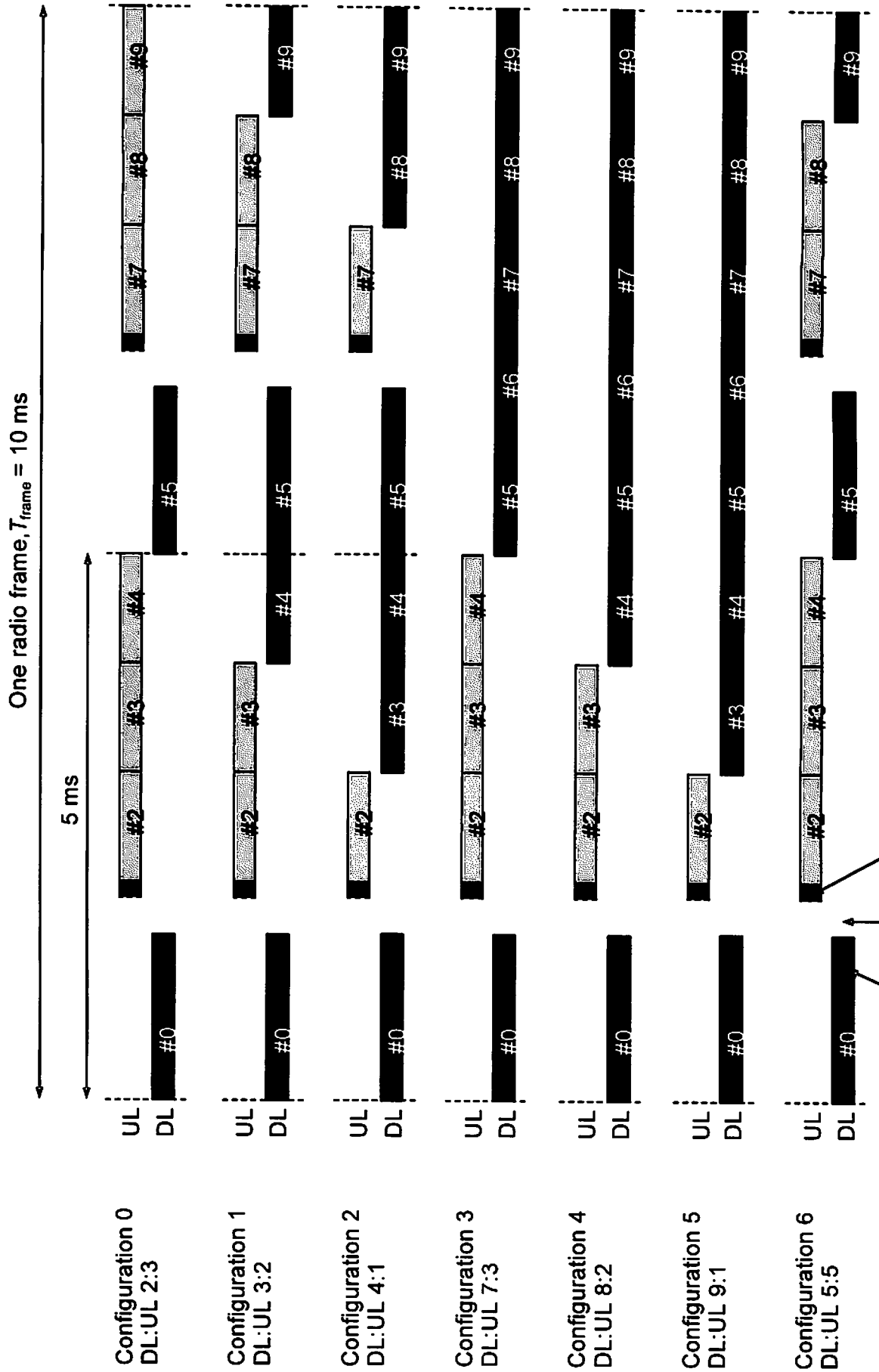

One radio frame, $T_{frame}$ = 10 ms
5 ms
Configuration 0 DL:UL 2:3
Configuration 1 DL:UL 3:2
Configuration 2 DL:UL 4:1
Configuration 3 DL:UL 7:3
Configuration 4 DL:UL 8:2
Configuration 5 DL:UL 9:1
Configuration 6 DL:UL 5:5
UL
DL
DwPTS
GP
UpPTS

FIGURE 8

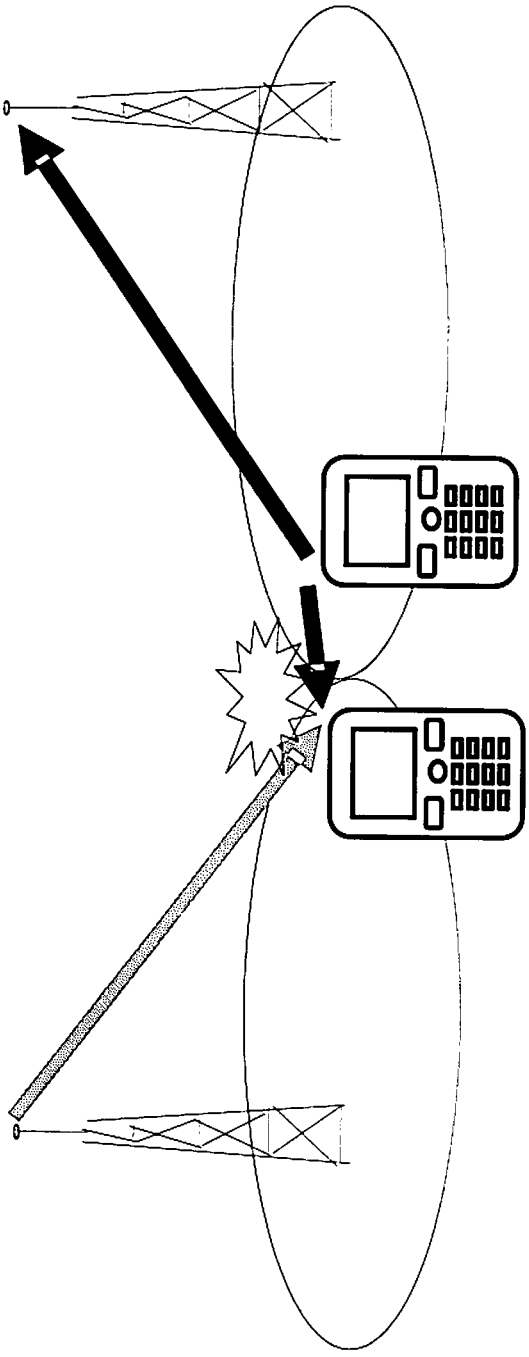


FIGURE 9

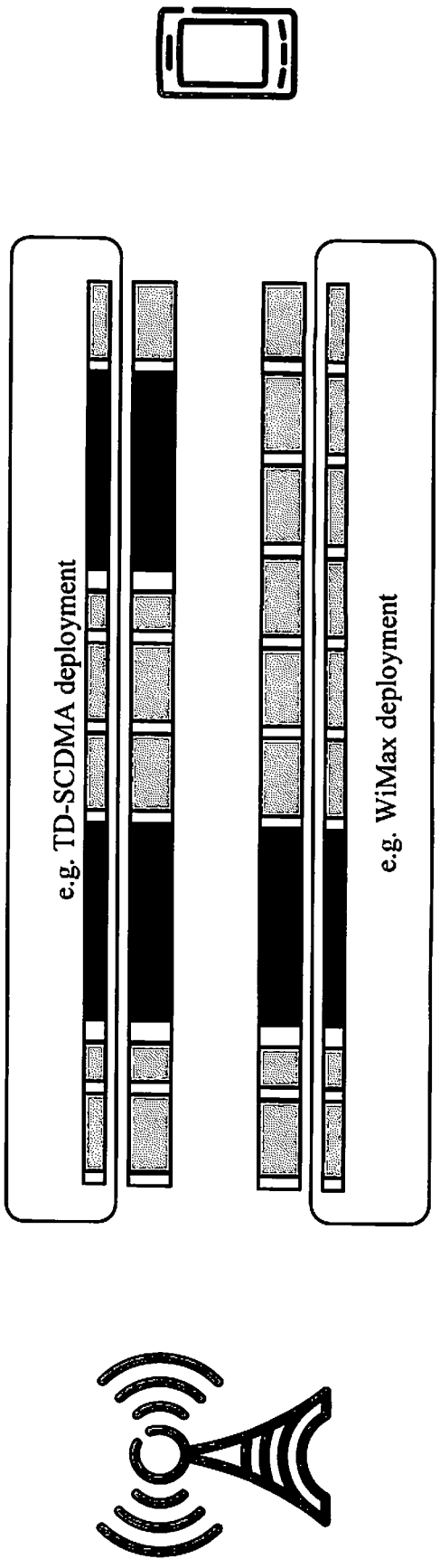



FIGURE 14

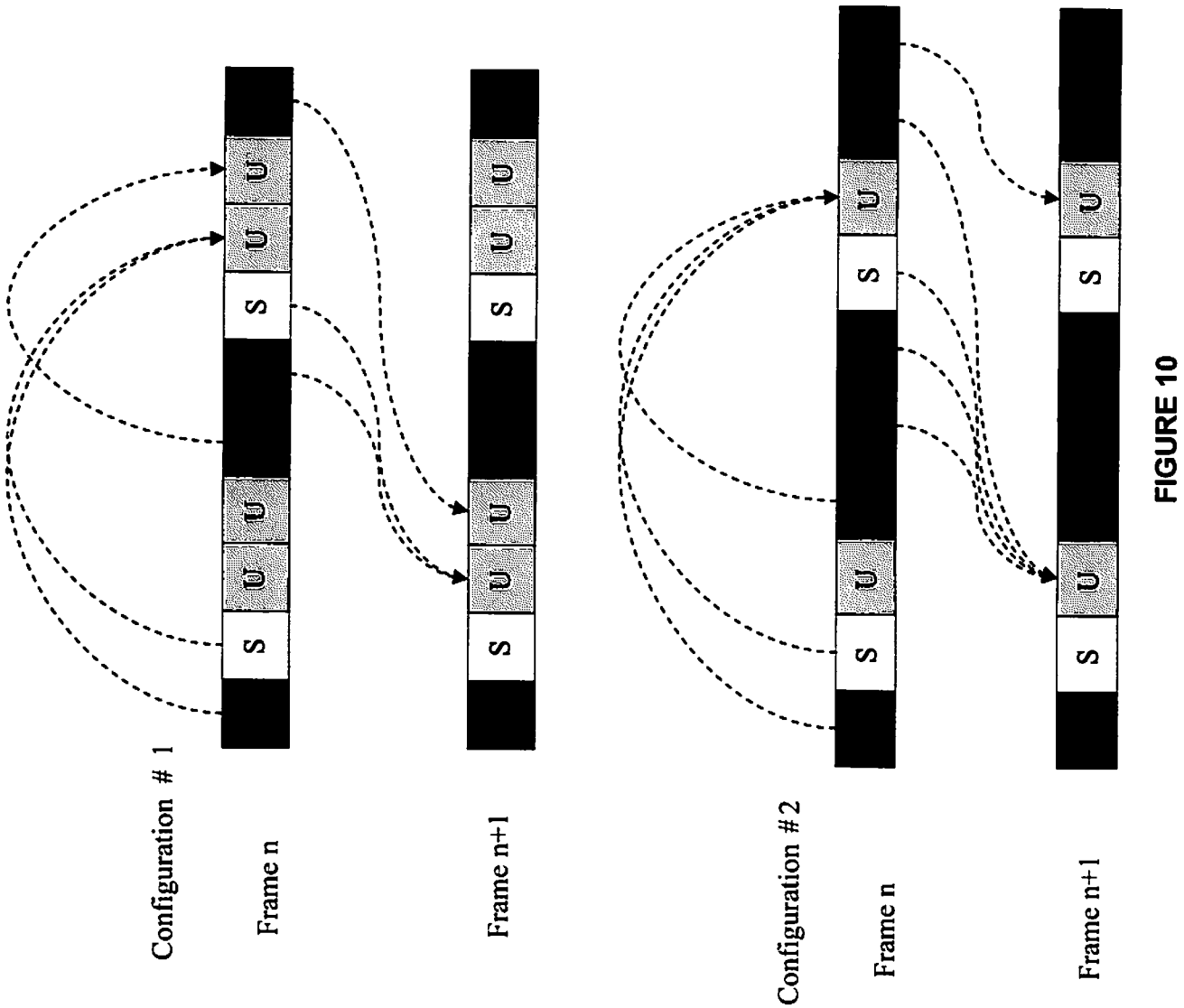

Configuration # 1
Frame n
Frame n+1
Configuration # 2
Frame n
Frame n+1
S
U

FIGURE 10

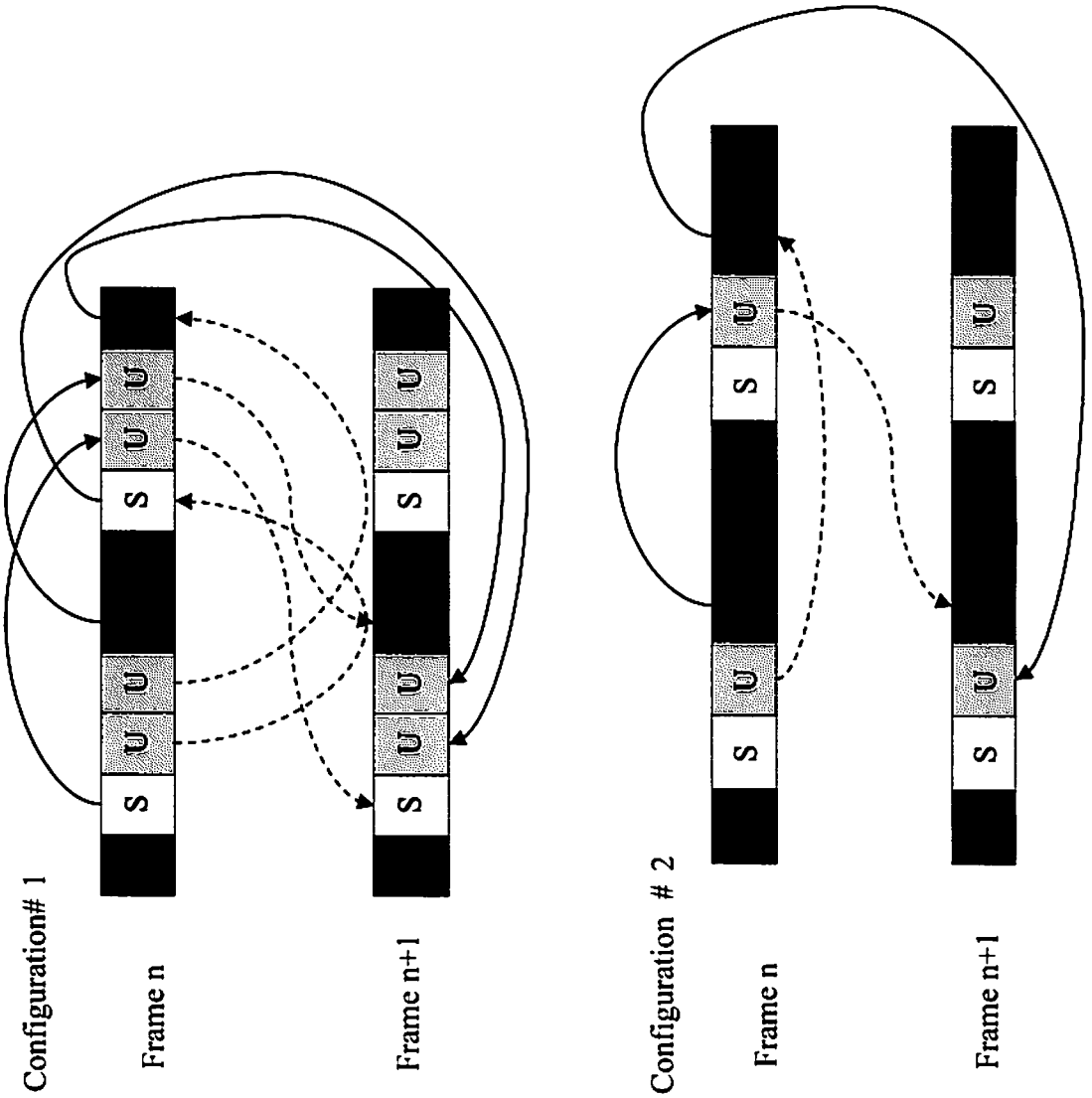

Configuration# 1
Frame n
Frame n+1
S
U
Configuration # 2
Frame n
Frame n+1
S
U

FIGURE 11

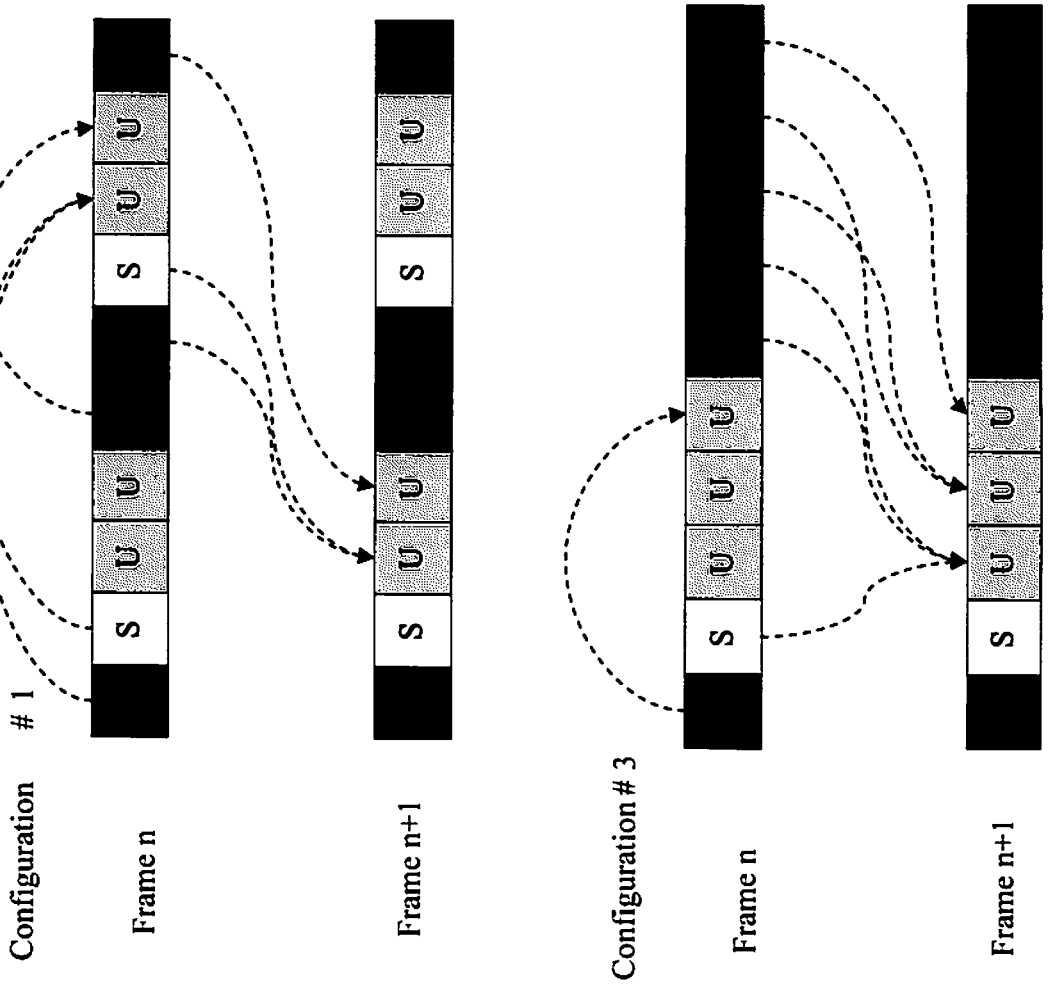

Configuration # 1
Frame n
Frame n+1
Configuration # 3
Frame n
Frame n+1
S
U

FIGURE 12

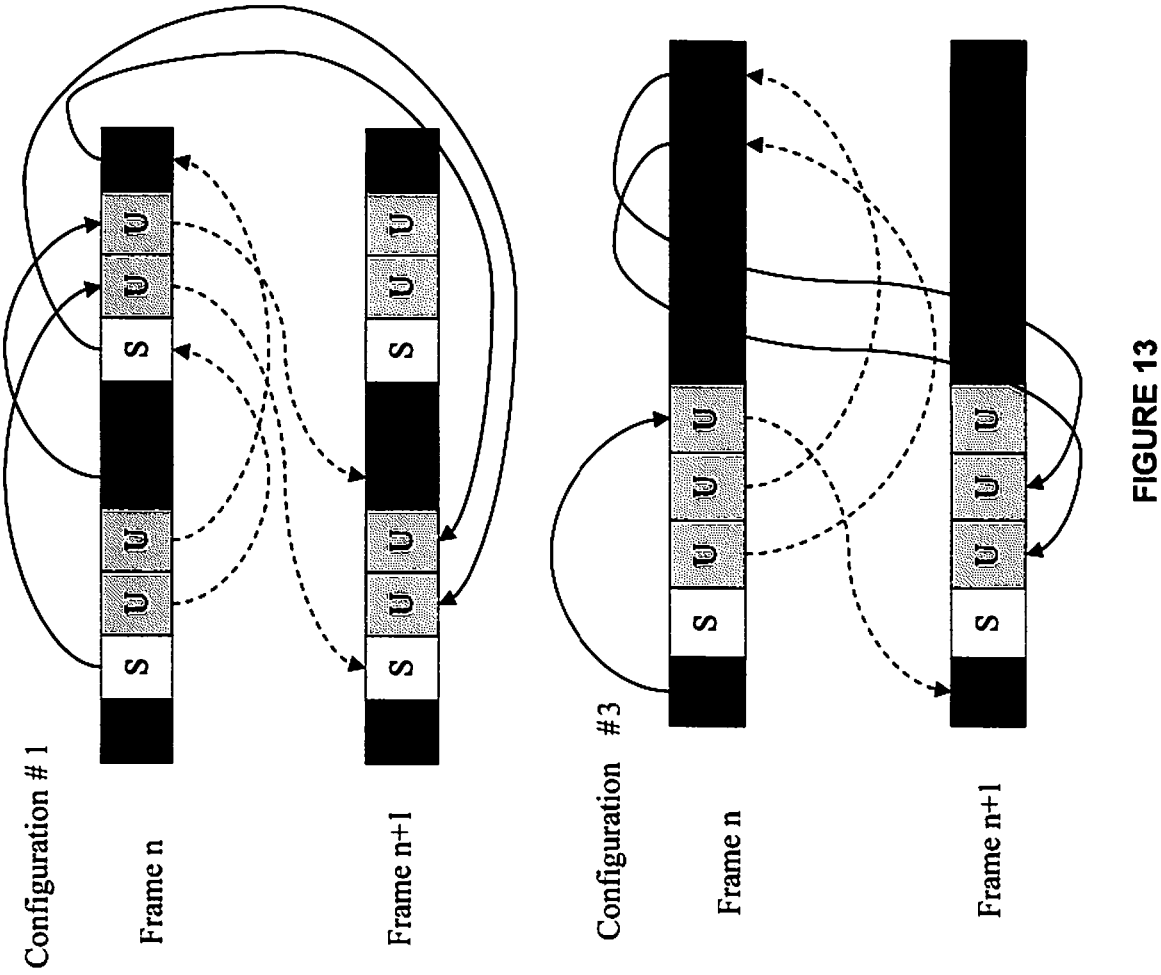

Configuration # 1
Frame n
Frame n+1
Configuration #3
Frame n
Frame n+1
S
U

FIGURE 13

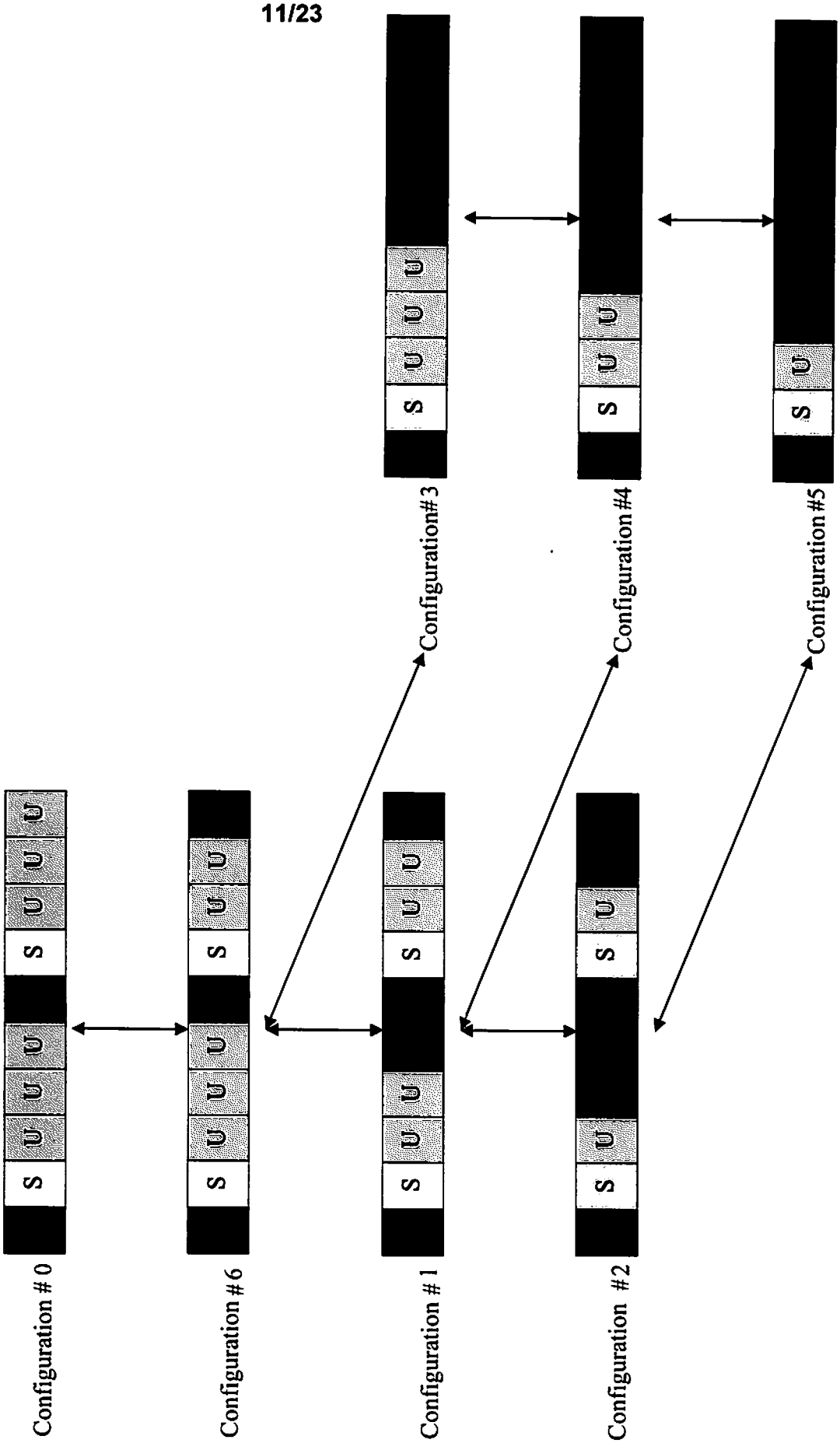
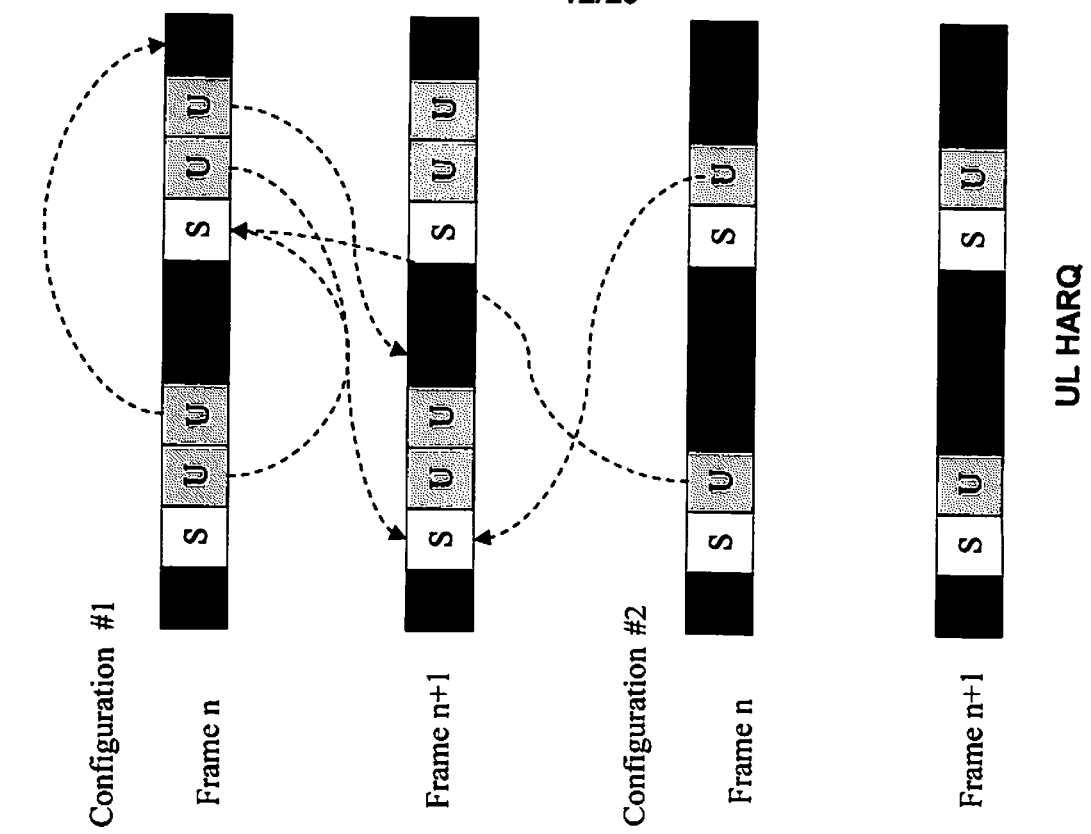

Configuration # 0
Configuration # 6
Configuration # 1
Configuration # 2
Configuration #3
Configuration #4
Configuration #5
S
U

FIGURE 15


Configuration #1
Frame n
Frame n+1
Configuration #2
Frame n
Frame n+1
UL HARQ
S
U

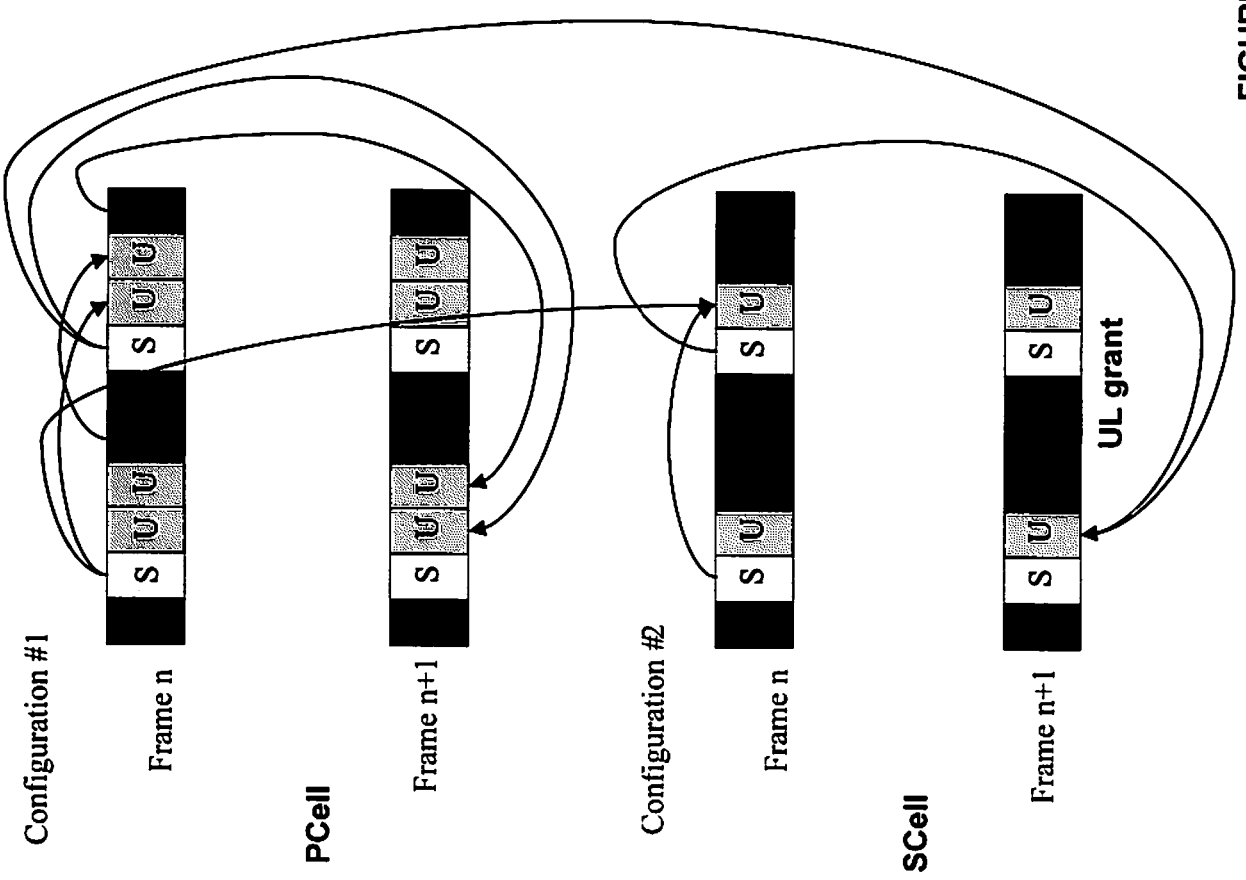

Configuration #1
Frame n
Frame n+1
PCell
Configuration #2
Frame n
Frame n+1
SCell
UL grant
S
U

FIGURE 16

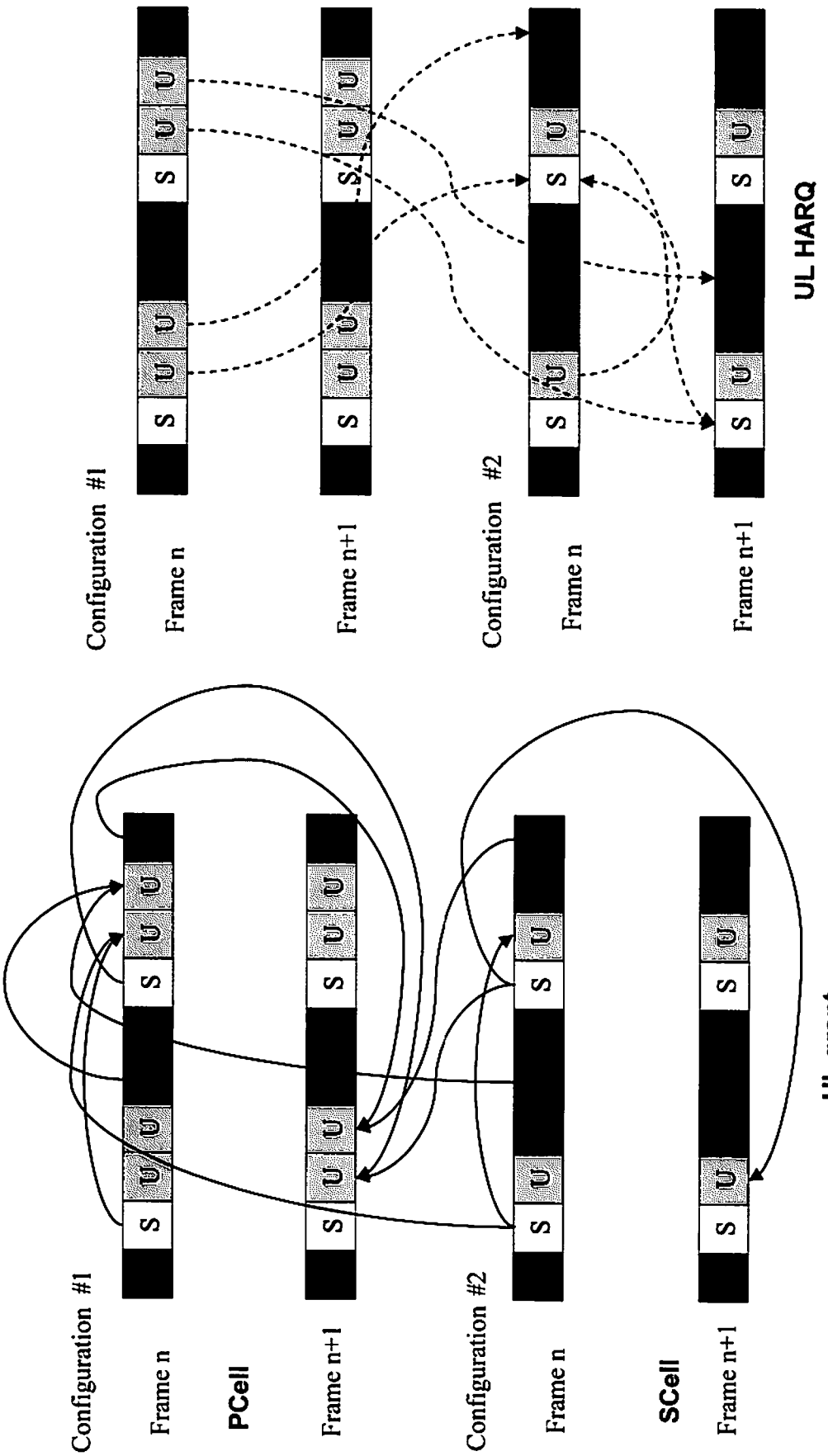

Configuration #1
Frame n
Frame n+1
Configuration #2
Frame n
Frame n+1
UL HARQ
PCell
SCell
UL grant

FIGURE 17

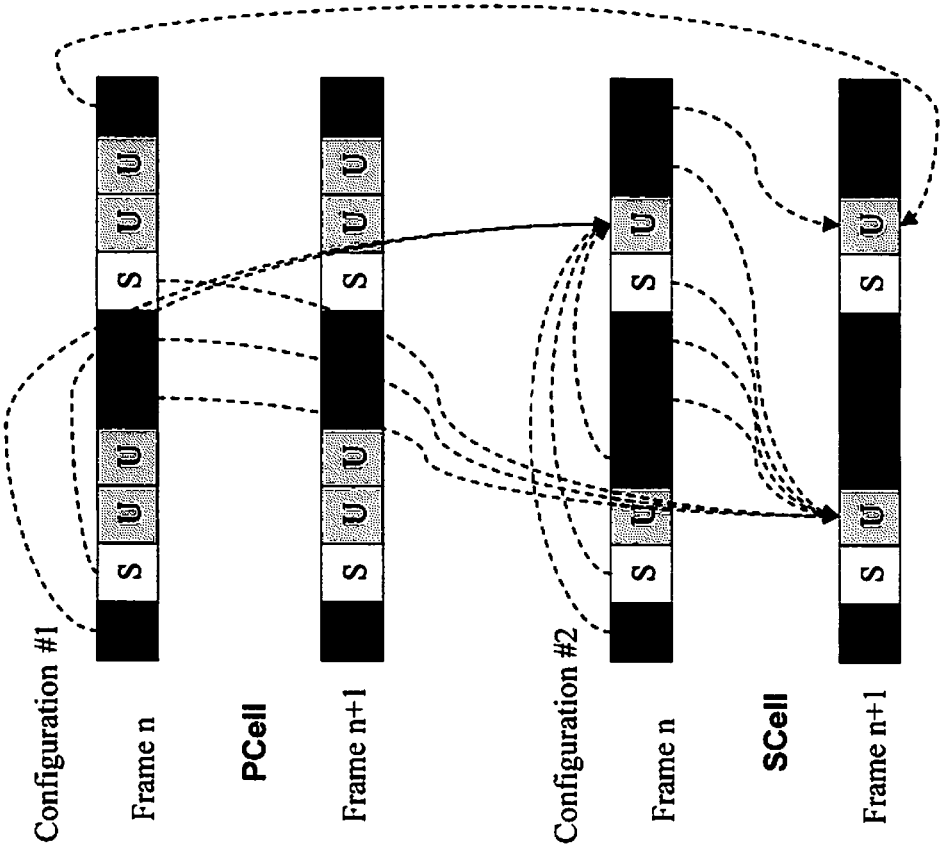

Configuration #1
Frame n
PCell
Frame n+1
Configuration #2
Frame n
SCell
Frame n+1
S
U

FIGURE 18

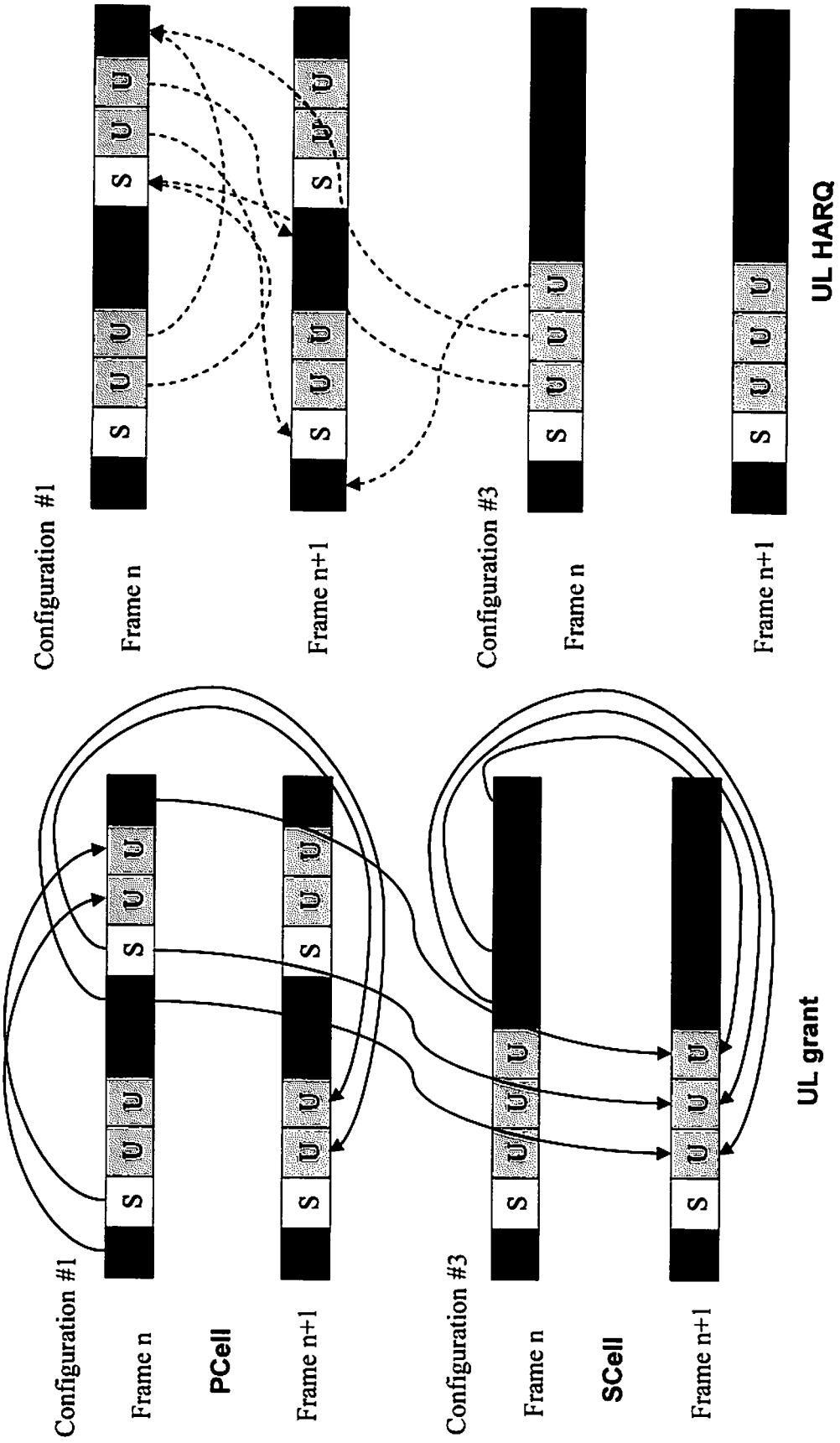

Configuration #1
Frame n
Frame n+1
Configuration #3
Frame n
Frame n+1
UL HARQ
Configuration #1
Frame n
PCell
Frame n+1
Configuration #3
Frame n
SCell
Frame n+1
UL grant

FIGURE 19

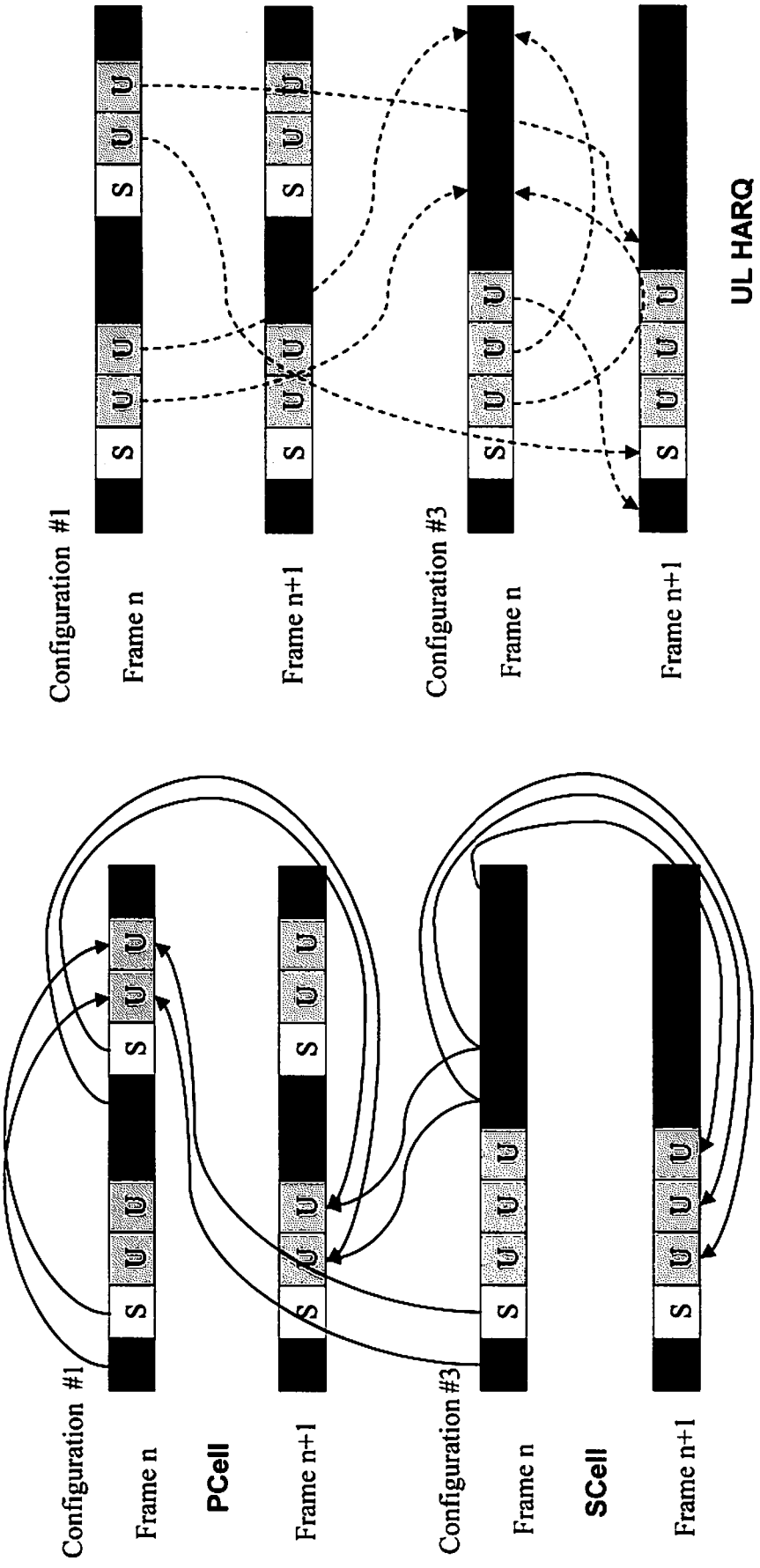

Configuration #1
Frame n
Frame n+1
Configuration #3
Frame n
Frame n+1
UL HARQ
PCell
SCell
UL grant

FIGURE 20

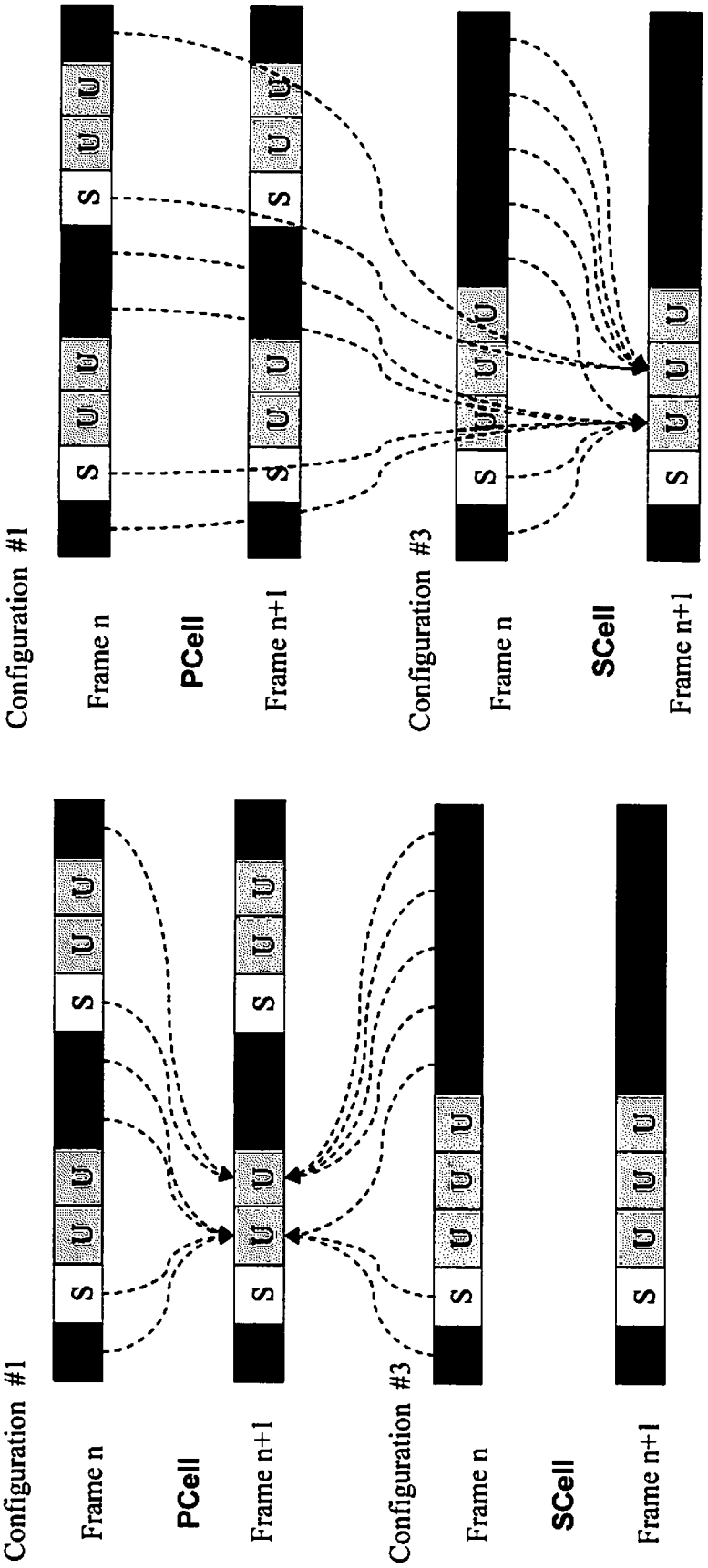

Configuration #1
Frame n
PCell
Frame n+1
Configuration #3
Frame n
SCell
Frame n+1
S
U

FIGURE 21

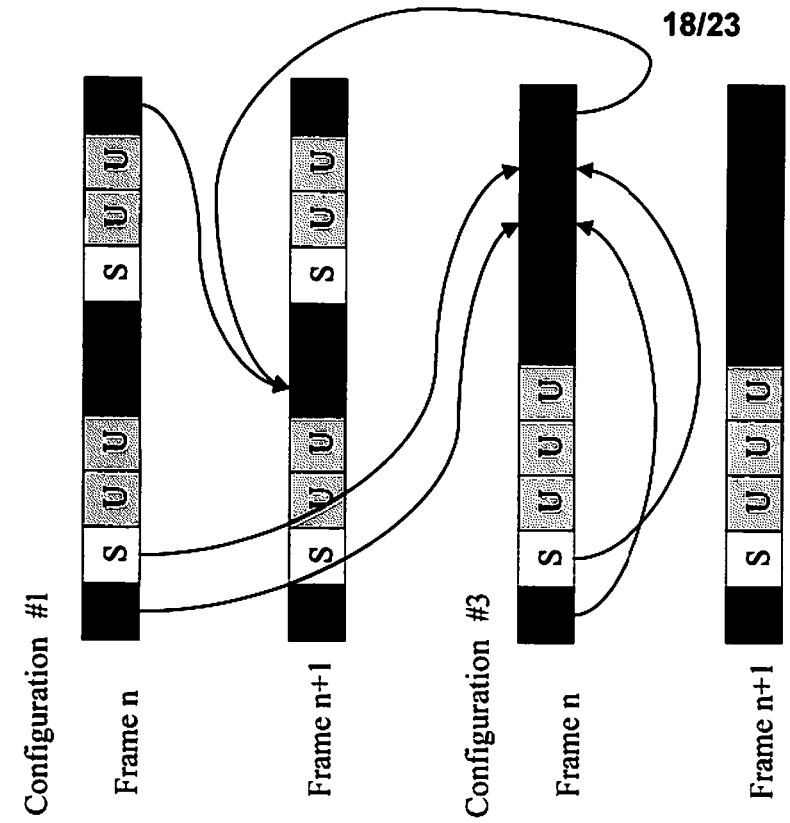



FIGURE 23

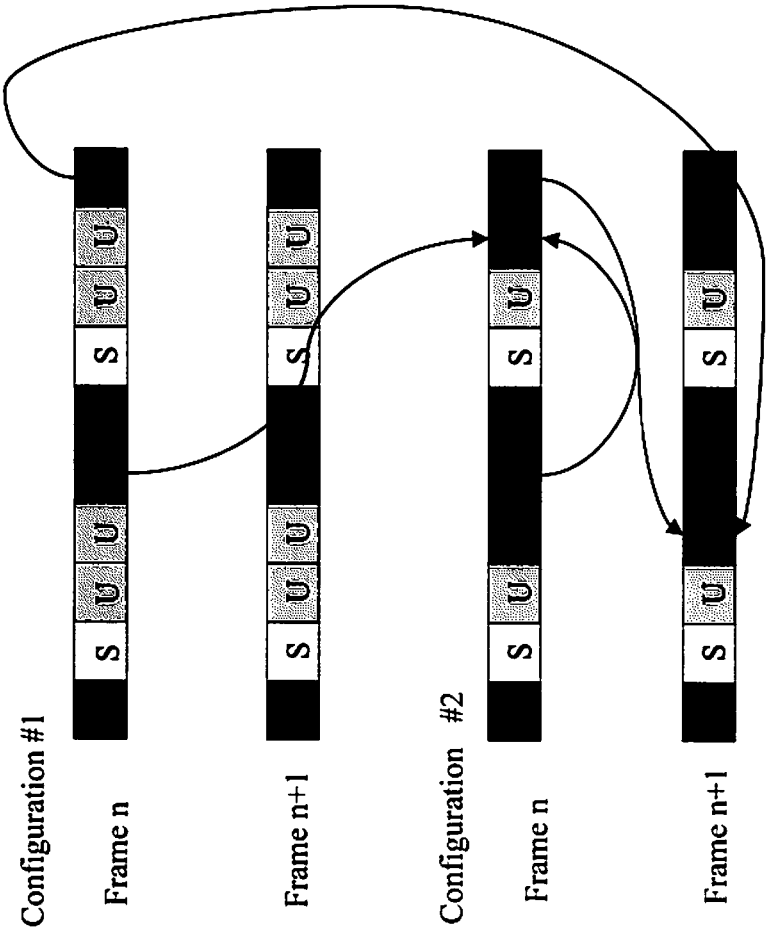



FIGURE 22

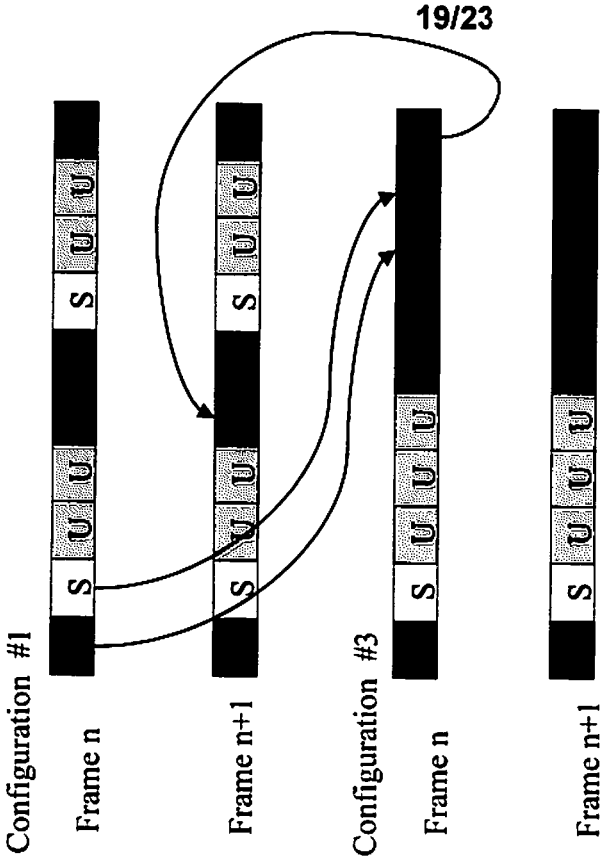



FIGURE 25

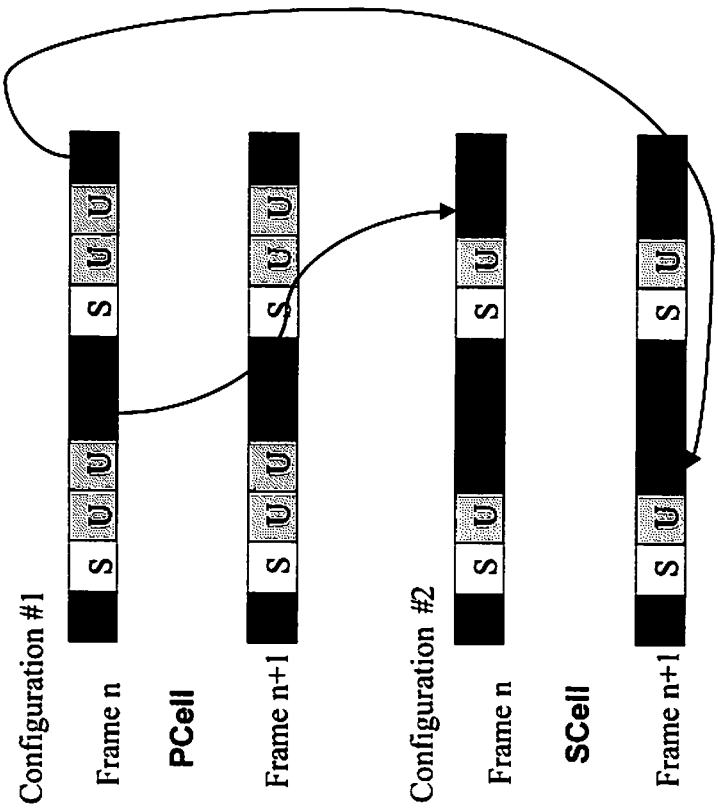



FIGURE 24

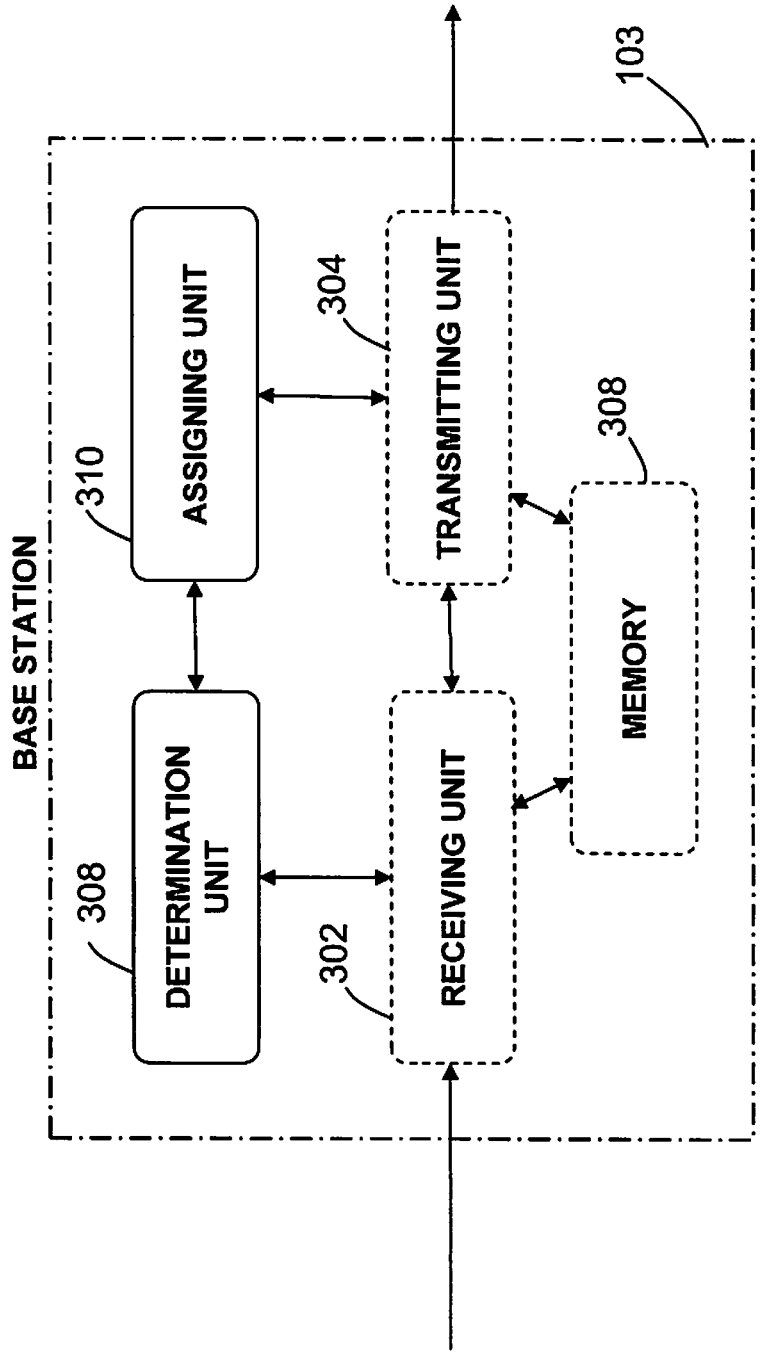

BASE STATION
103
ASSIGNING UNIT
310
304
TRANSMITTING UNIT
308
MEMORY
DETERMINATION UNIT
308
302
RECEIVING UNIT

FIGURE 26

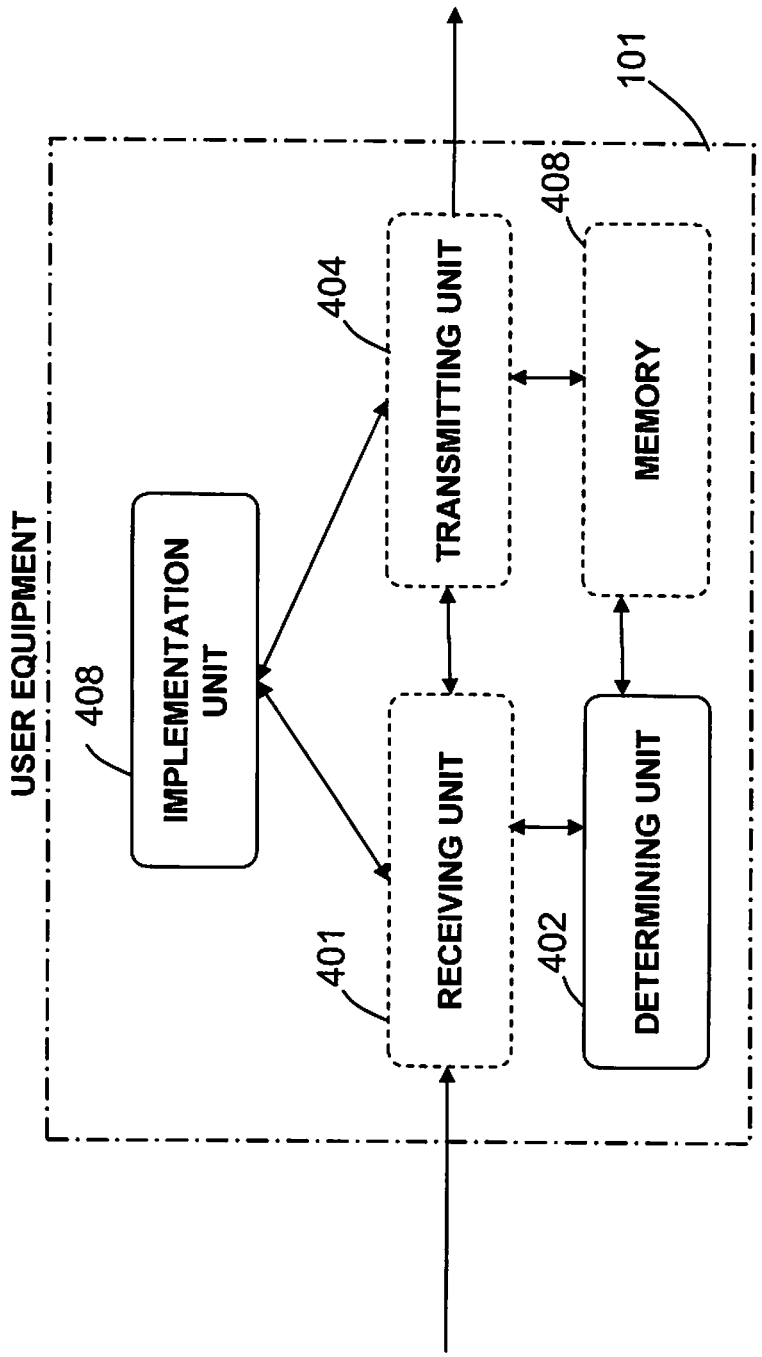

USER EQUIPMENT
101
IMPLEMENTATION UNIT
408
TRANSMITTING UNIT
404
MEMORY
408
RECEIVING UNIT
401
DETERMINING UNIT
402

FIGURE 27

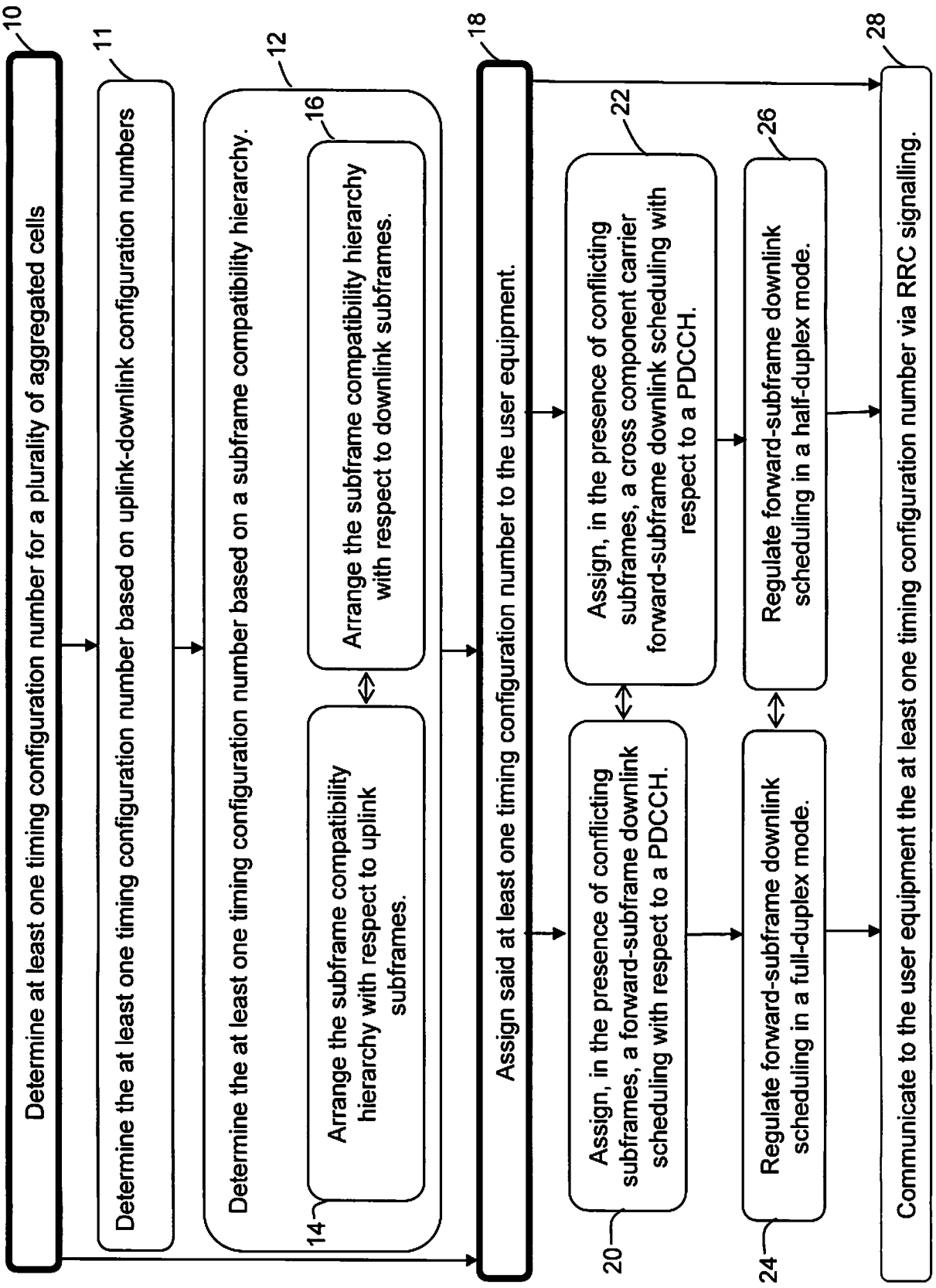

10
Determine at least one timing configuration number for a plurality of aggregated cells
11
Determine the at least one timing configuration number based on uplink-downlink configuration numbers
12
Determine the at least one timing configuration number based on a subframe compatibility hierarchy.
14
Arrange the subframe compatibility hierarchy with respect to uplink subframes.
16
Arrange the subframe compatibility hierarchy with respect to downlink subframes.
18
Assign said at least one timing configuration number to the user equipment.
20
Assign, in the presence of conflicting subframes, a forward-subframe downlink scheduling with respect to a PDCCH.
22
Assign, in the presence of conflicting subframes, a cross component carrier forward-subframe downlink scheduling with respect to a PDCCH.
24
Regulate forward-subframe downlink scheduling in a full-duplex mode.
26
Regulate forward-subframe downlink scheduling in a half-duplex mode.
28
Communicate to the user equipment the at least one timing configuration number via RRC signalling.

FIGURE 28

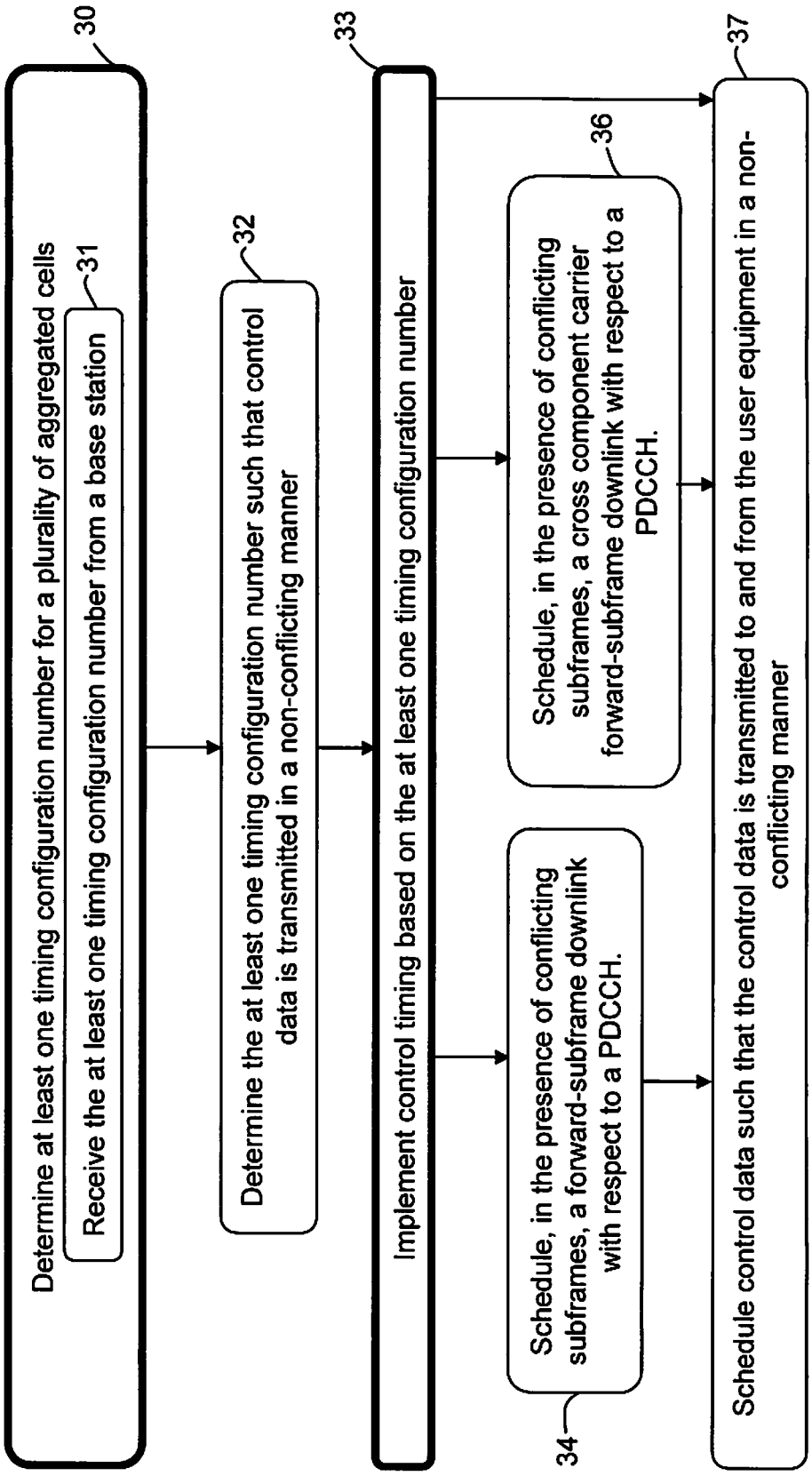

Determine at least one timing configuration number for a plurality of aggregated cells
30
Receive the at least one timing configuration number from a base station
31
Determine the at least one timing configuration number such that control data is transmitted in a non-conflicting manner
32
Implement control timing based on the at least one timing configuration number
33
Schedule, in the presence of conflicting subframes, a forward-subframe downlink with respect to a PDCCH.
34
Schedule, in the presence of conflicting subframes, a cross component carrier forward-subframe downlink with respect to a PDCCH.
36
Schedule control data such that the control data is transmitted to and from the user equipment in a non-conflicting manner
37

FIGURE 29