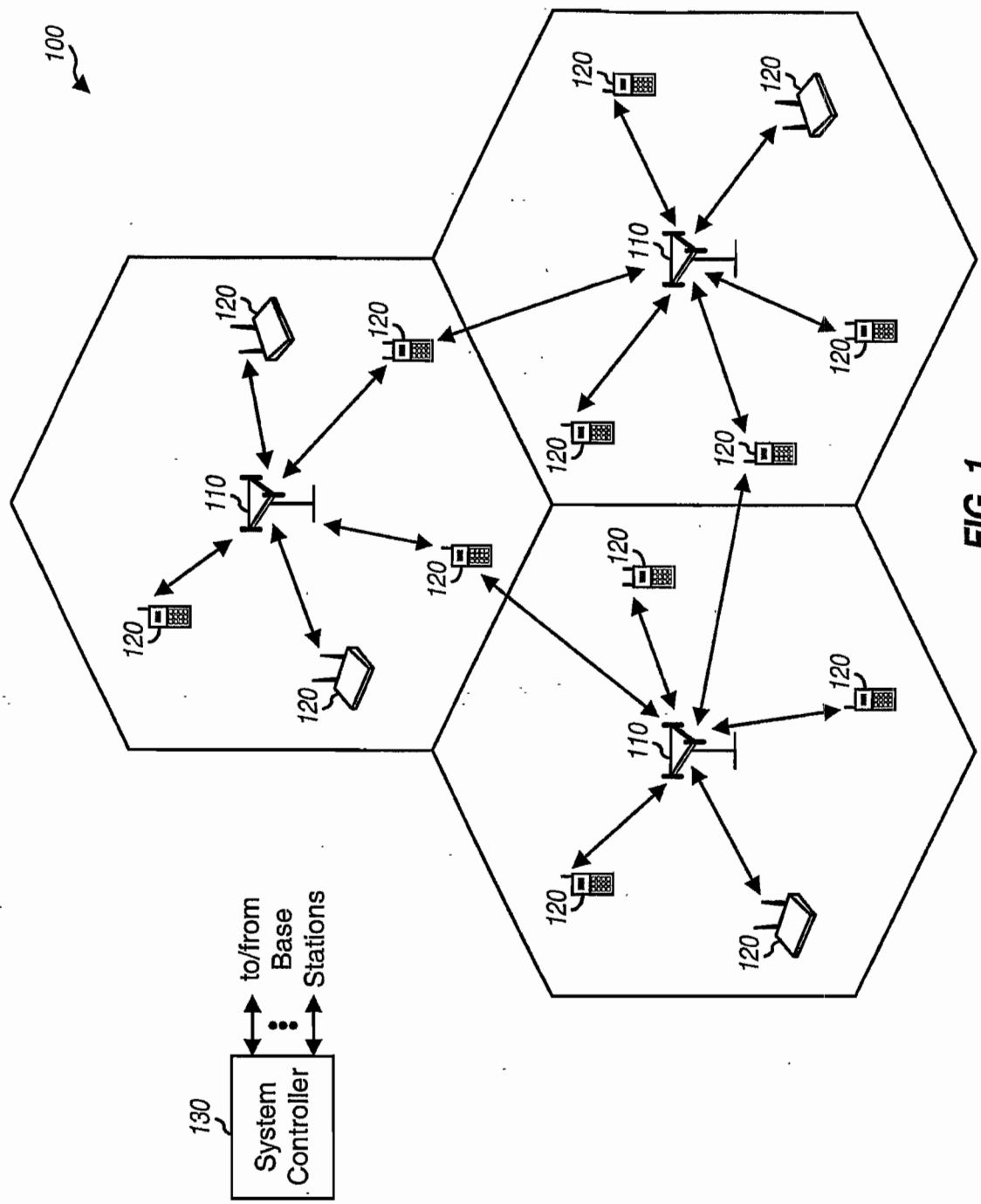

FIG. 1

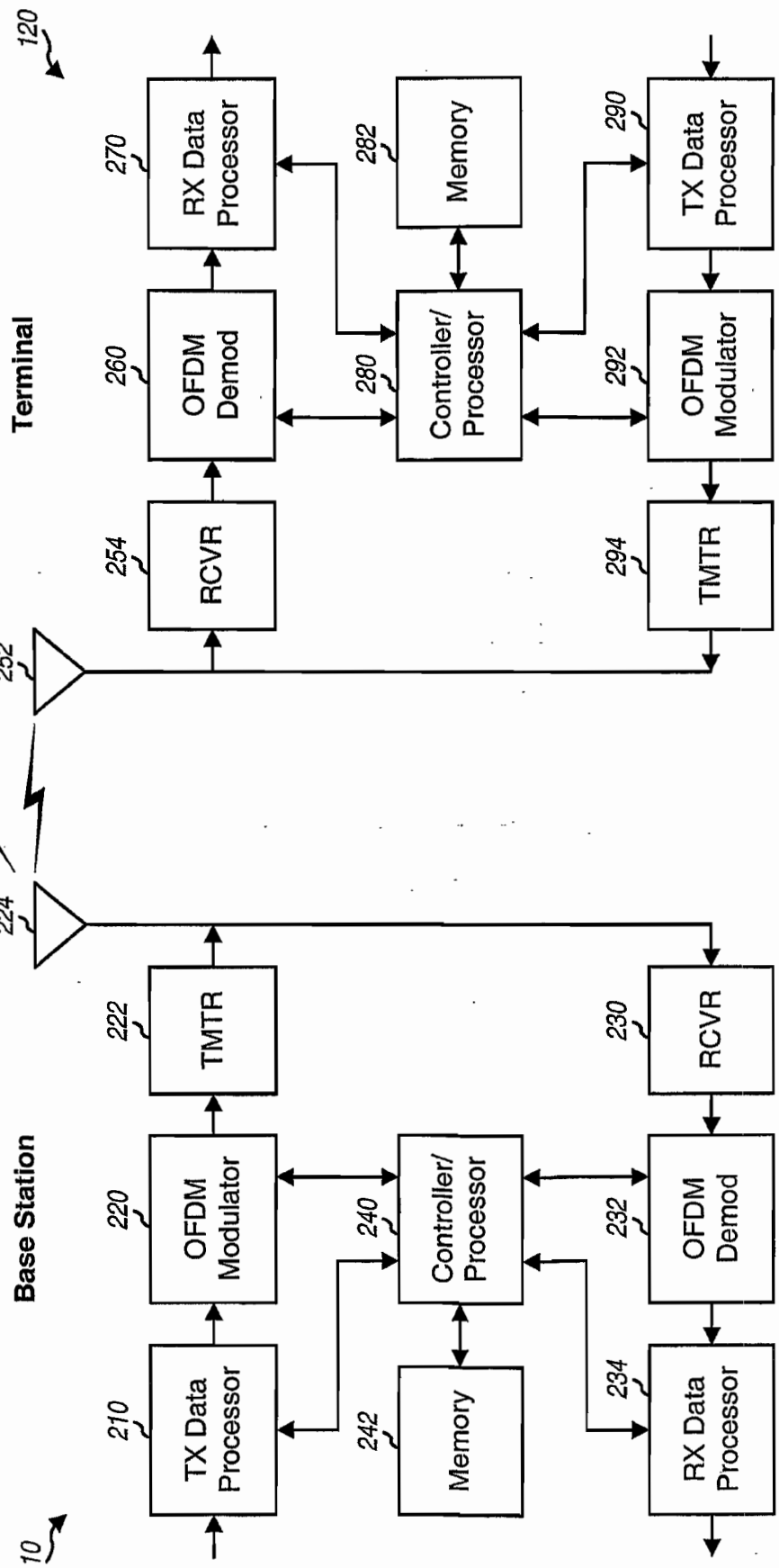
120
Terminal
270
RX Data Processor
282
Memory
290
TX Data Processor
260
OFDM Demod
280
Controller/ Processor
292
OFDM Modulator
254
RCVR
294
TMTR
252
224
Base Station
222
TMTR
230
RCVR
220
OFDM Modulator
240
Controller/ Processor
232
OFDM Demod
210
TX Data Processor
242
Memory
234
RX Data Processor
110

FIG. 2

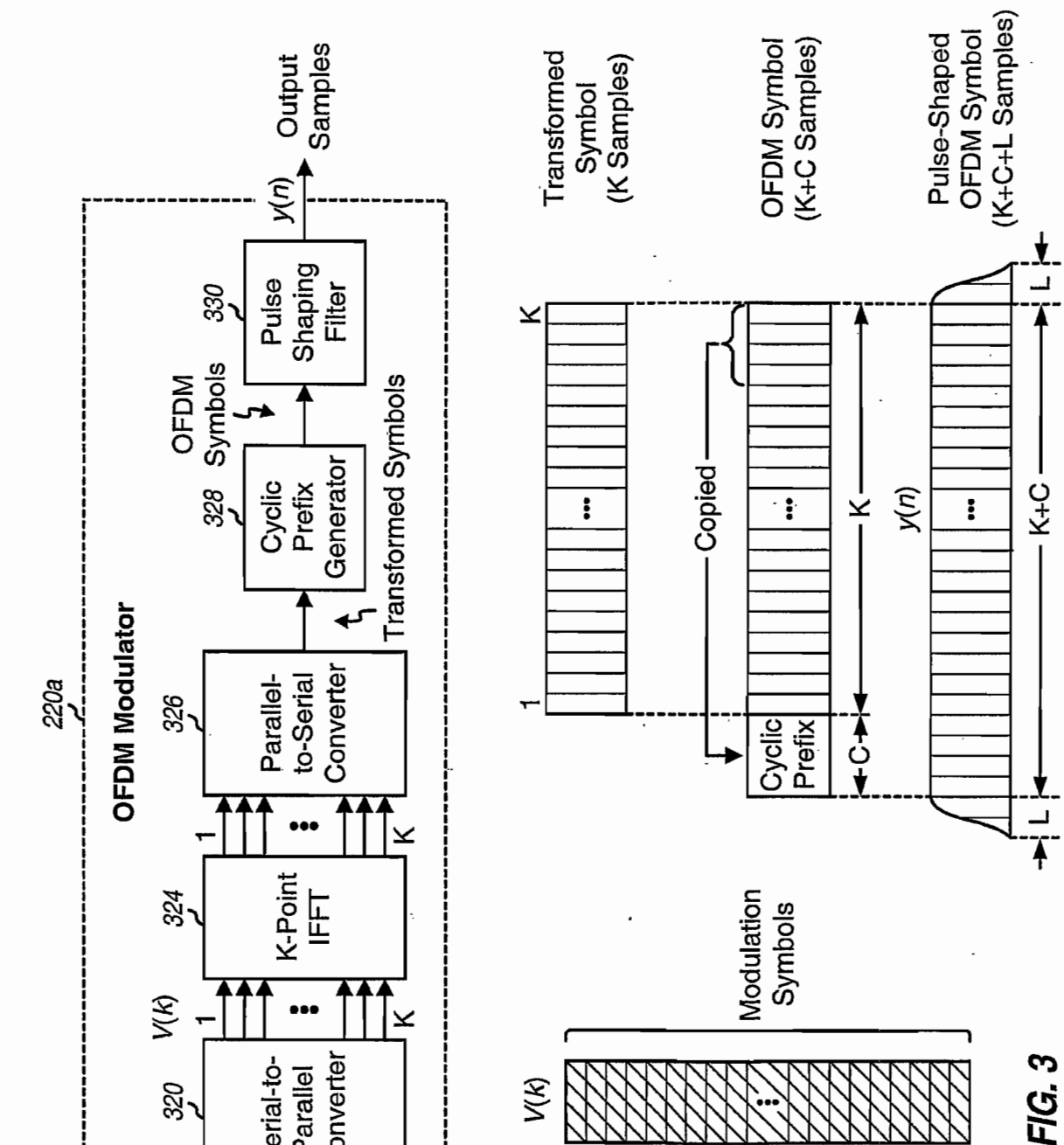
220a
OFDM Modulator
320
Serial-to-Parallel Converter
V(k)
1
K
324
K-Point IFFT
326
Parallel-to-Serial Converter
Transformed Symbols
OFDM Symbols
328
Cyclic Prefix Generator
330
Pulse Shaping Filter
y(n)
Output Samples
Modulation Symbols
Transformed Symbol (K Samples)
OFDM Symbol (K+C Samples)
Pulse-Shaped OFDM Symbol (K+C+L Samples)
Copied
Cyclic Prefix
C
K
K+C
L

FIG. 3

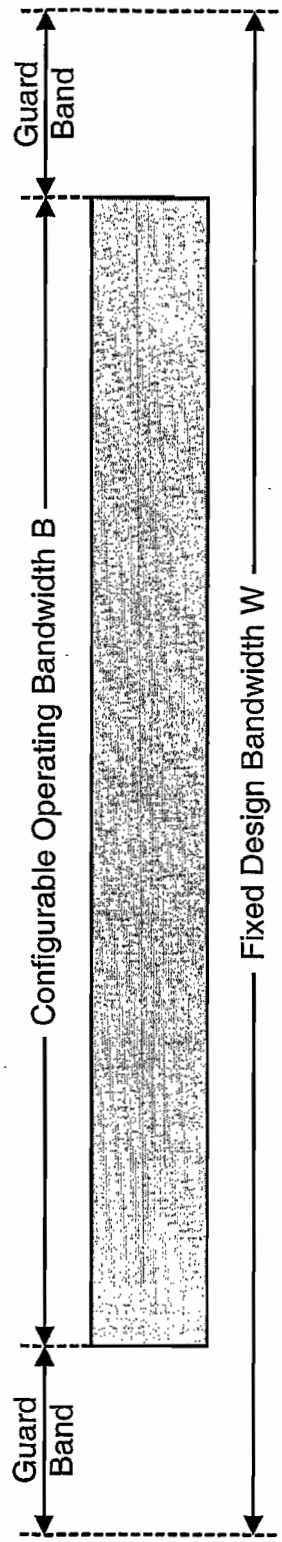

FIG. 4

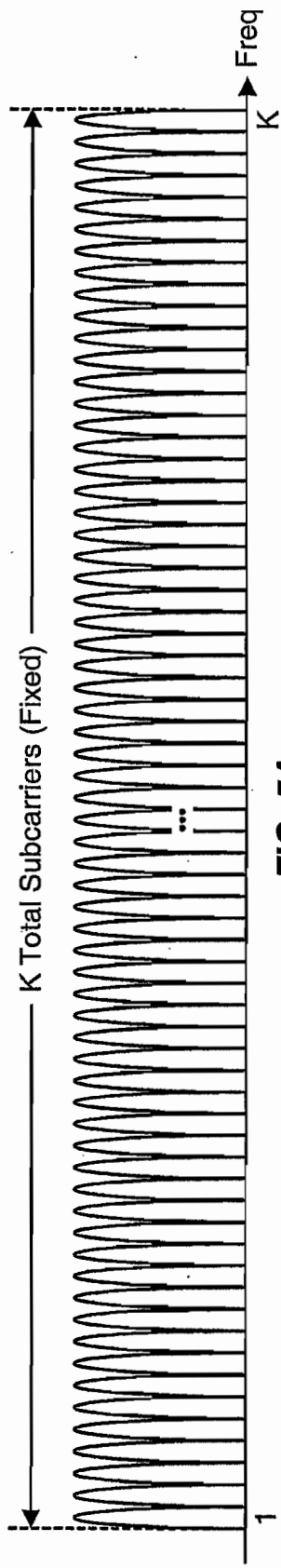

FIG. 5A

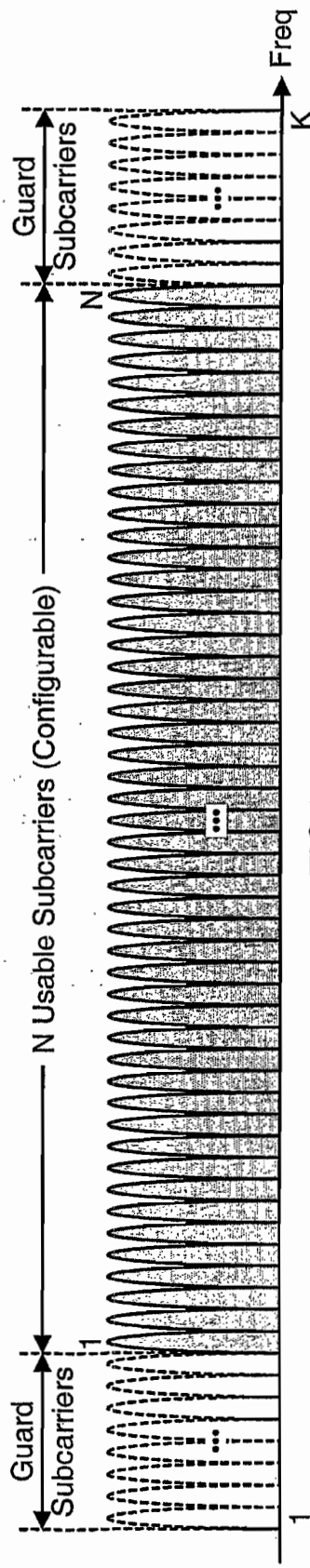

FIG. 5B

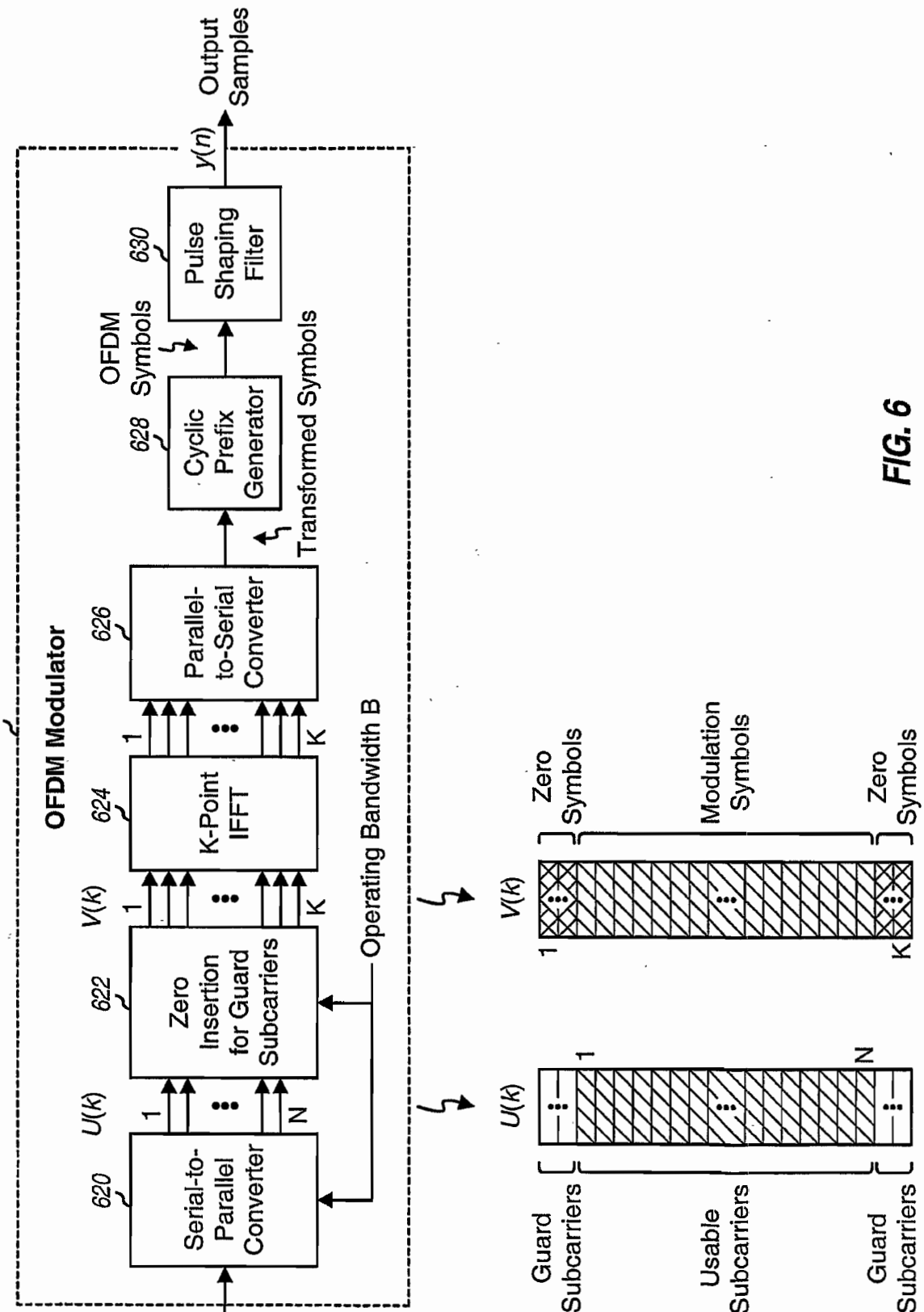
Modulation Symbols
220b
OFDM Modulator
620
Serial-to-Parallel Converter
U(k)
1
N
622
Zero Insertion for Guard Subcarriers
V(k)
1
K
624
K-Point IFFT
1
K
626
Parallel-to-Serial Converter
Transformed Symbols
628
Cyclic Prefix Generator
OFDM Symbols
630
Pulse Shaping Filter
y(n)
Output Samples
Operating Bandwidth B
U(k)
1
N
Guard Subcarriers
Usable Subcarriers
Guard Subcarriers
V(k)
1
K
Zero Symbols
Modulation Symbols
Zero Symbols

FIG. 6

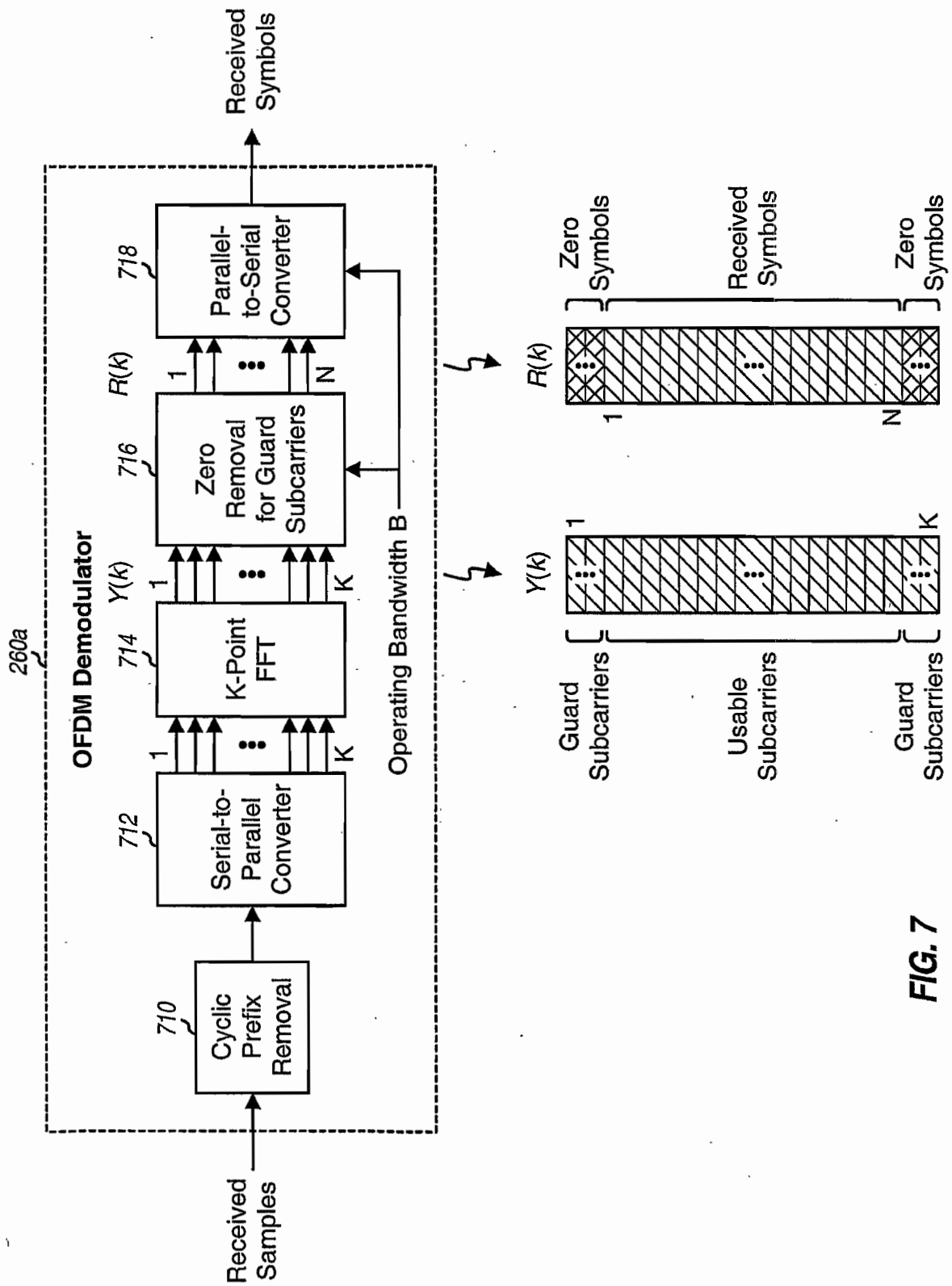
Received Samples
OFDM Demodulator
260a
710
Cyclic Prefix Removal
712
Serial-to-Parallel Converter
714
K-Point FFT
716
Zero Removal for Guard Subcarriers
718
Parallel-to-Serial Converter
Y(k)
R(k)
1
K
N
Operating Bandwidth B
Received Symbols
Guard Subcarriers
Usable Subcarriers
Zero Symbols
Received Symbols
Zero Symbols

FIG. 7

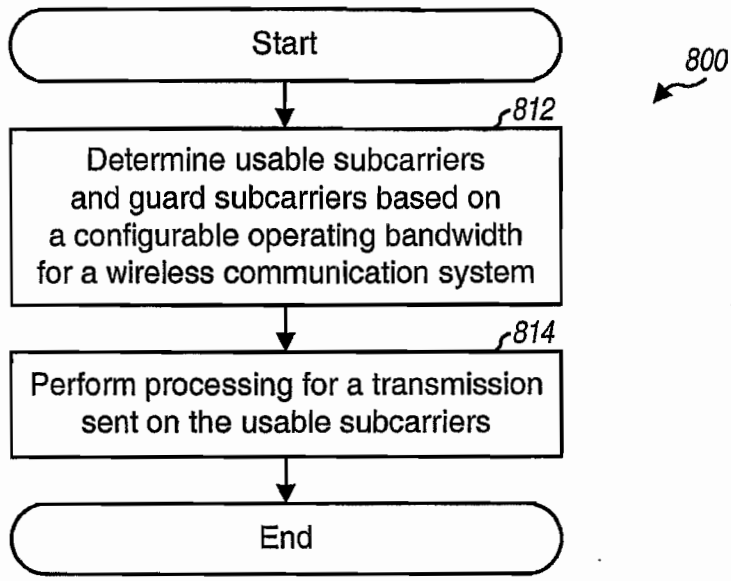
Start
800
812
Determine usable subcarriers and guard subcarriers based on a configurable operating bandwidth for a wireless communication system
814
Perform processing for a transmission sent on the usable subcarriers
End

FIG. 8

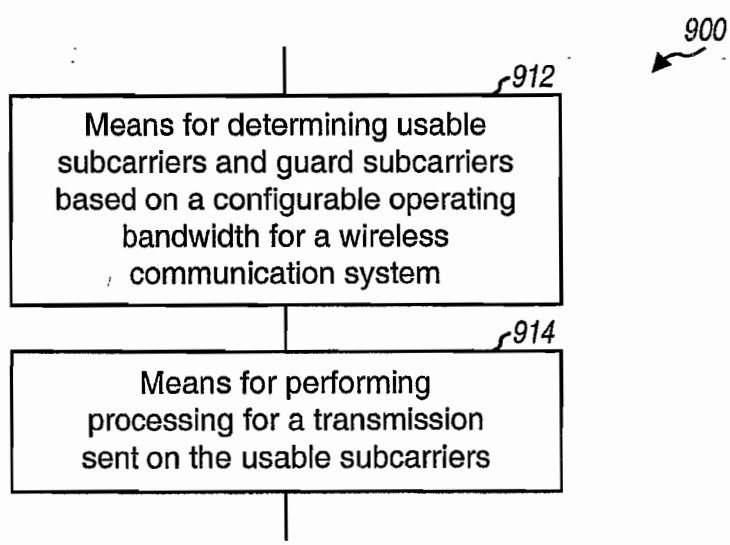
900
912
Means for determining usable subcarriers and guard subcarriers based on a configurable operating bandwidth for a wireless communication system
914
Means for performing processing for a transmission sent on the usable subcarriers

FIG. 9

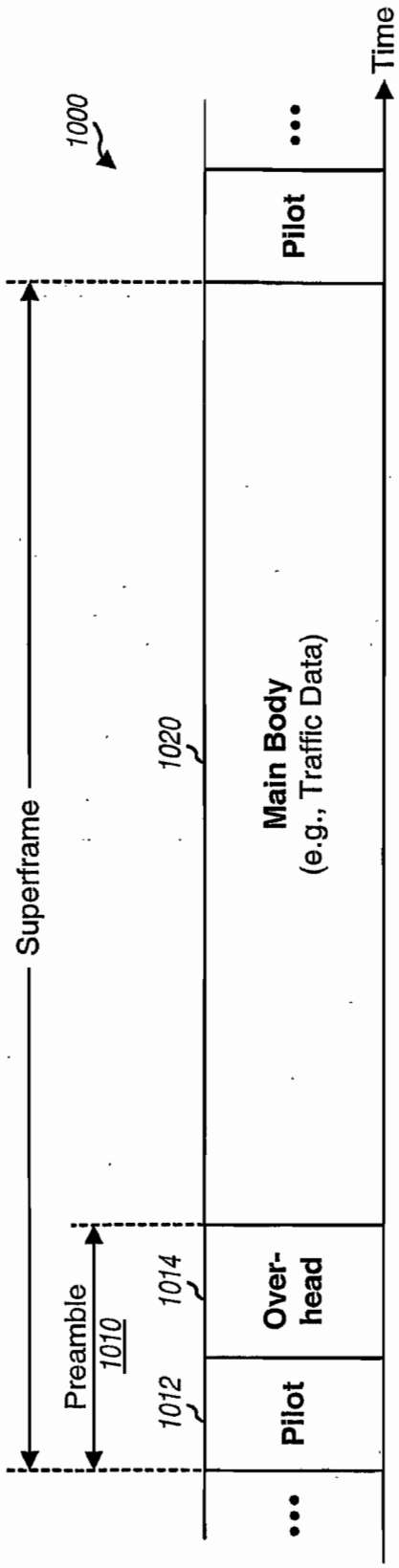
1000
Time
Superframe
Preamble
1010
1012
Pilot
1014
Over-
head
1020
Main Body
(e.g., Traffic Data)
Pilot

FIG. 10

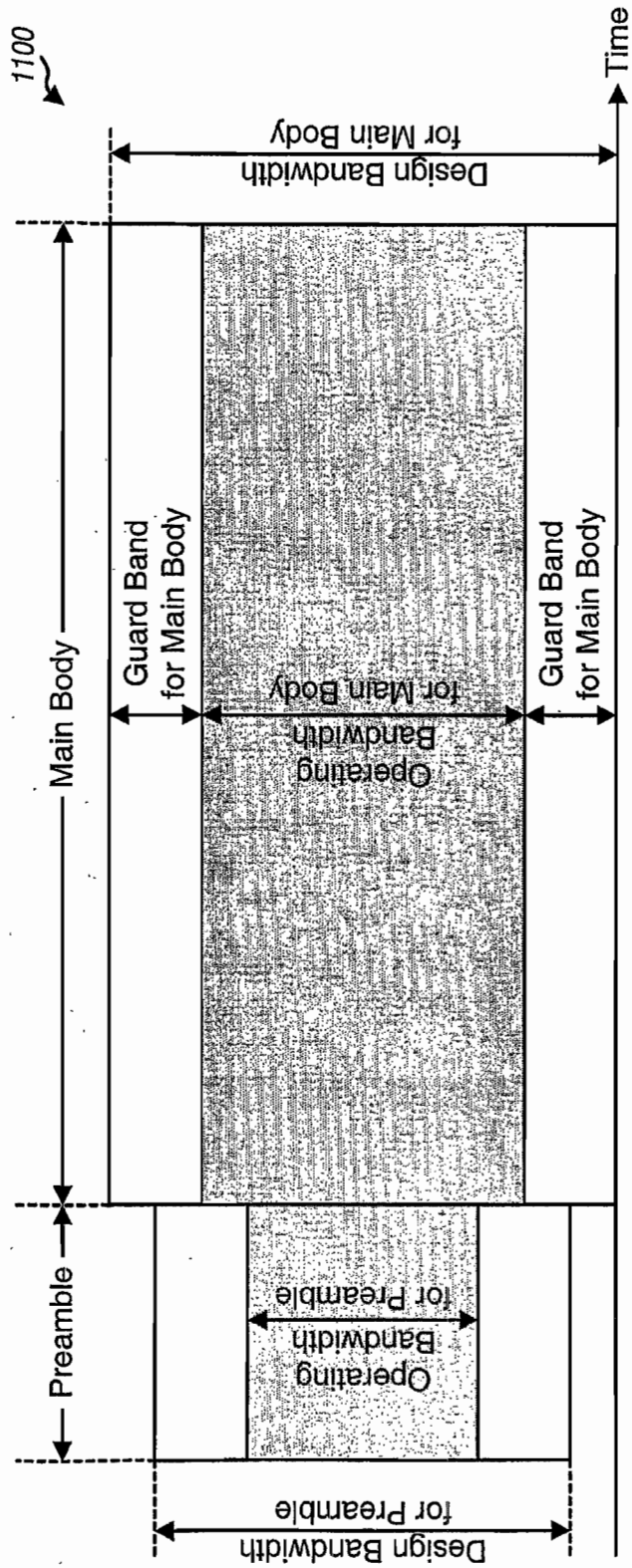
1100
Time
Design Bandwidth
for Main Body
Main Body
Guard Band
for Main Body
Operating
Bandwidth
for Main Body
Guard Band
for Main Body
Preamble
Operating
Bandwidth
for Preamble
Design Bandwidth
for Preamble

FIG. 11

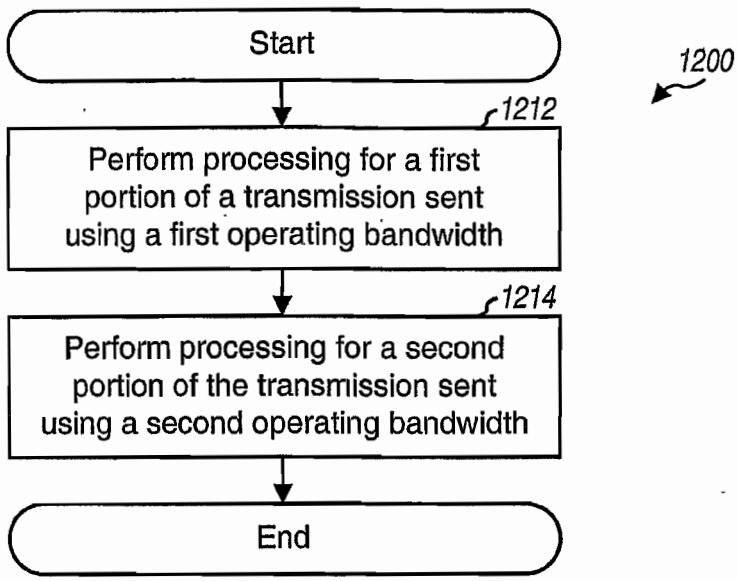
Start
1200
1212
Perform processing for a first portion of a transmission sent using a first operating bandwidth
1214
Perform processing for a second portion of the transmission sent using a second operating bandwidth
End

FIG. 12

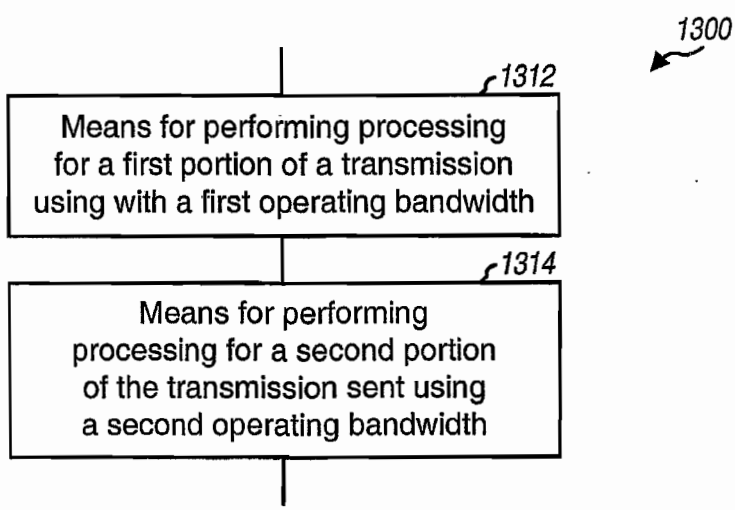
1300
1312
Means for performing processing for a first portion of a transmission using with a first operating bandwidth
1314
Means for performing processing for a second portion of the transmission sent using a second operating bandwidth

FIG. 13