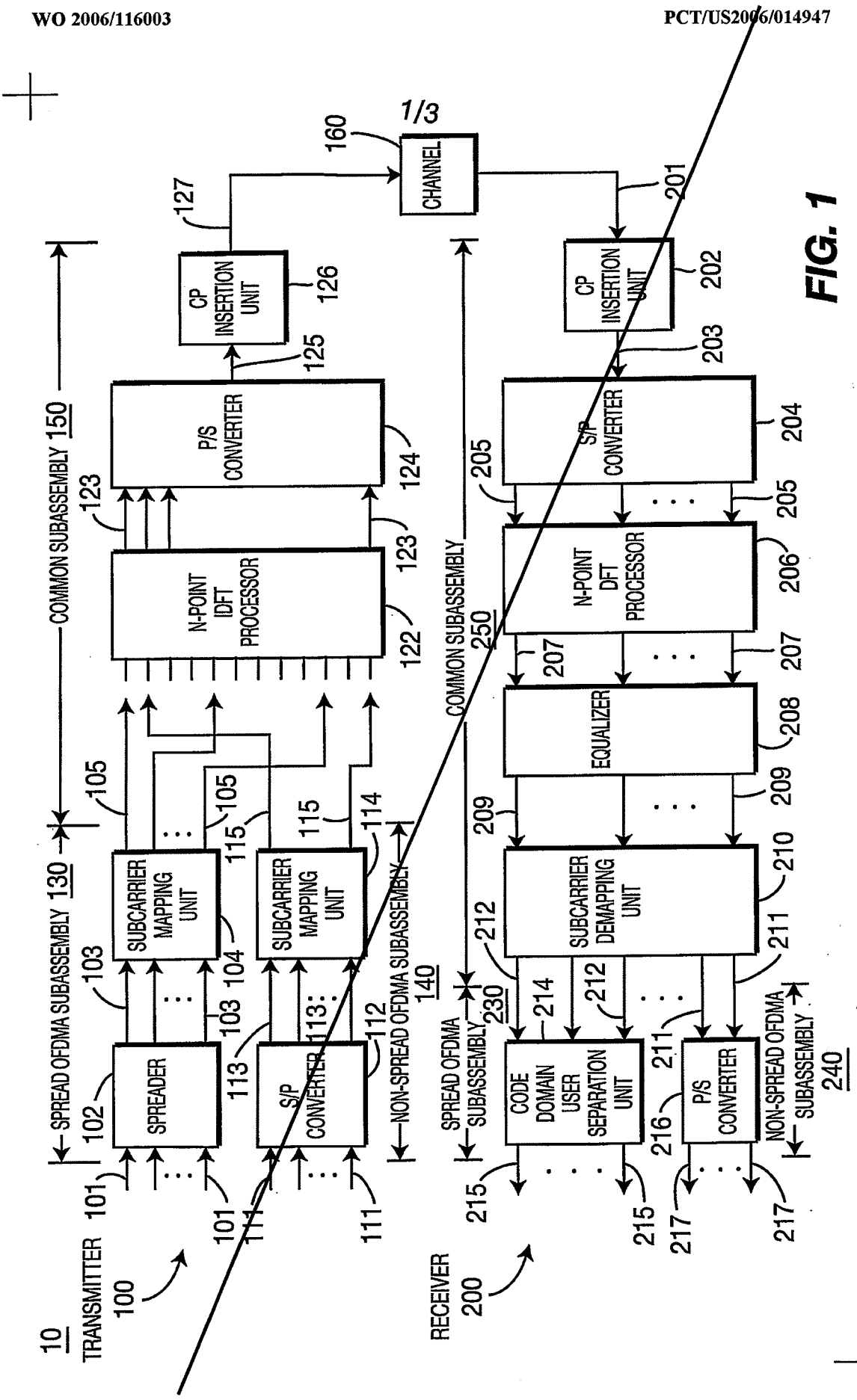
10
TRANSMITTER
100
SPREADER
102
S/P CONVERTER
112
SUBCARRIER MAPPING UNIT
104
SUBCARRIER MAPPING UNIT
114
N-POINT IDFT PROCESSOR
122
P/S CONVERTER
124
CP INSERTION UNIT
126
CHANNEL
160
127
201
CP INSERTION UNIT
202
S/P CONVERTER
204
N-POINT DFT PROCESSOR
206
EQUALIZER
208
SUBCARRIER DEMAPPING UNIT
210
CODE DOMAIN USER SEPARATION UNIT
P/S CONVERTER
216
SPREAD OFDMA SUBASSEMBLY 130
COMMON SUBASSEMBLY 150
NON-SPREAD OFDMA SUBASSEMBLY 140
COMMON SUBASSEMBLY 250
SPREAD OFDMA SUBASSEMBLY 230
NON-SPREAD OFDMA SUBASSEMBLY 240
RECEIVER
200

FIG. 1

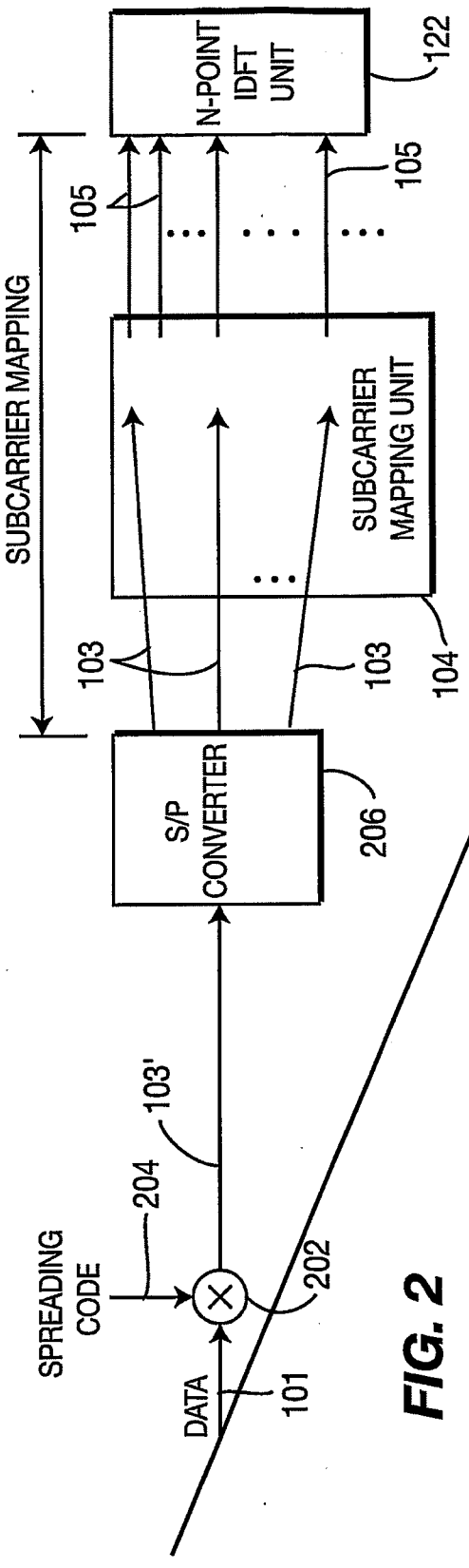
DATA
101
SPREADING CODE
204
103'
202
S/P CONVERTER
206
103
103
SUBCARRIER MAPPING
SUBCARRIER MAPPING UNIT
104
105
105
N-POINT IDFT UNIT
122

FIG. 2

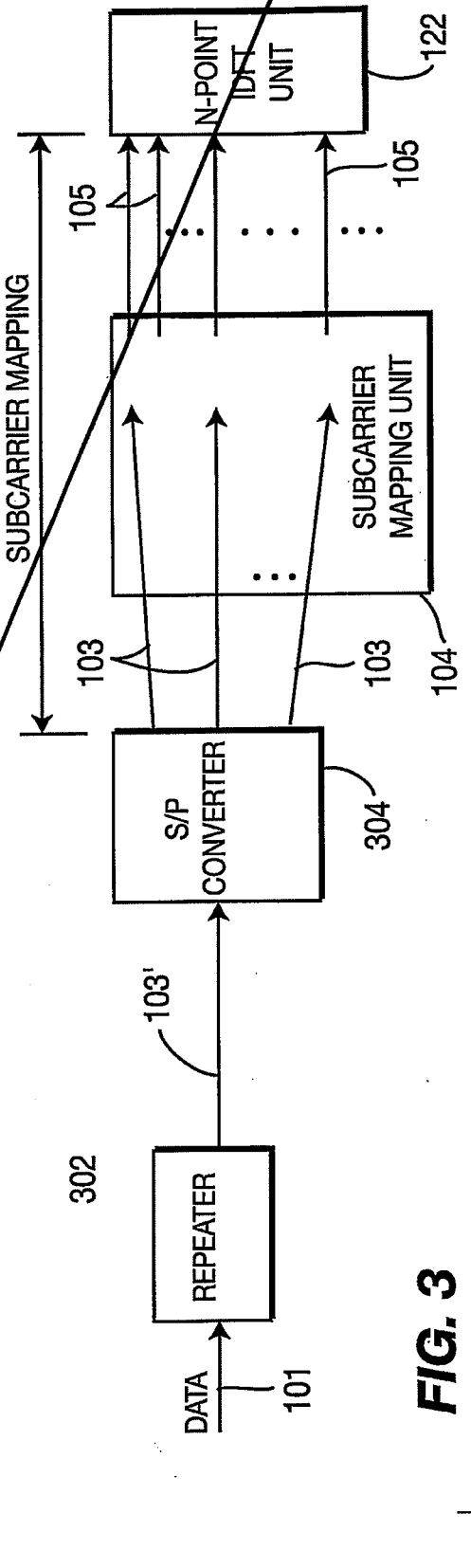
DATA
101
302
REPEATER
103'
S/P CONVERTER
304
103
103
SUBCARRIER MAPPING
SUBCARRIER MAPPING UNIT
104
105
105
N-POINT IDFT UNIT
122

FIG. 3

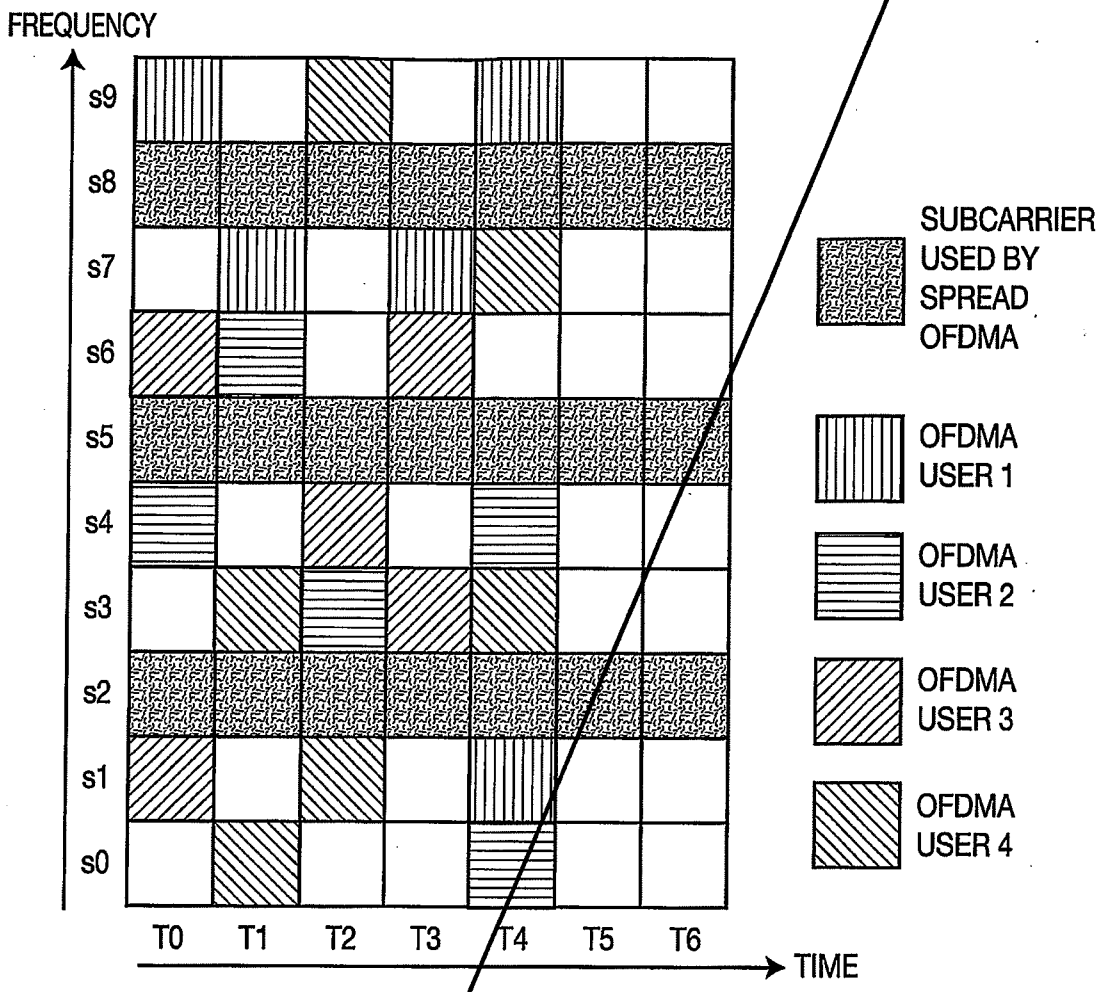
FREQUENCY
s9
s8
s7
s6
s5
s4
s3
s2
s1
s0
T0
T1
T2
T3
T4
T5
T6
TIME
SUBCARRIER USED BY SPREAD OFDMA
OFDMA USER 1
OFDMA USER 2
OFDMA USER 3
OFDMA USER 4

FIG. 4

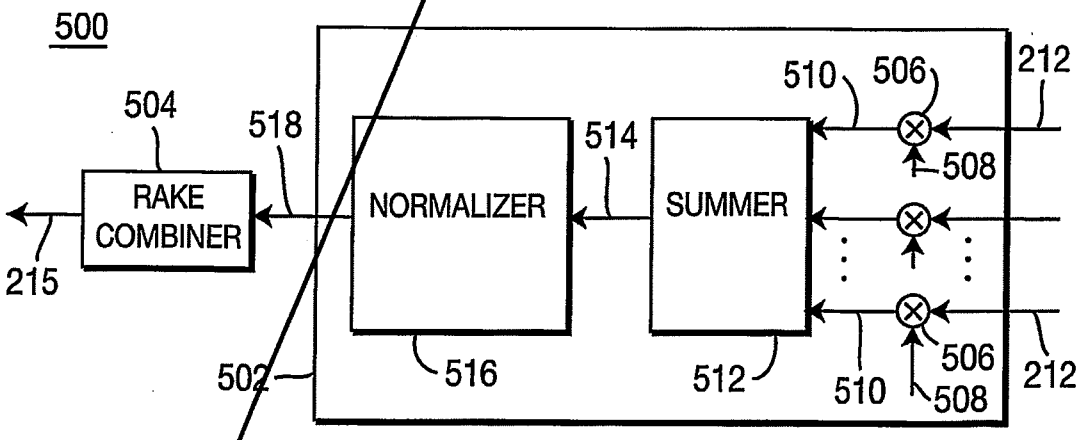
500
504
518
514
510
506
212
508
RAKE COMBINER
NORMALIZER
SUMMER
215
502
516
512
510
506
508
212

FIG. 5

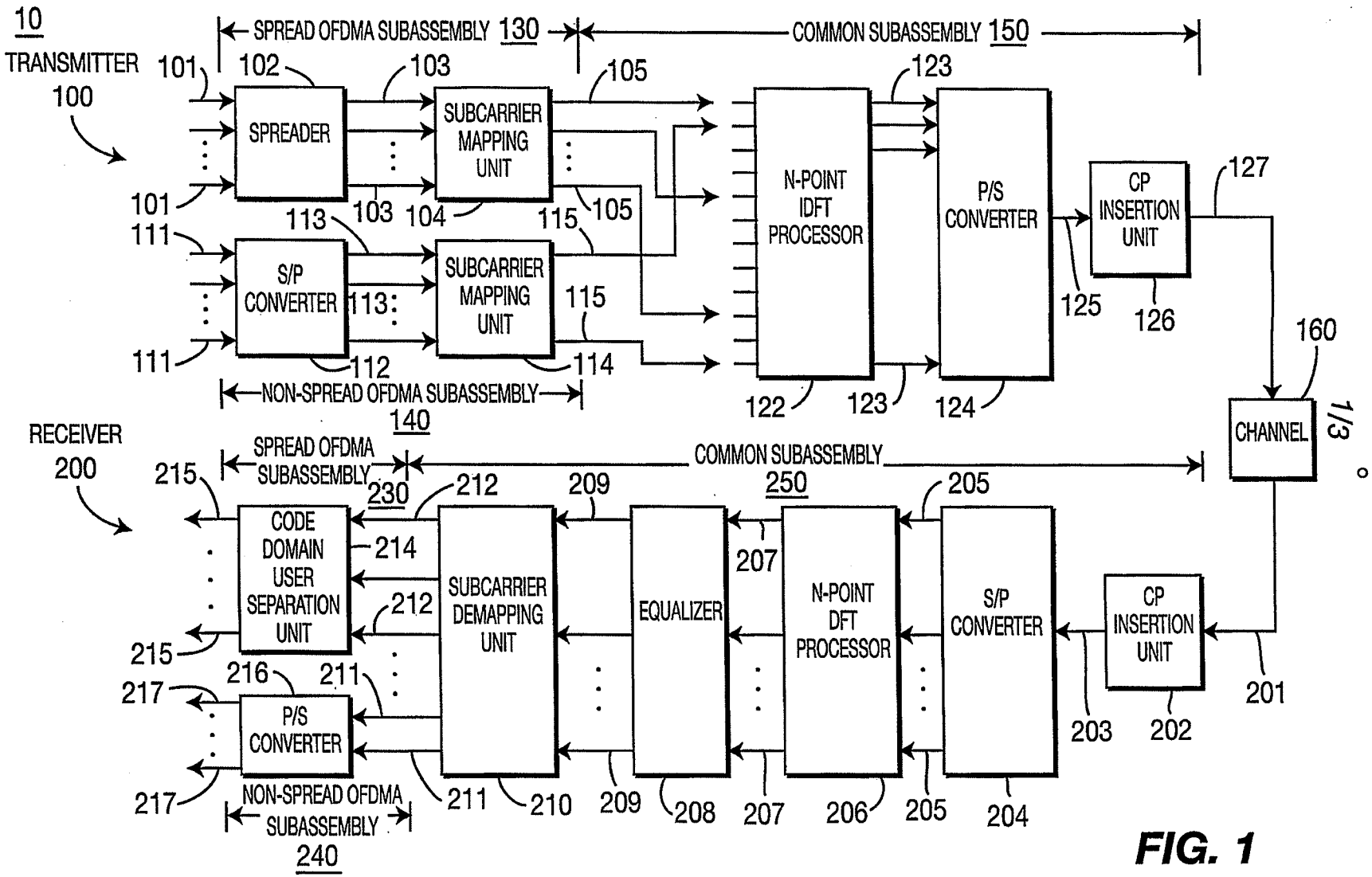
10
TRANSMITTER
100
SPREAD OFDMA SUBASSEMBLY 130
COMMON SUBASSEMBLY 150
SPREADER
SUBCARRIER MAPPING UNIT
S/P CONVERTER
SUBCARRIER MAPPING UNIT
N-POINT IDFT PROCESSOR
P/S CONVERTER
CP INSERTION UNIT
CHANNEL
NON-SPREAD OFDMA SUBASSEMBLY
140
RECEIVER
200
SPREAD OFDMA SUBASSEMBLY
230
COMMON SUBASSEMBLY
250
CODE DOMAIN USER SEPARATION UNIT
SUBCARRIER DEMAPPING UNIT
EQUALIZER
N-POINT DFT PROCESSOR
S/P CONVERTER
CP INSERTION UNIT
P/S CONVERTER
NON-SPREAD OFDMA SUBASSEMBLY
240
101
102
103
104
105
111
112
113
114
115
122
123
124
125
126
127
160
201
202
203
204
205
206
207
208
209
210
211
212
214
215
216
217

FIG. 1

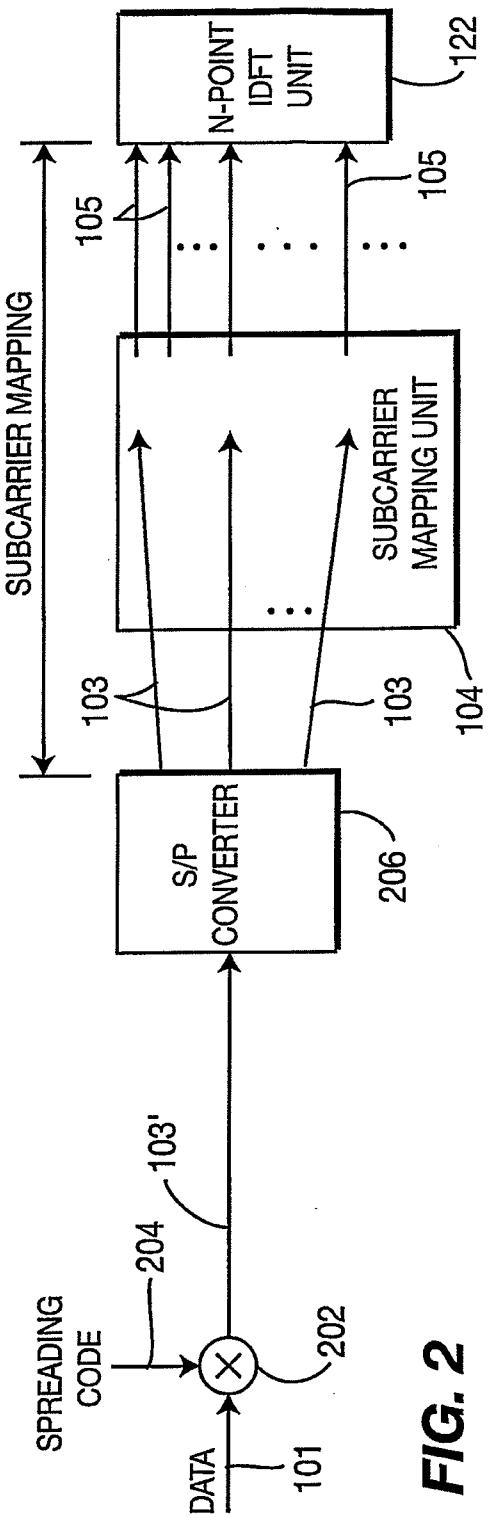
DATA
101
SPREADING CODE
204
202
103'
S/P CONVERTER
206
SUBCARRIER MAPPING
103
SUBCARRIER MAPPING UNIT
104
105
N-POINT IDFT UNIT
122

FIG. 2

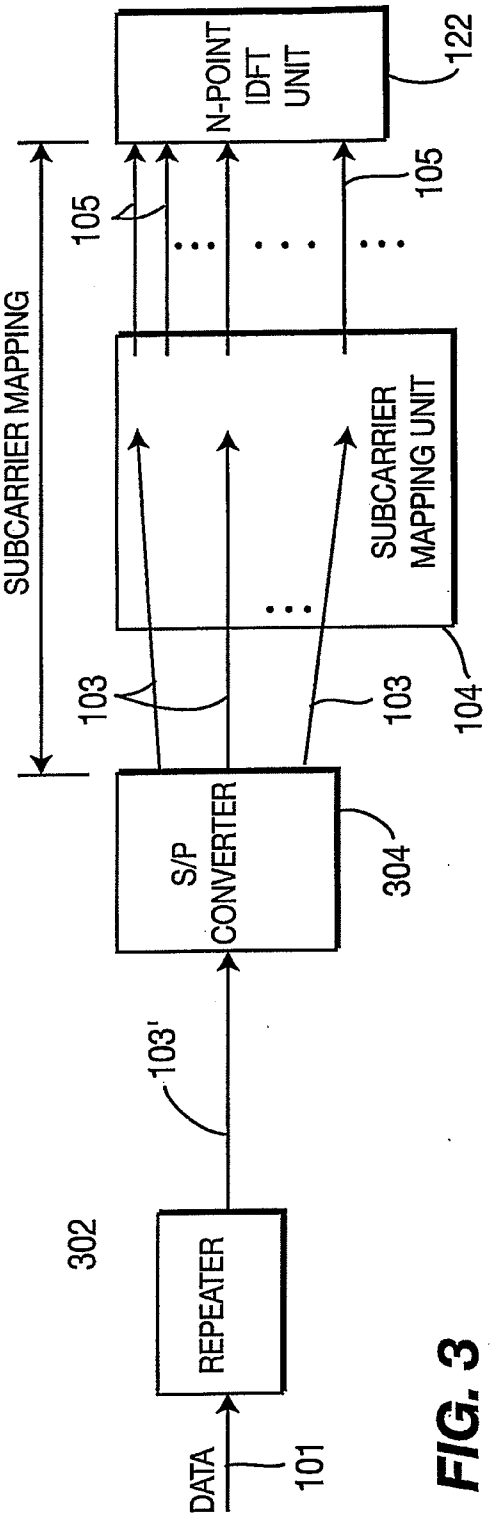
DATA
101
302
REPEATER
103'
S/P CONVERTER
304
SUBCARRIER MAPPING
103
SUBCARRIER MAPPING UNIT
104
105
N-POINT IDFT UNIT
122

FIG. 3

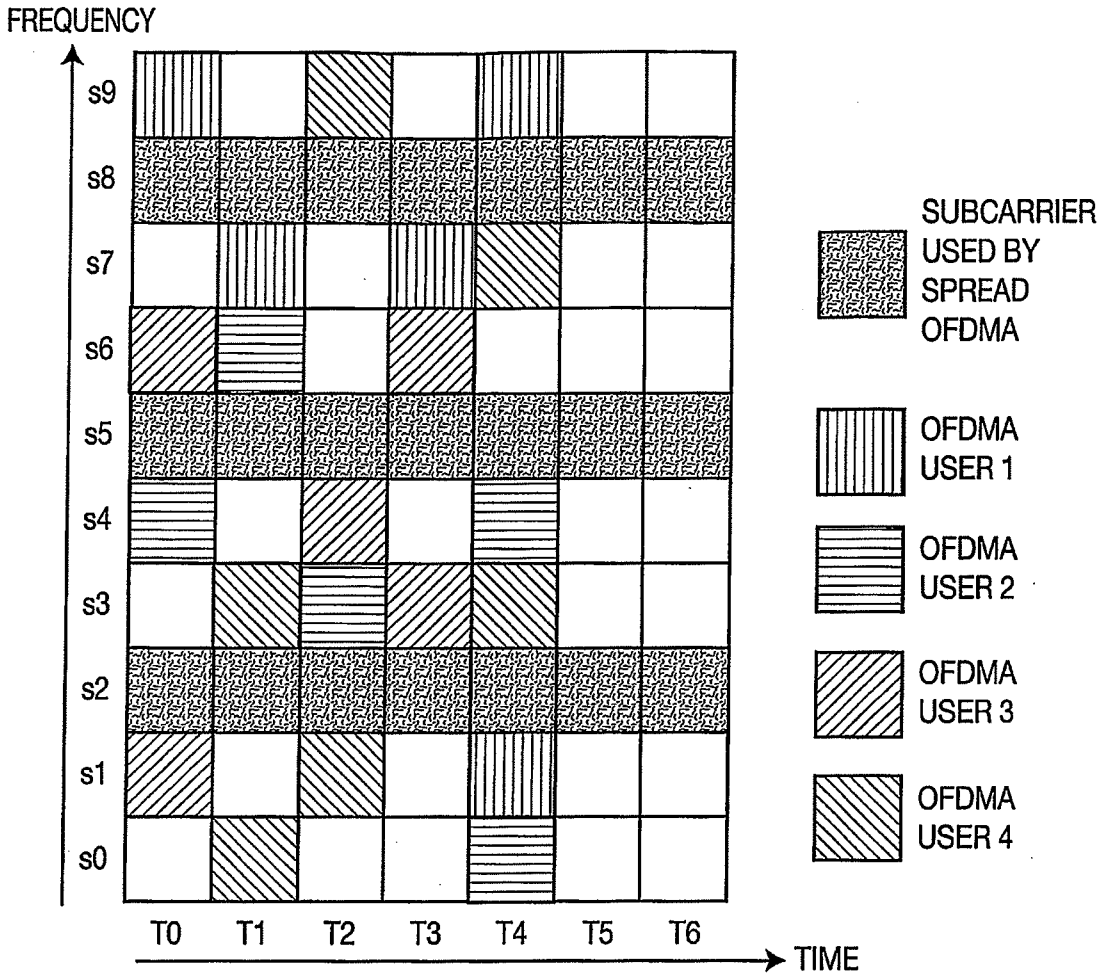
FREQUENCY
s9
s8
s7
s6
s5
s4
s3
s2
s1
s0
T0
T1
T2
T3
T4
T5
T6
TIME
SUBCARRIER USED BY SPREAD OFDMA
OFDMA USER 1
OFDMA USER 2
OFDMA USER 3
OFDMA USER 4

FIG. 4

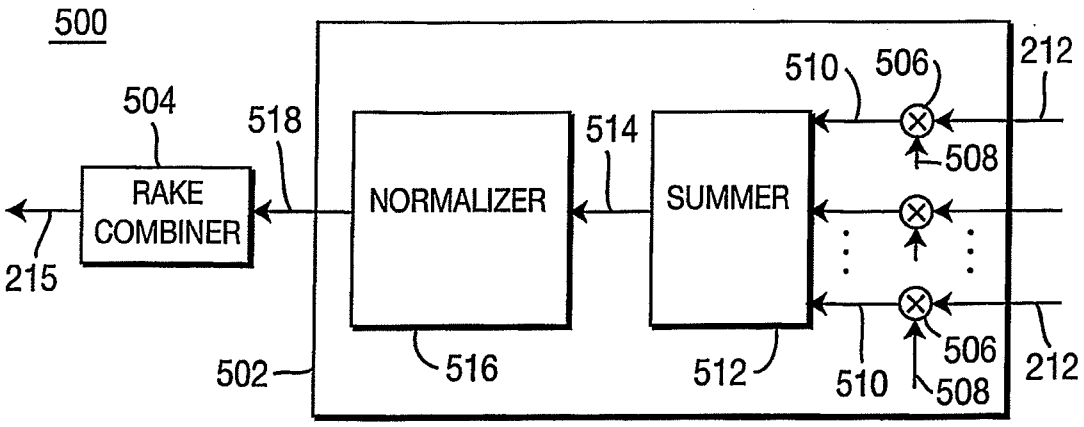
500
504
518
514
510
506
212
508
RAKE COMBINER
NORMALIZER
SUMMER
215
502
516
512
510
506
508
212

FIG. 5