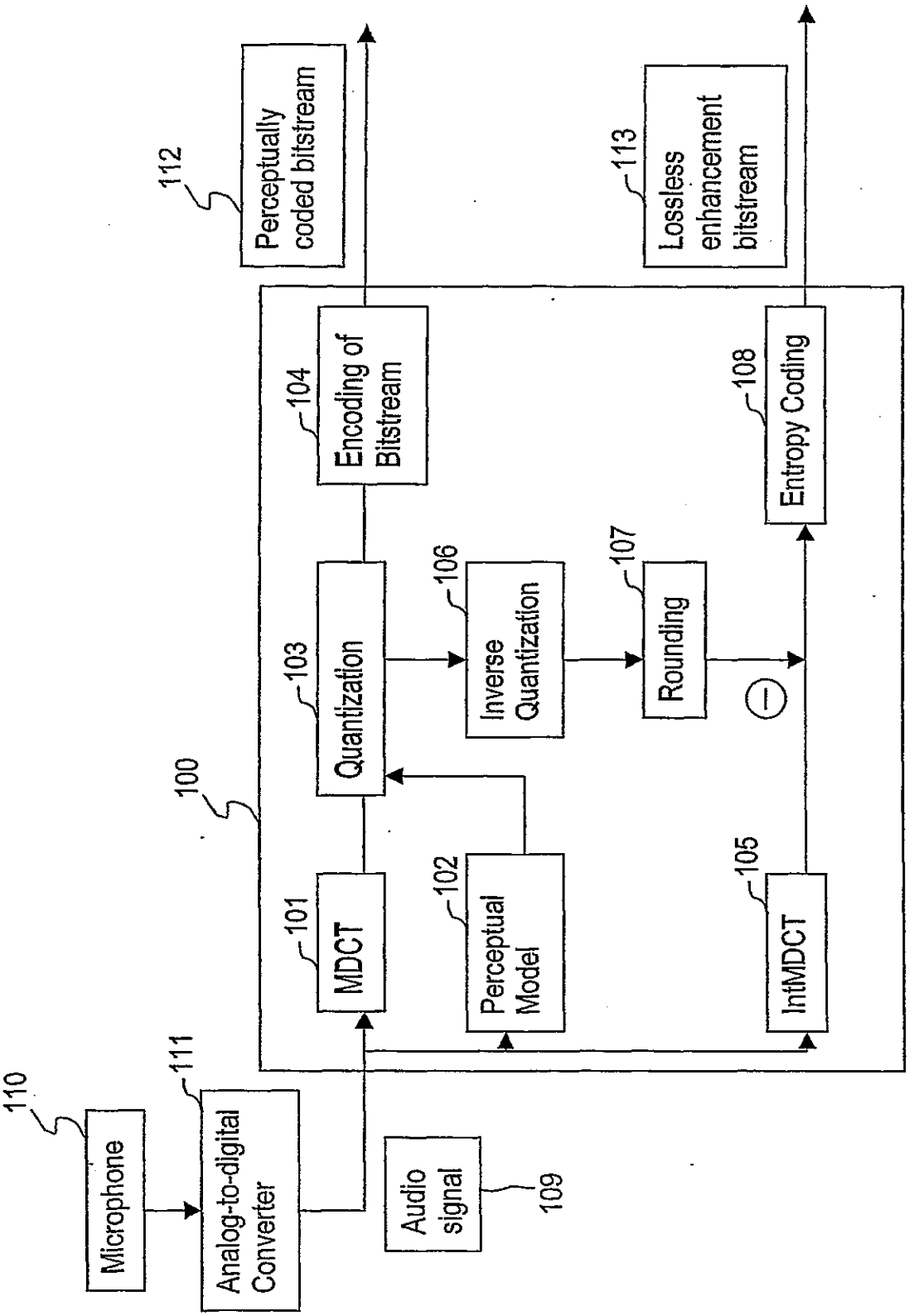

Perceptually coded bitstream
112
Lossless enhancement bitstream
113
Encoding of Bitstream
104
Entropy Coding
108
Quantization
103
Inverse Quantization
106
Rounding
107
MDCT
101
Perceptual Model
102
IntMDCT
105
100
Microphone
110
Analog-to-digital Converter
111
Audio signal
109

Fig. 1

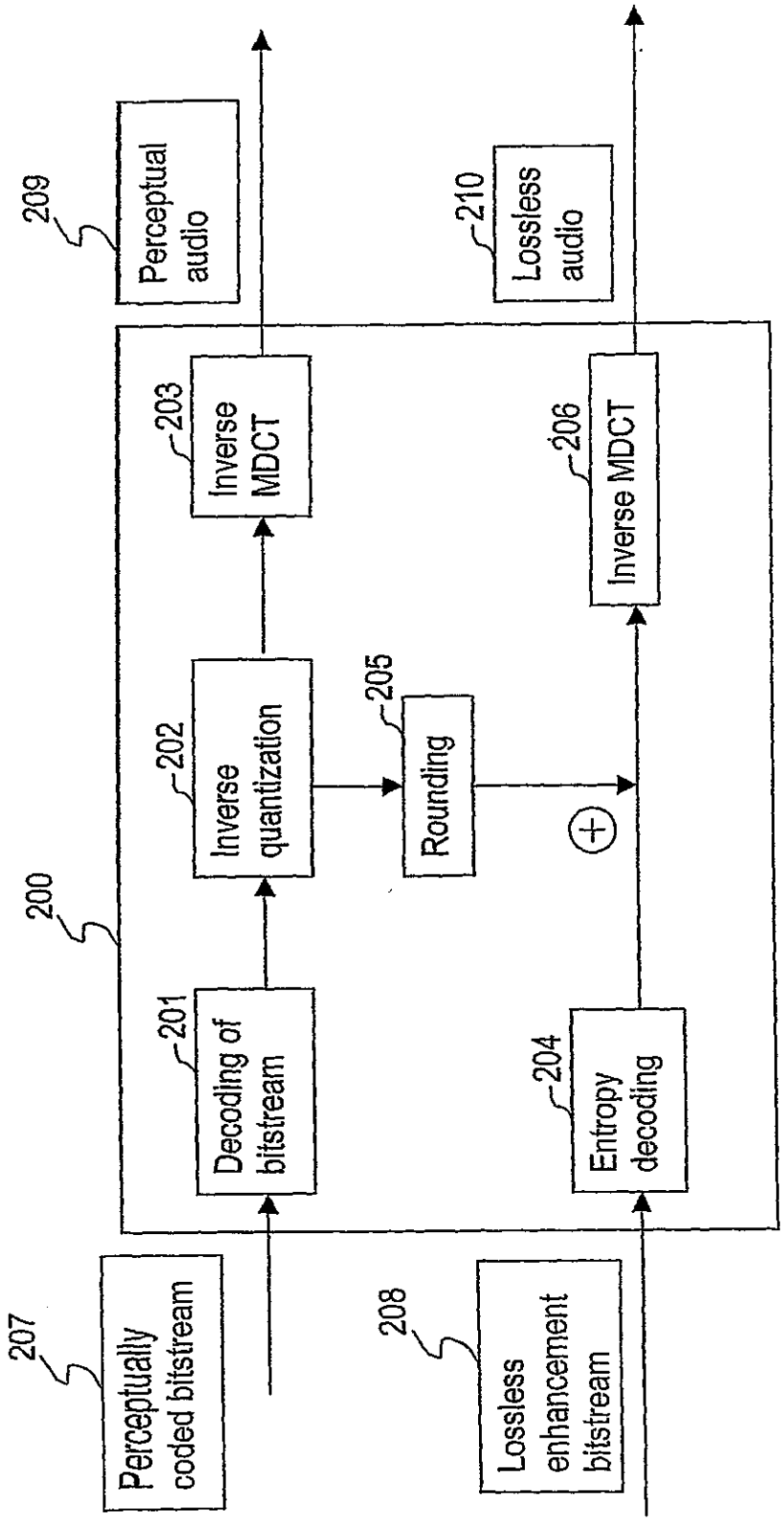

Perceptually coded bitstream
207
Lossless enhancement bitstream
208
200
Decoding of bitstream
201
Inverse quantization
202
Inverse MDCT
203
Rounding
205
Entropy decoding
204
Inverse MDCT
206
Perceptual audio
209
Lossless audio
210

Fig. 2

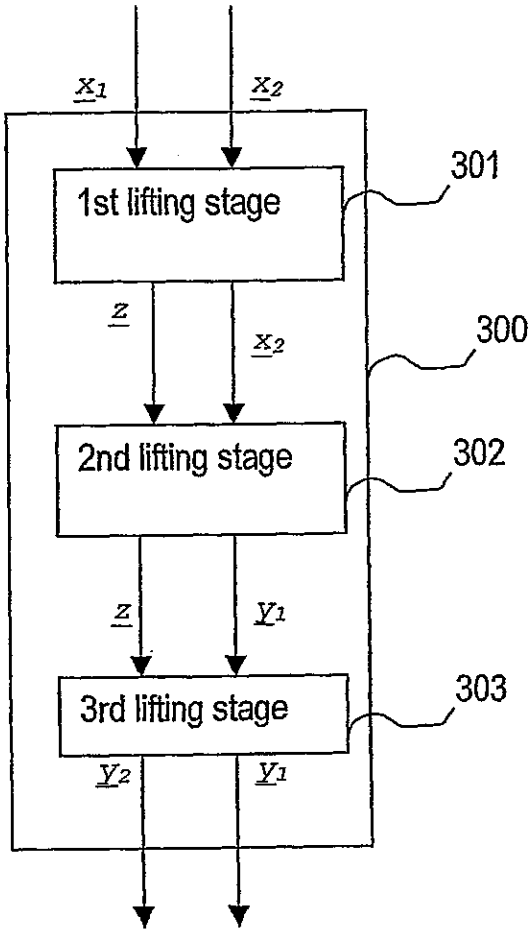

x1
x2
1st lifting stage
301
z
x2
300
2nd lifting stage
302
z
y1
3rd lifting stage
303
y2
y1

Fig. 3

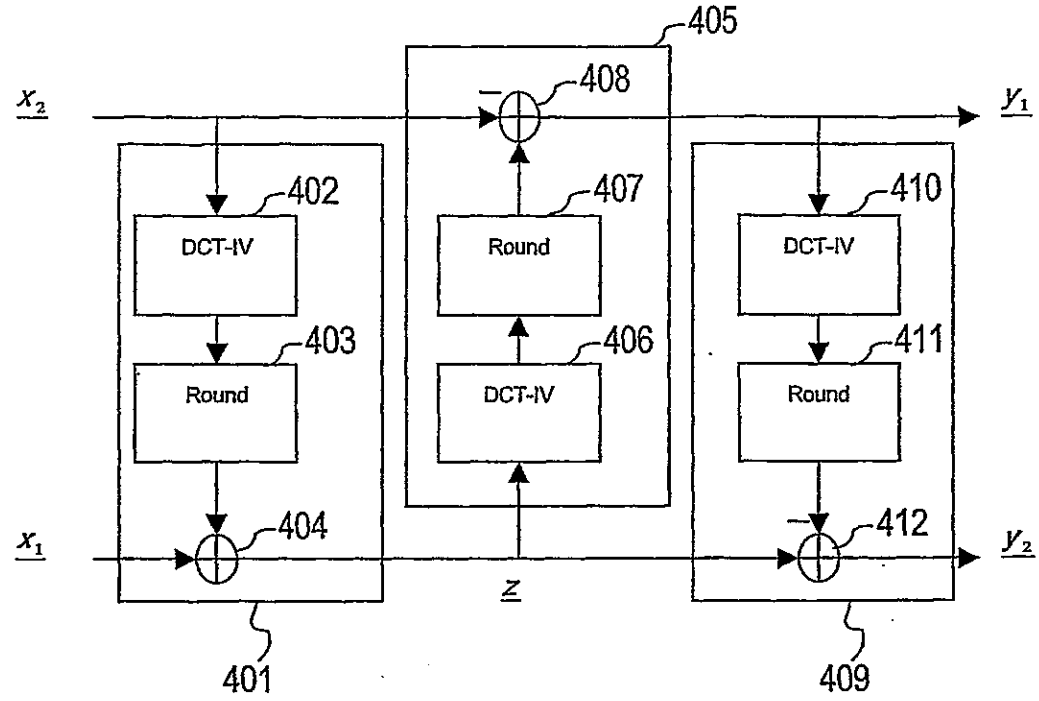

405
408
x_2
y_1
402
DCT-IV
407
Round
410
DCT-IV
403
Round
406
DCT-IV
411
Round
404
412
x_1
y_2
z
401
409

Fig. 4

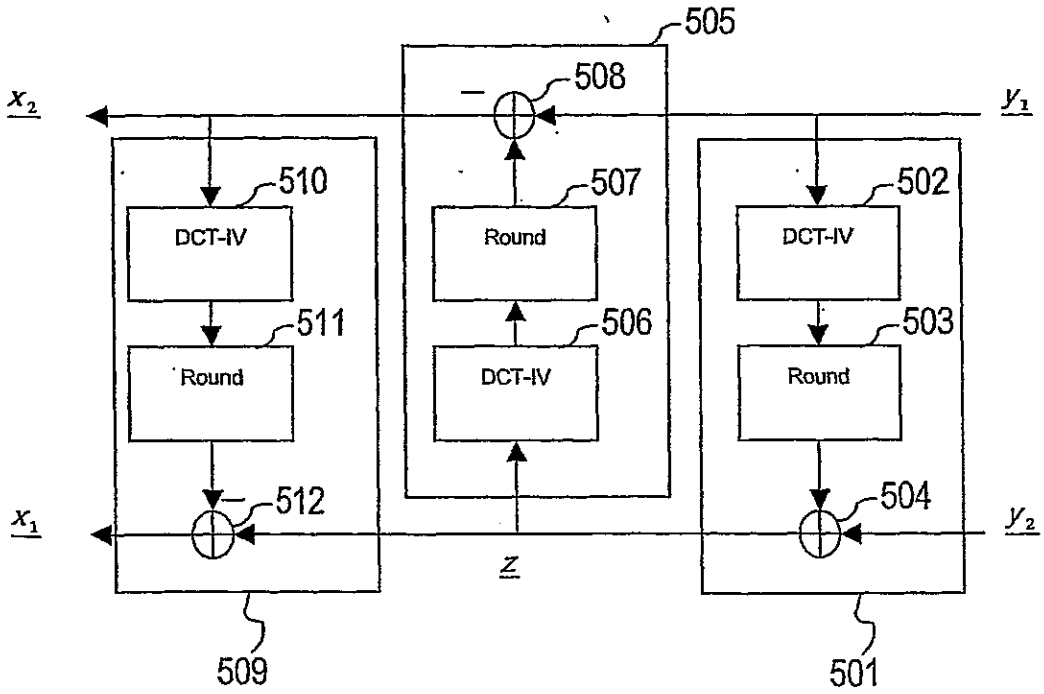

505
508
x_2
y_1
510
DCT-IV
507
Round
502
DCT-IV
511
Round
506
DCT-IV
503
Round
512
504
x_1
y_2
z
509
501

Fig. 5

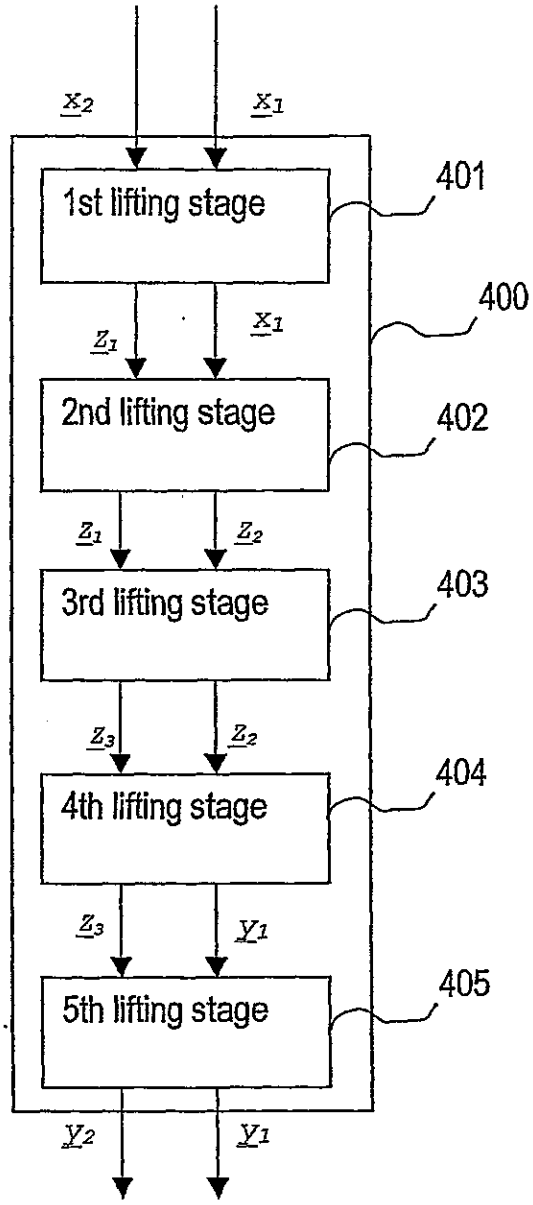

x2
x1
1st lifting stage
401
400
z1
x1
2nd lifting stage
402
z1
z2
3rd lifting stage
403
z3
z2
4th lifting stage
404
z3
y1
5th lifting stage
405
y2
y1

Fig. 6

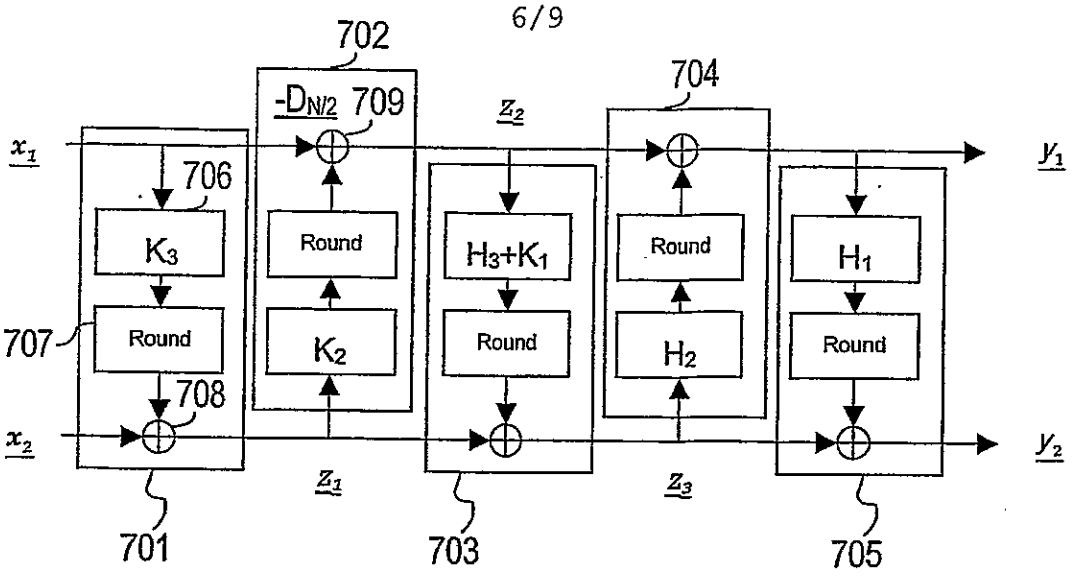

702
-DN/2 709
704
z2
x1
y1
706
K3
Round
H3+K1
Round
H1
Round
707
Round
K2
Round
H2
Round
708
x2
y2
z1
z3
701
703
705

Fig. 7

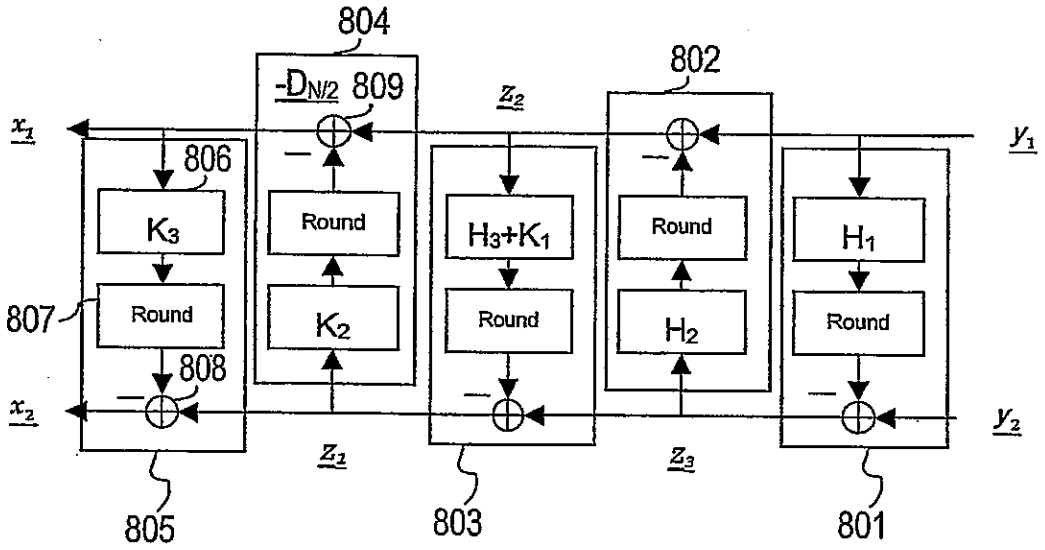

804
-DN/2 809
802
z2
x1
y1
806
K3
Round
H3+K1
Round
H1
Round
807
Round
K2
Round
H2
Round
808
x2
y2
z1
z3
805
803
801

Fig. 8

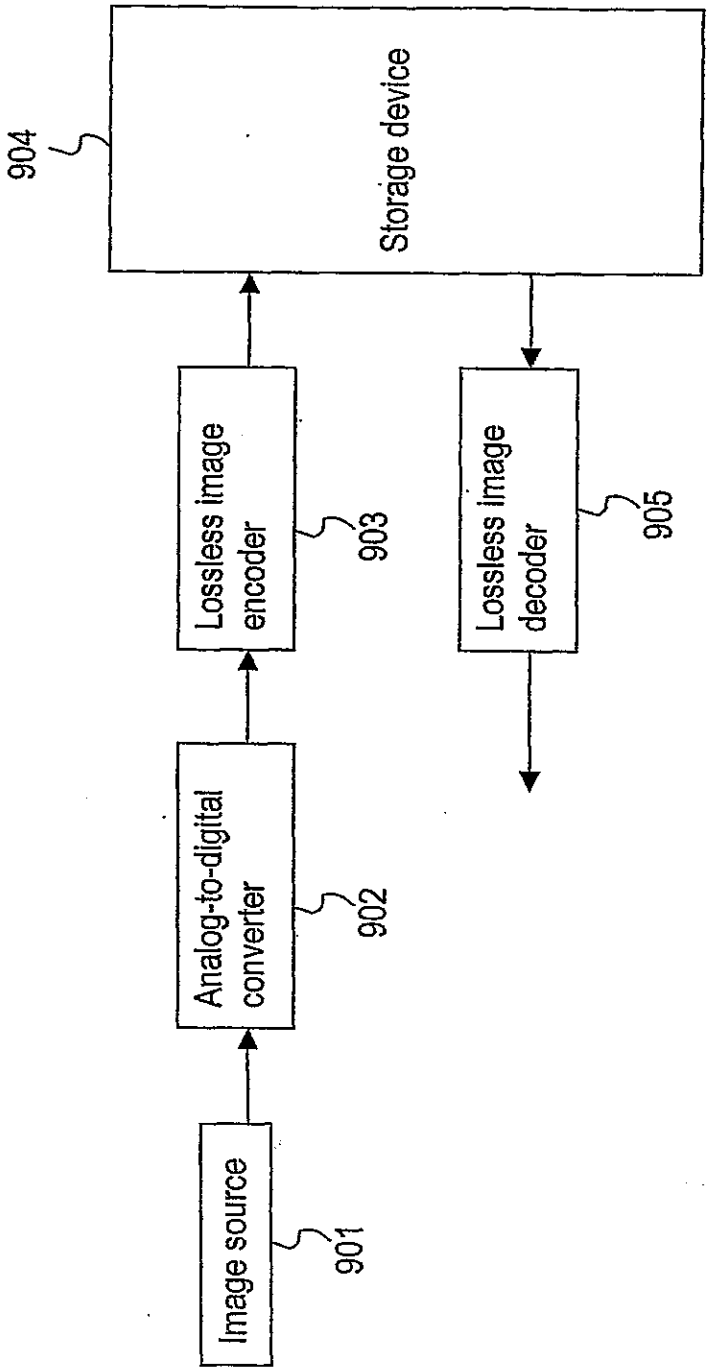

Image source
901
Analog-to-digital converter
902
Lossless image encoder
903
Storage device
904
Lossless image decoder
905

Fig. 9

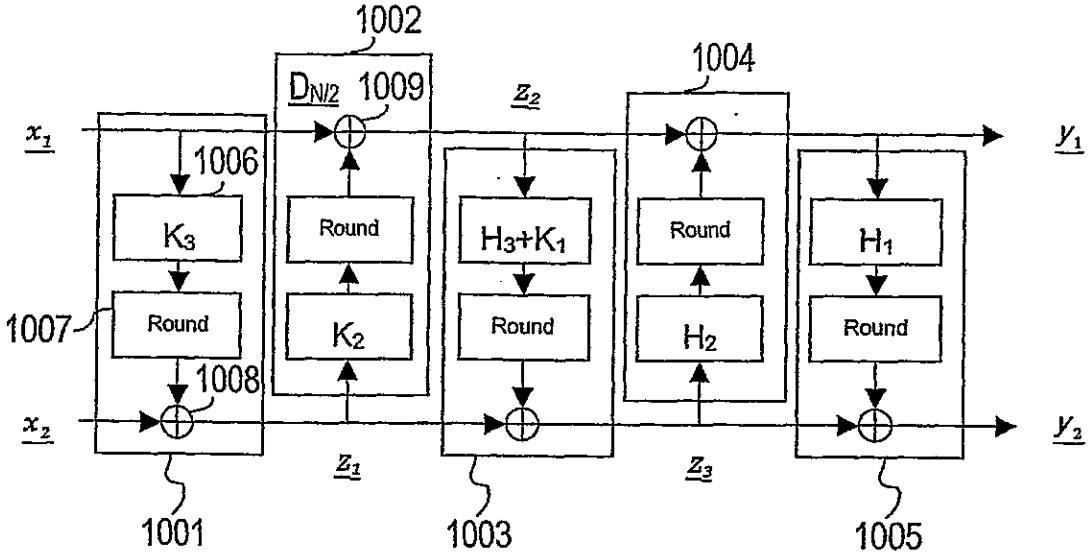

1002
$D_{N/2}$ 1009
1004
z_2
x_1
y_1
1006
K_3
Round
H_3+K_1
Round
H_1
Round
1007
Round
K_2
Round
H_2
Round
1008
x_2
y_2
z_1
z_3
1001
1003
1005

Fig. 10

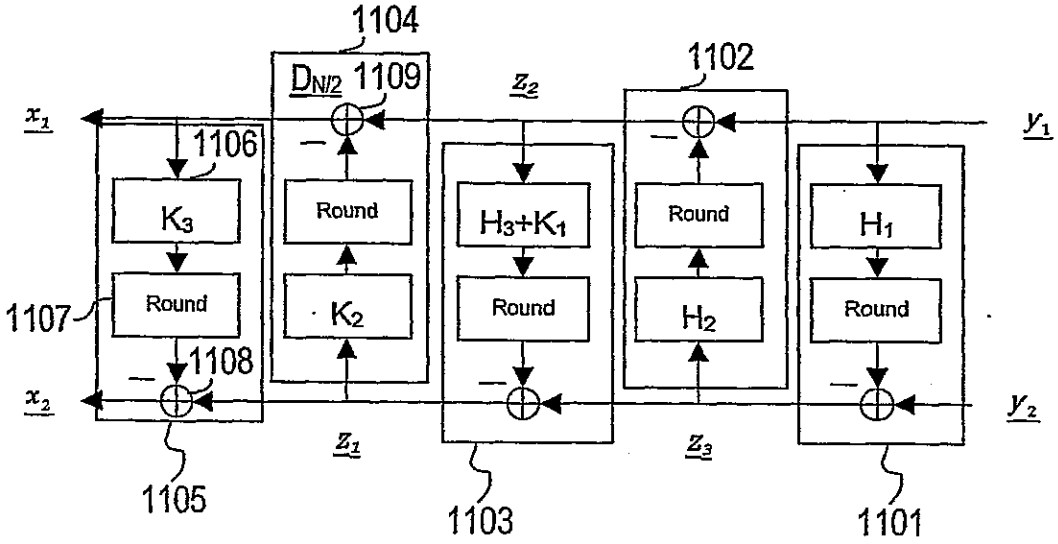

1104
$D_{N/2}$ 1109
1102
z_2
x_1
y_1
1106
K_3
Round
H_3+K_1
Round
H_1
Round
1107
Round
K_2
Round
H_2
Round
1108
x_2
y_2
z_1
z_3
1105
1103
1101

Fig. 11

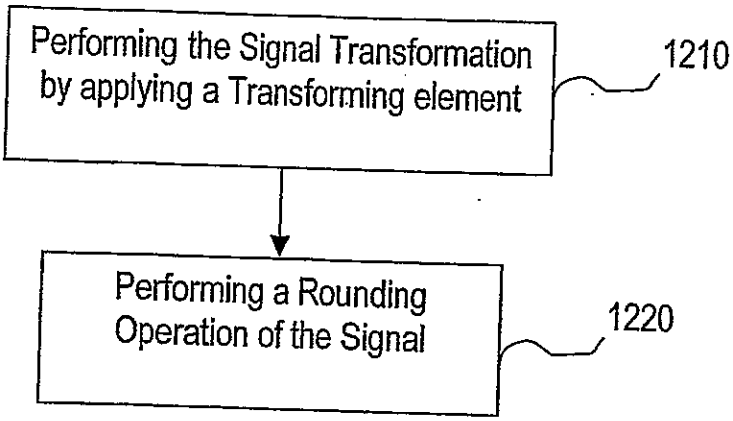

Performing the Signal Transformation by applying a Transforming element
1210
Performing a Rounding Operation of the Signal
1220

Fig. 12

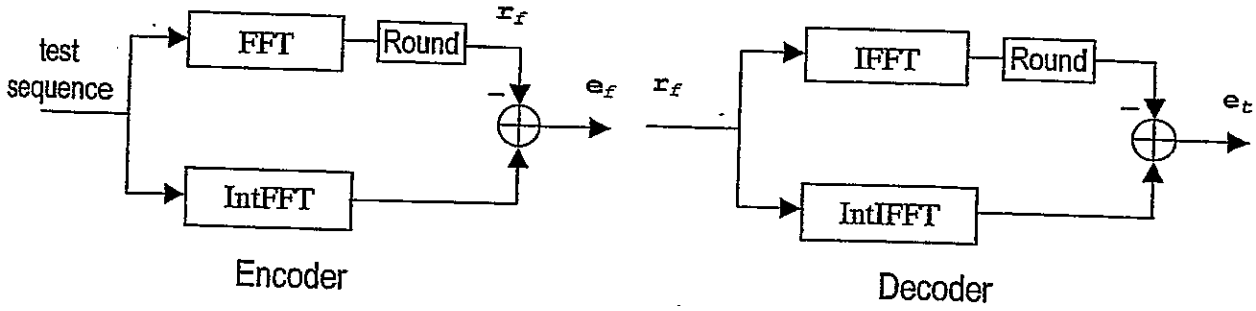

test sequence
FFT
Round
x_f
e_f
IntFFT
Encoder
x_f
IFFT
Round
e_t
IntIFFT
Decoder

Fig. 13