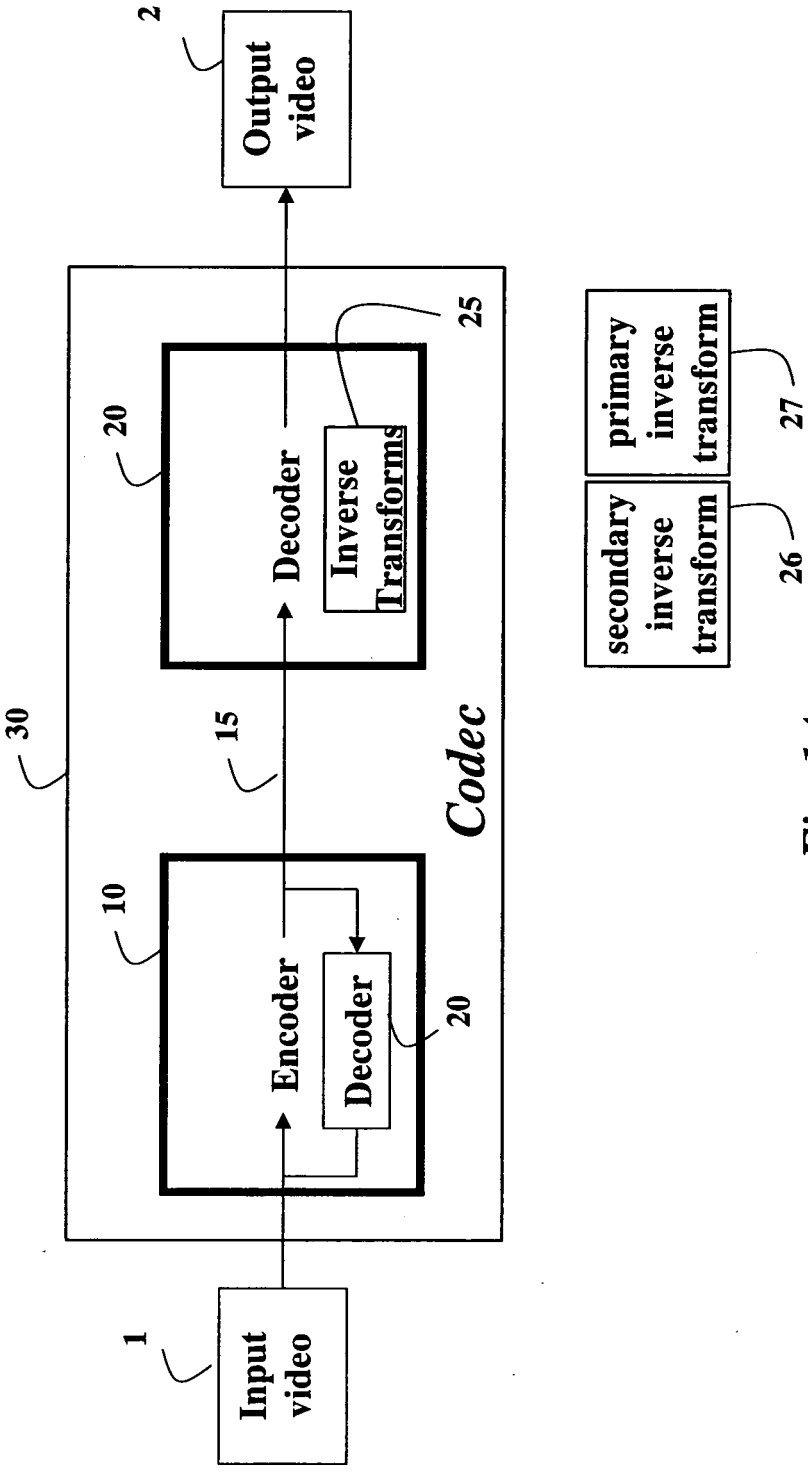

Input video
1
Output video
2
Codec
30
Encoder
10
Decoder
20
15
Decoder
20
Inverse Transforms
25
primary inverse transform
27
secondary inverse transform
26

Fig. 1A

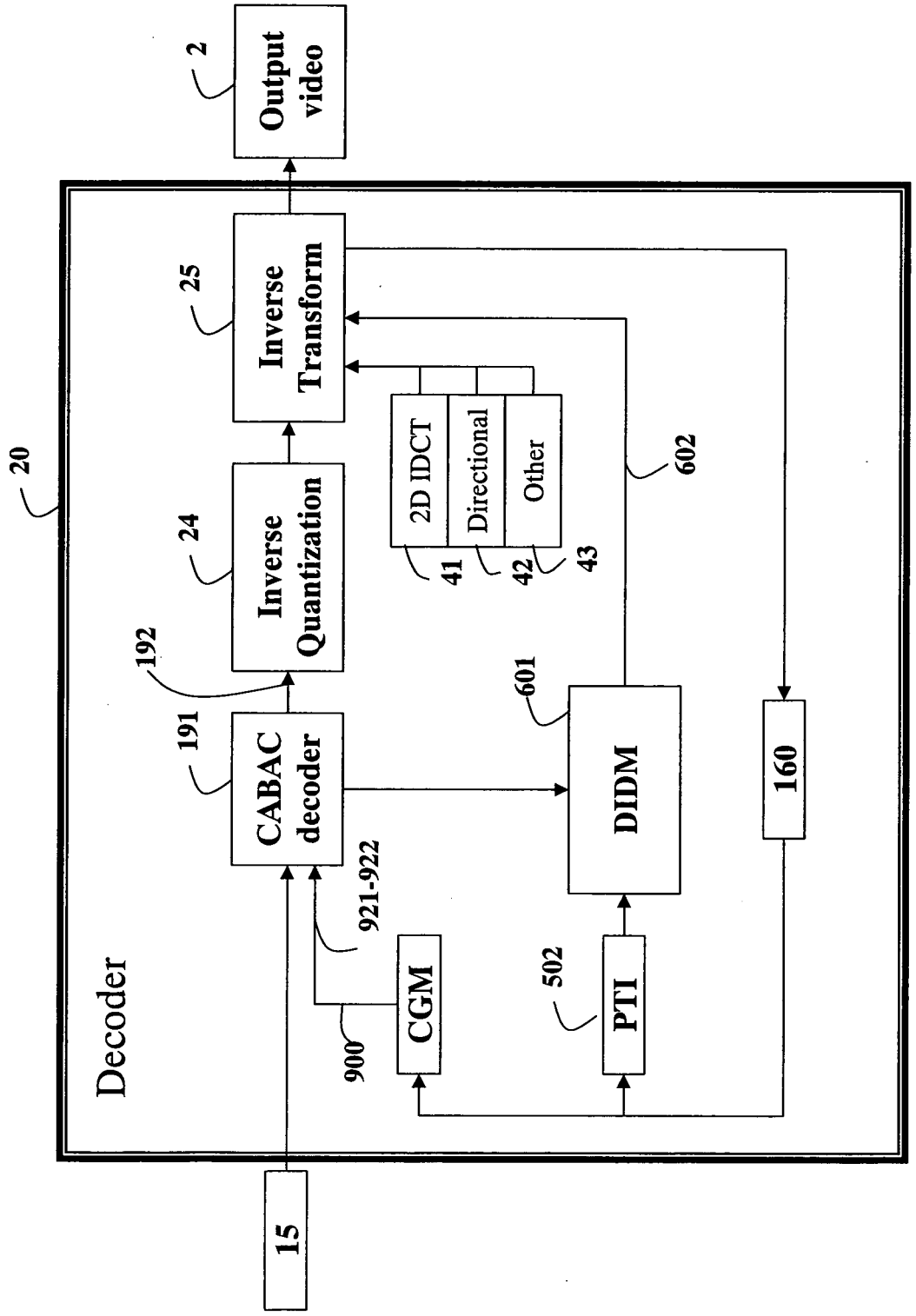

15
Decoder
20
CABAC decoder
191
192
Inverse Quantization
24
Inverse Transform
25
Output video
2
2D IDCT
Directional
Other
41
42
43
602
601
DIDM
160
CGM
900
921-922
PTI
502

Fig. 1B

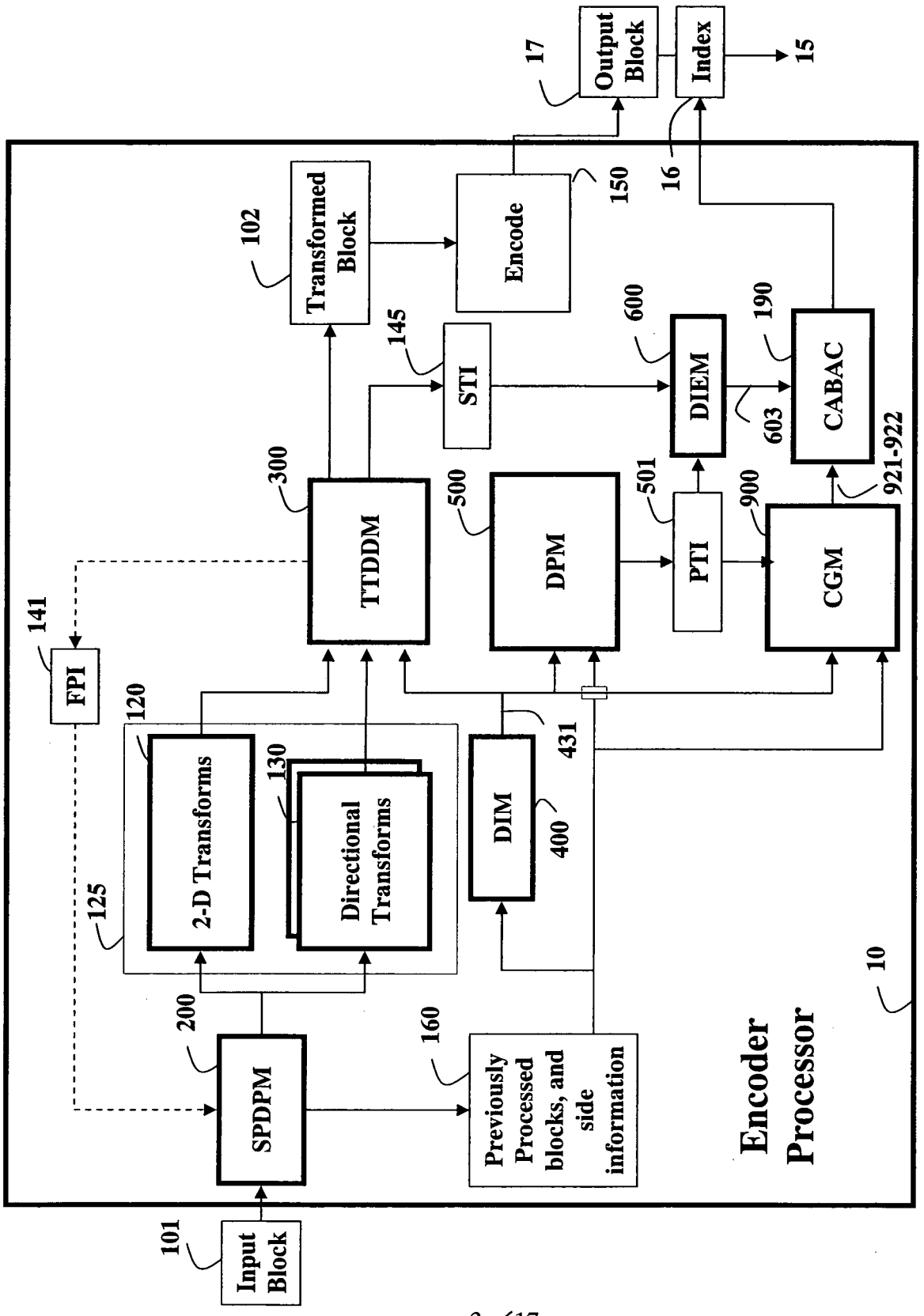

Encoder Processor
10
Input Block
101
SPDPM
200
Previously Processed blocks, and side information
160
2-D Transforms
120
Directional Transforms
130
125
FPI
141
DIM
400
431
TTDDM
300
DPM
500
PTI
501
CGM
900
921-922
STI
145
DIEM
600
603
CABAC
190
Transformed Block
102
Encode
150
16
Output Block
17
Index
15

Fig. 1C

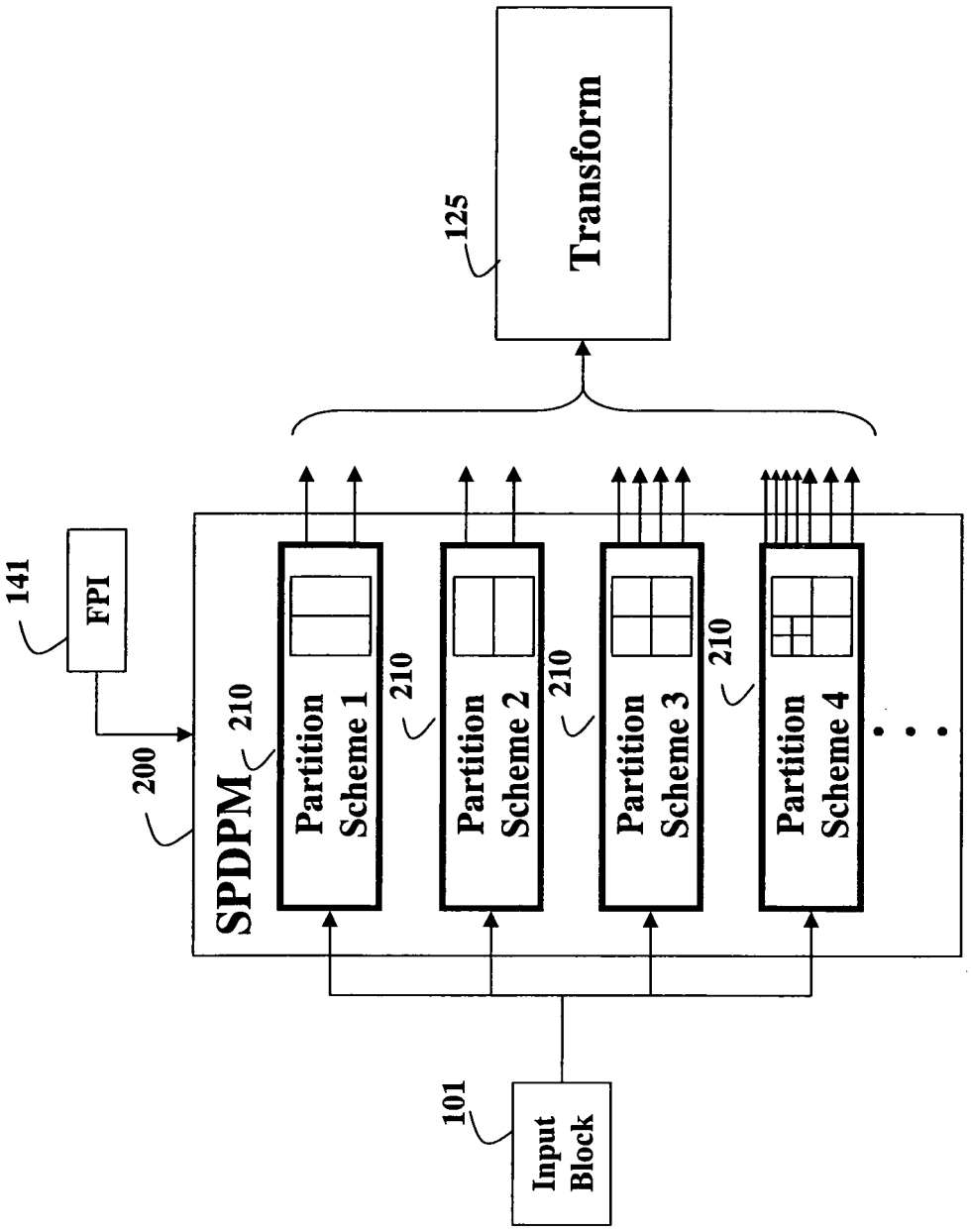

125
Transform
141
FPI
200
SPDPM
210
Partition Scheme 1
210
Partition Scheme 2
210
Partition Scheme 3
210
Partition Scheme 4
101
Input Block

Fig. 2
200

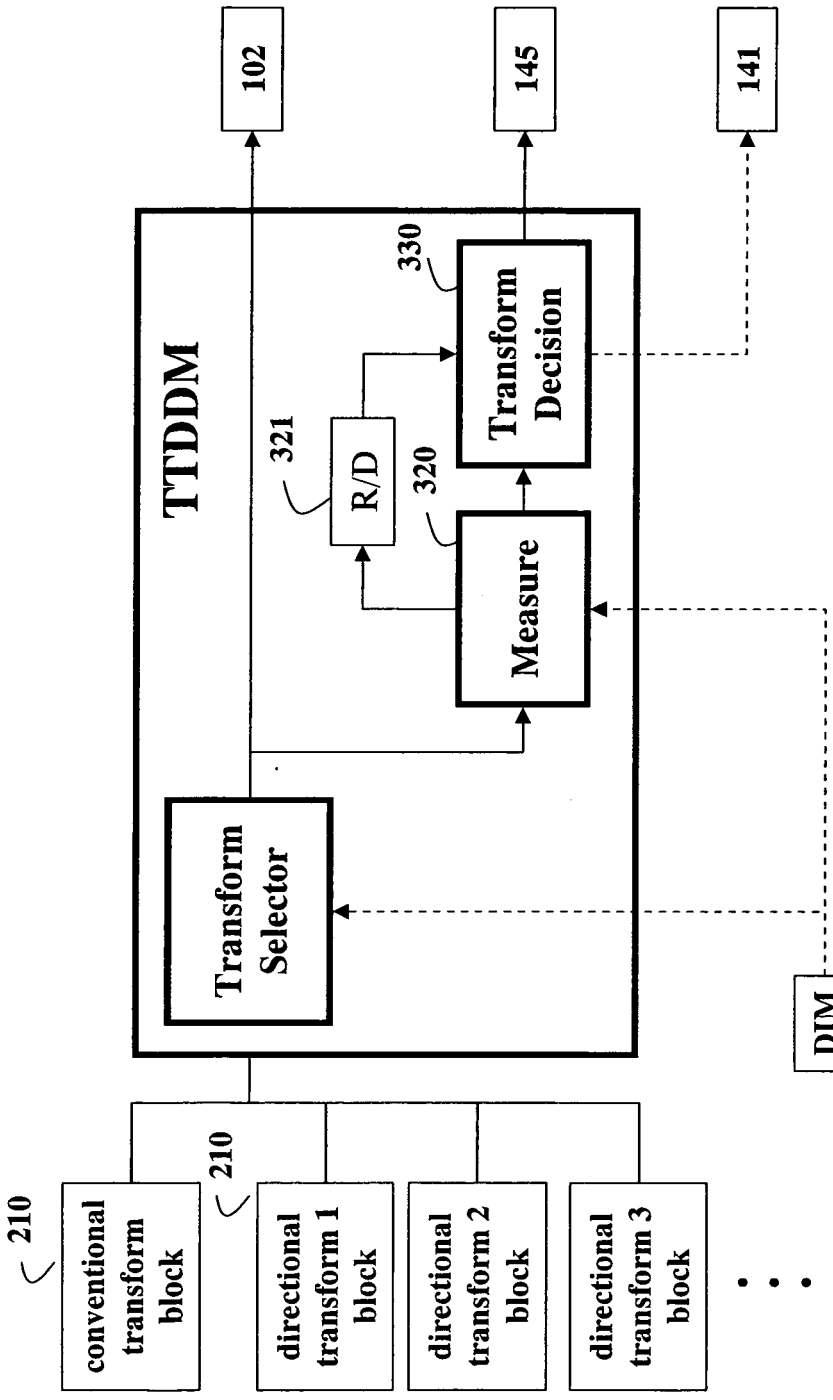

102
145
141
TTDDM
330
Transform Decision
321
R/D
320
Measure
Transform Selector
DIM
400
210
conventional transform block
210
directional transform 1 block
directional transform 2 block
directional transform 3 block

Fig. 3
300

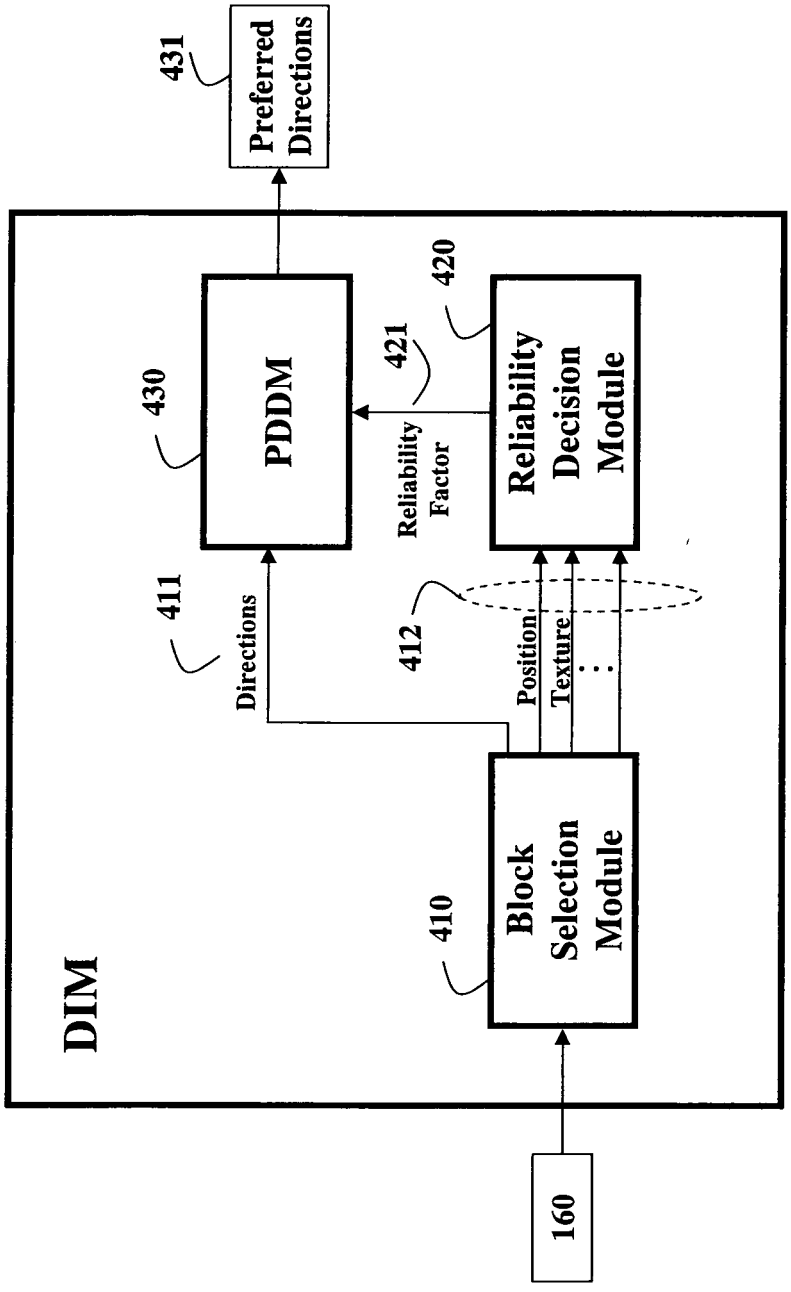

431
Preferred Directions
DIM
430
PDDM
420
Reliability Decision Module
421
Reliability Factor
411
Directions
412
Position
Texture
410
Block Selection Module
160

Fig. 4
400

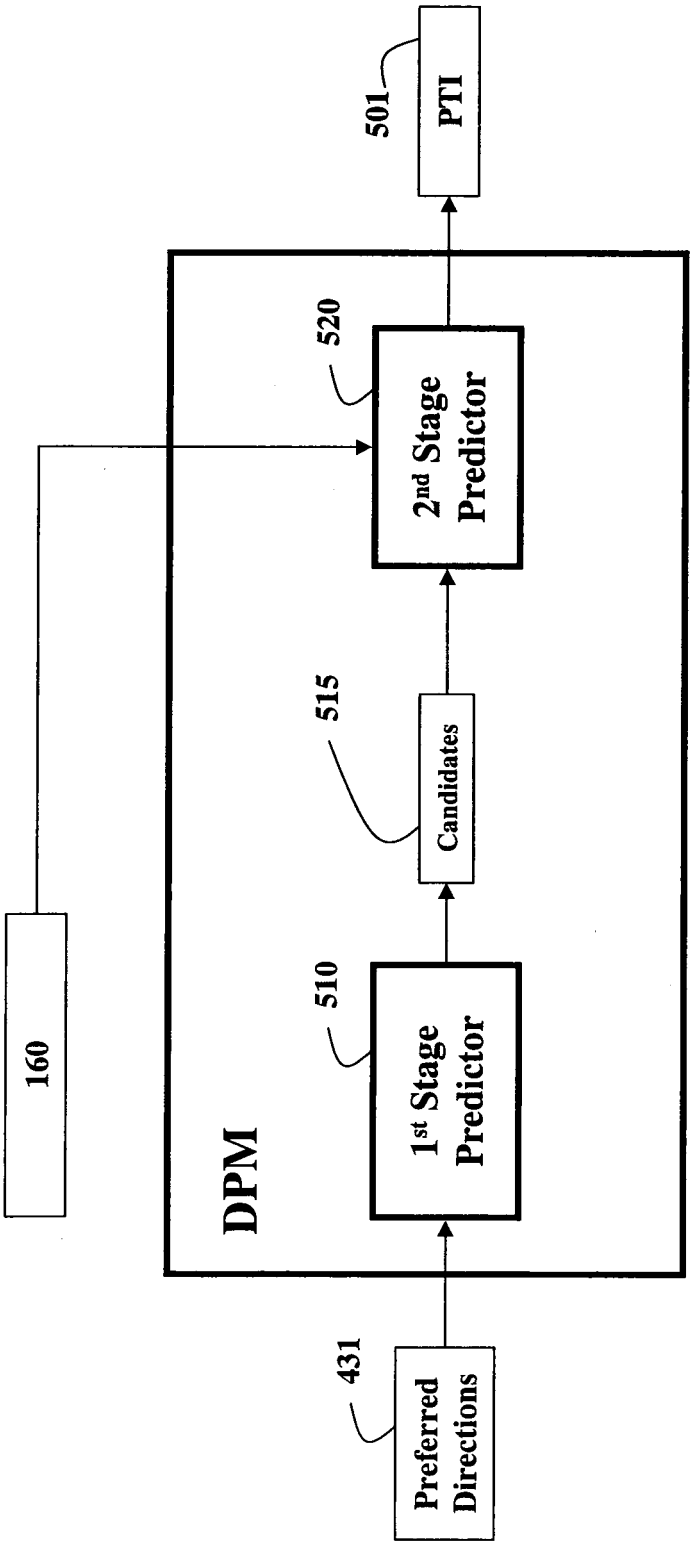

501
PTI
520
2nd Stage Predictor
515
Candidates
510
1st Stage Predictor
DPM
160
431
Preferred Directions

Fig. 5
500

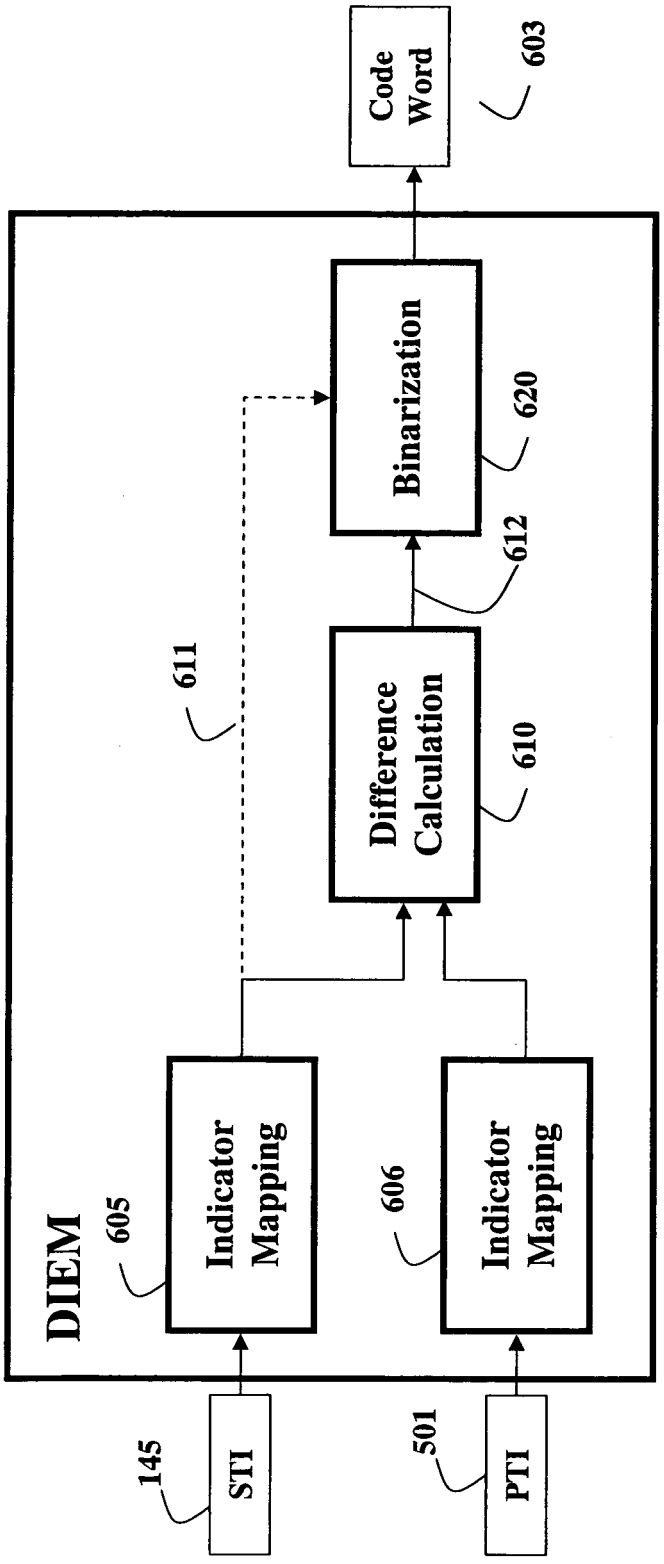

Code Word
603
Binarization
620
612
611
Difference Calculation
610
DIEM
605
Indicator Mapping
606
Indicator Mapping
145
STI
501
PTI

Fig. 6
600

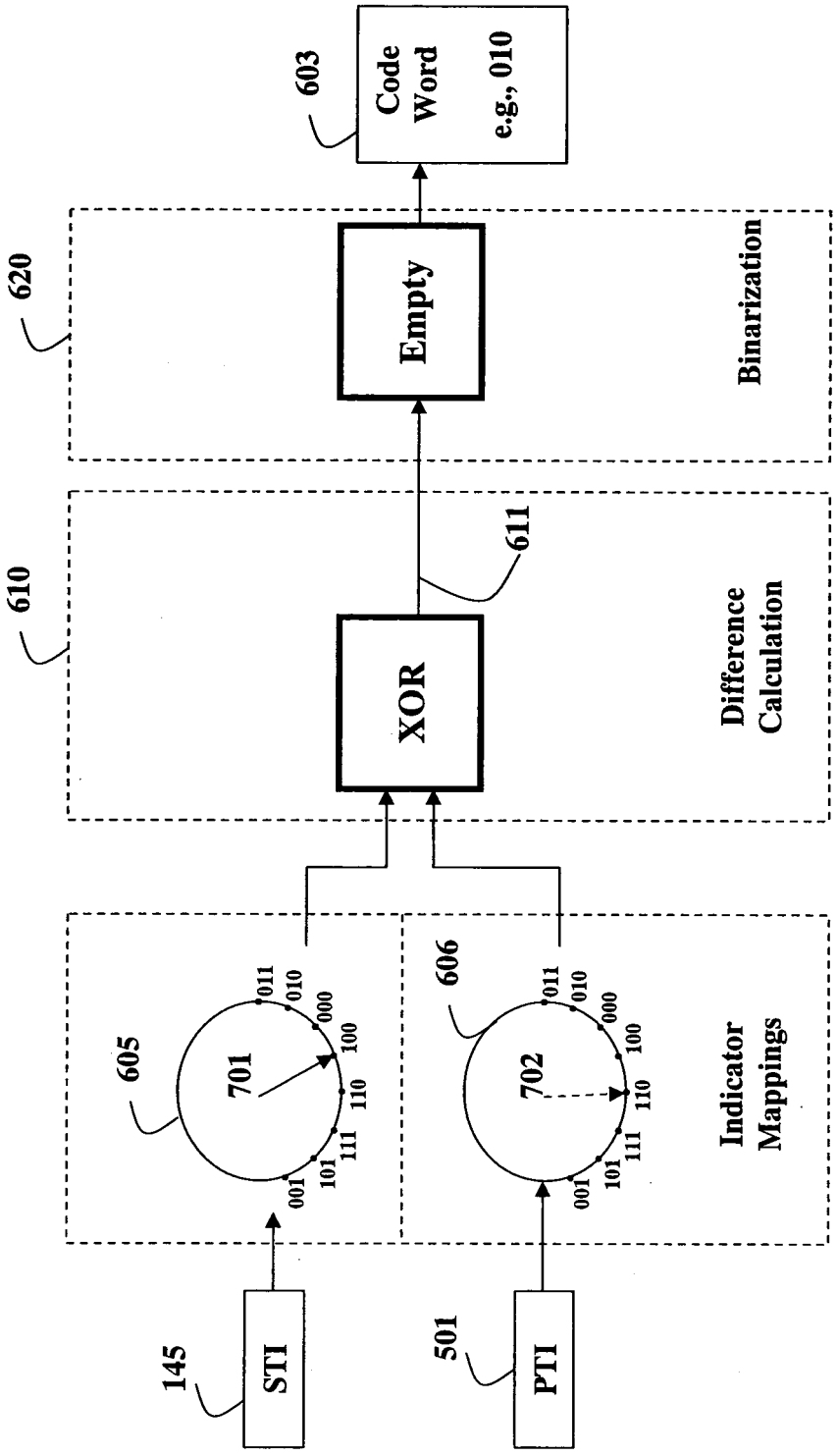

603
Code Word
e.g., 010
620
Empty
Binarization
610
611
XOR
Difference Calculation
605
701
606
702
011
010
000
100
110
111
101
001
Indicator Mappings
145
STI
501
PTI

Fig. 7
700

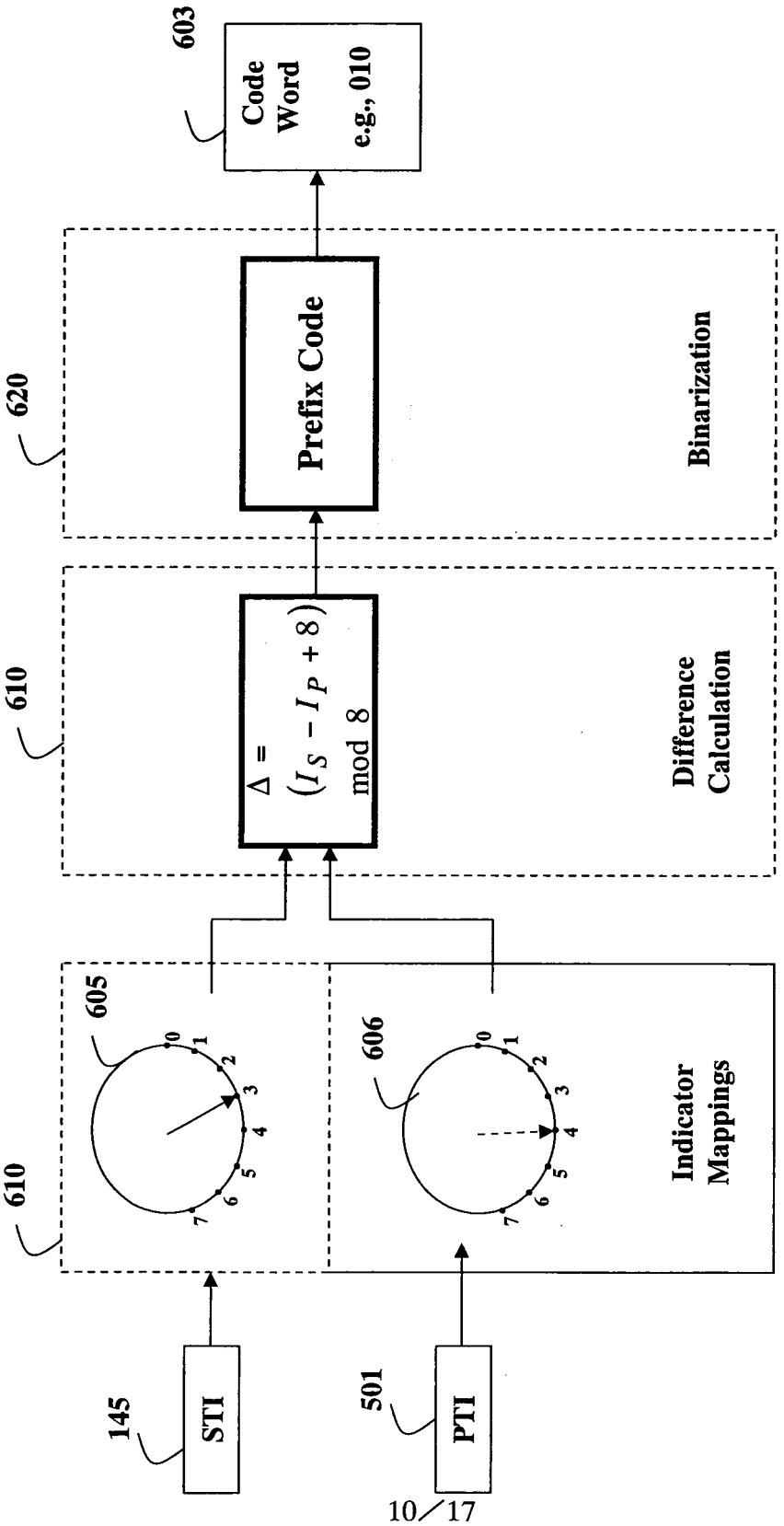

603
Code Word
e.g., 010
620
Prefix Code
Binarization
610
$\Delta = (I_S - I_P + 8) \bmod 8$
Difference Calculation
605
606
0
1
2
3
4
5
6
7
610
Indicator Mappings
145
STI
501
PTI

Fig. 8
800

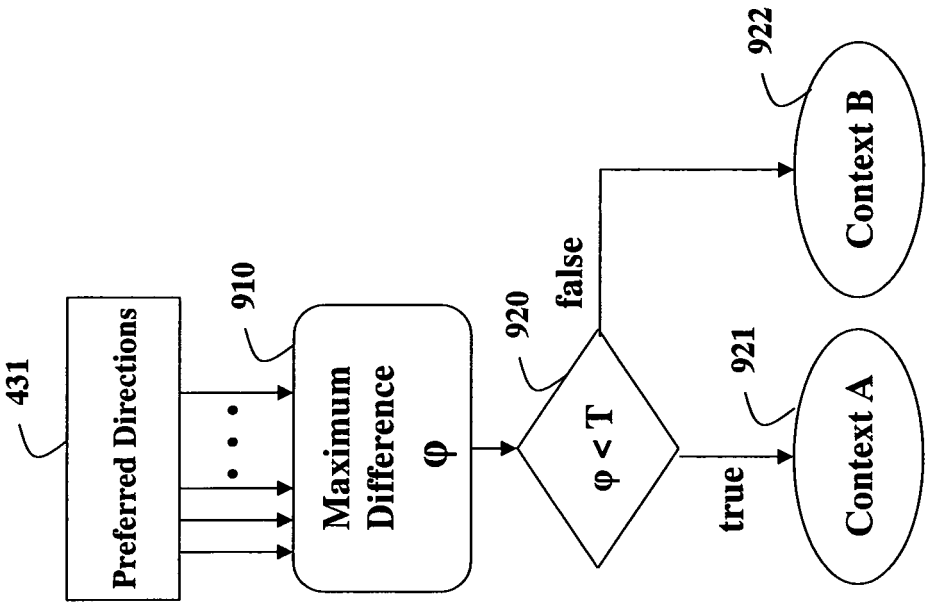

431
Preferred Directions
910
Maximum Difference φ
920
φ < T
false
922
Context B
true
921
Context A

Fig. 9

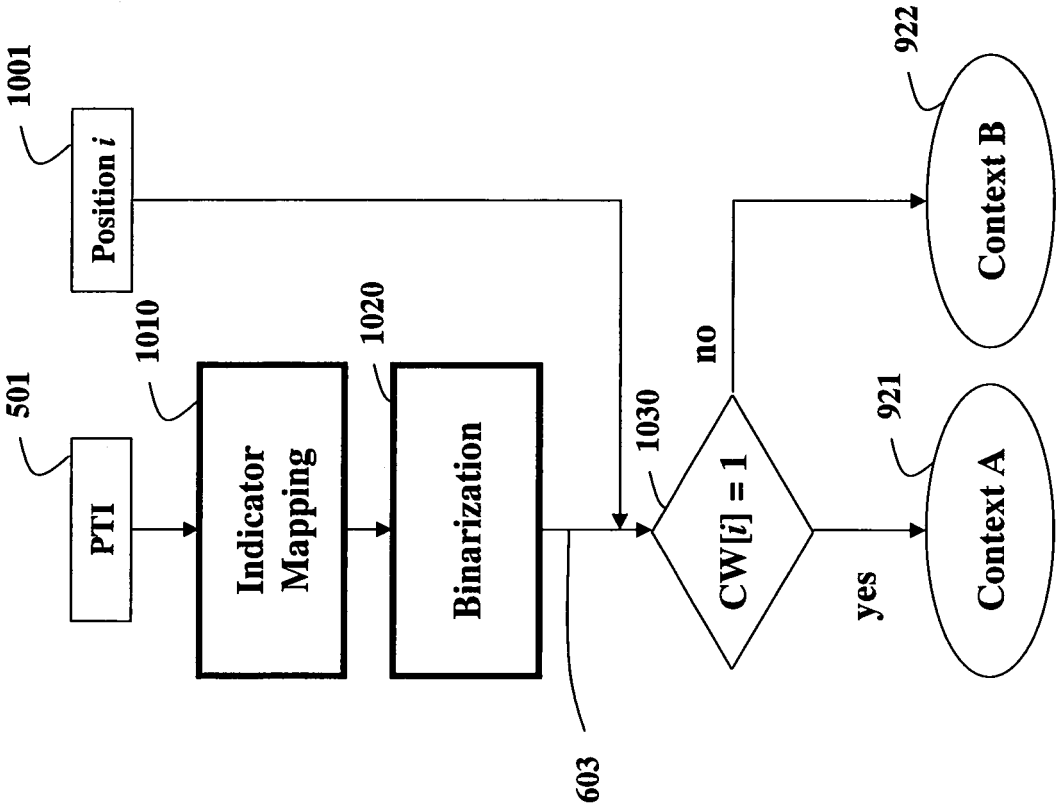

1001
Position i
922
Context B
501
PTI
1010
Indicator Mapping
1020
Binarization
1030
CW[i] = 1
no
921
yes
Context A
603

Fig. 10

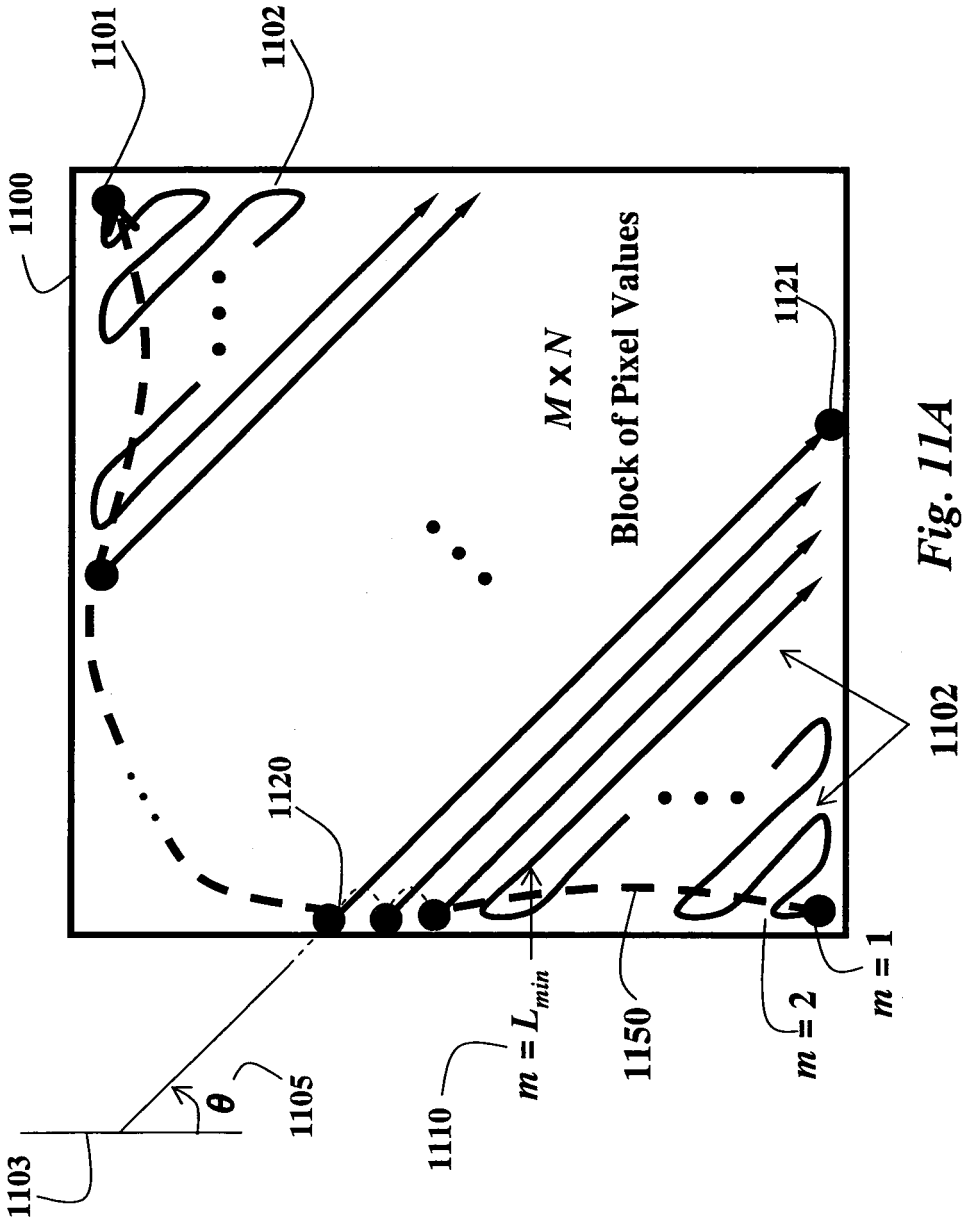

1101
1102
1100
M x N
Block of Pixel Values
1121
1102
1120
m = 1
m = 2
1150
m = L_min
1110
θ
1105
1103

Fig. 11A

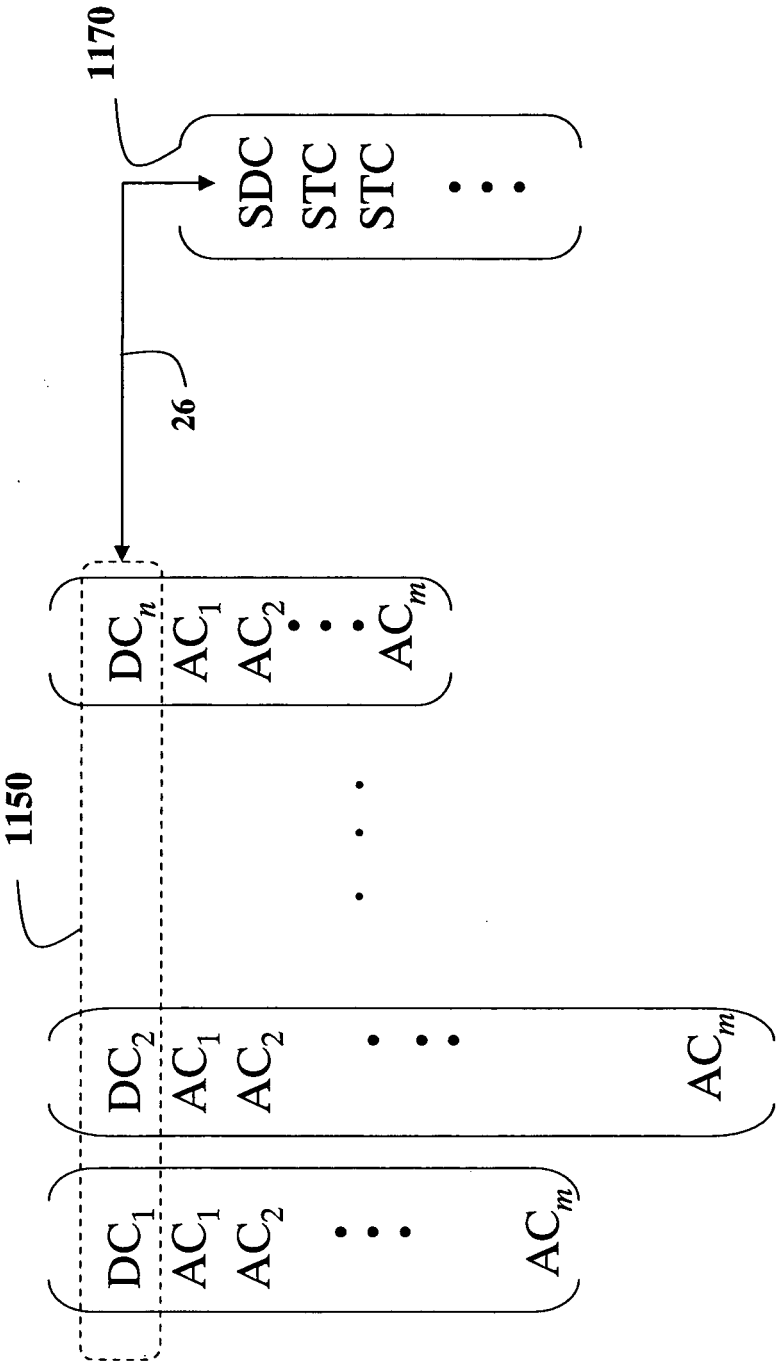

1170
SDC
STC
STC
• • •
26
1150
DC$_n$
AC$_1$
AC$_2$
• • •
AC$_m$
DC$_2$
AC$_1$
AC$_2$
• • •
AC$_m$
DC$_1$
AC$_1$
AC$_2$
• • •
AC$_m$

Fig. 11B

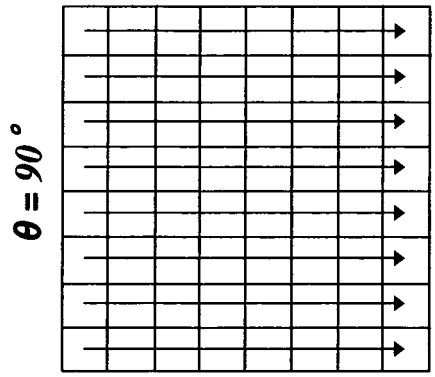


Fig 12C

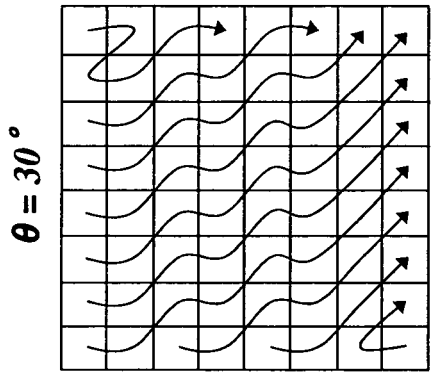


Fig 12B

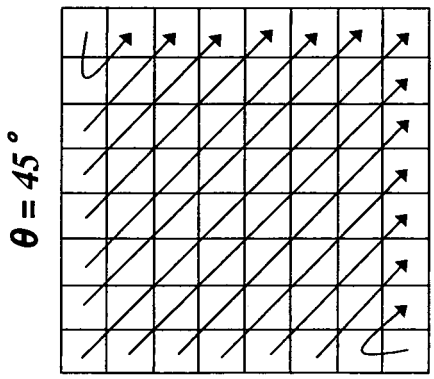


Fig 12A

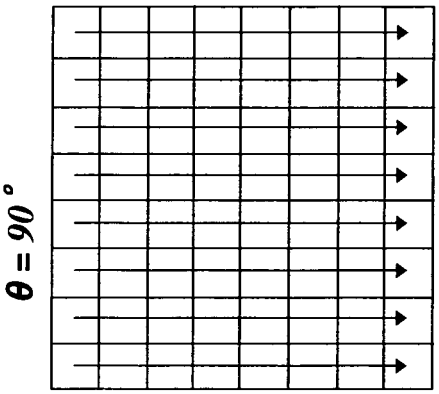


Fig 12F

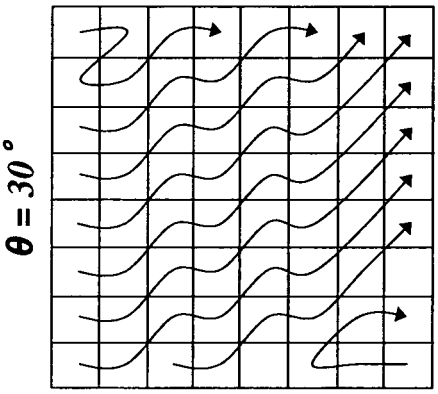


Fig 12E

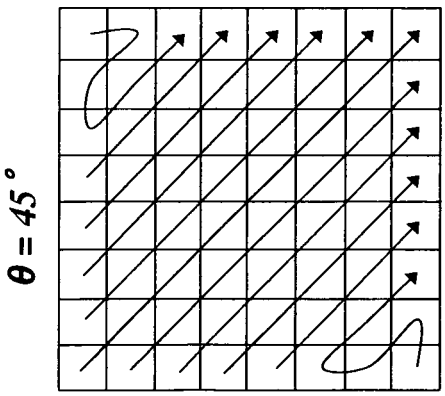


Fig 12D

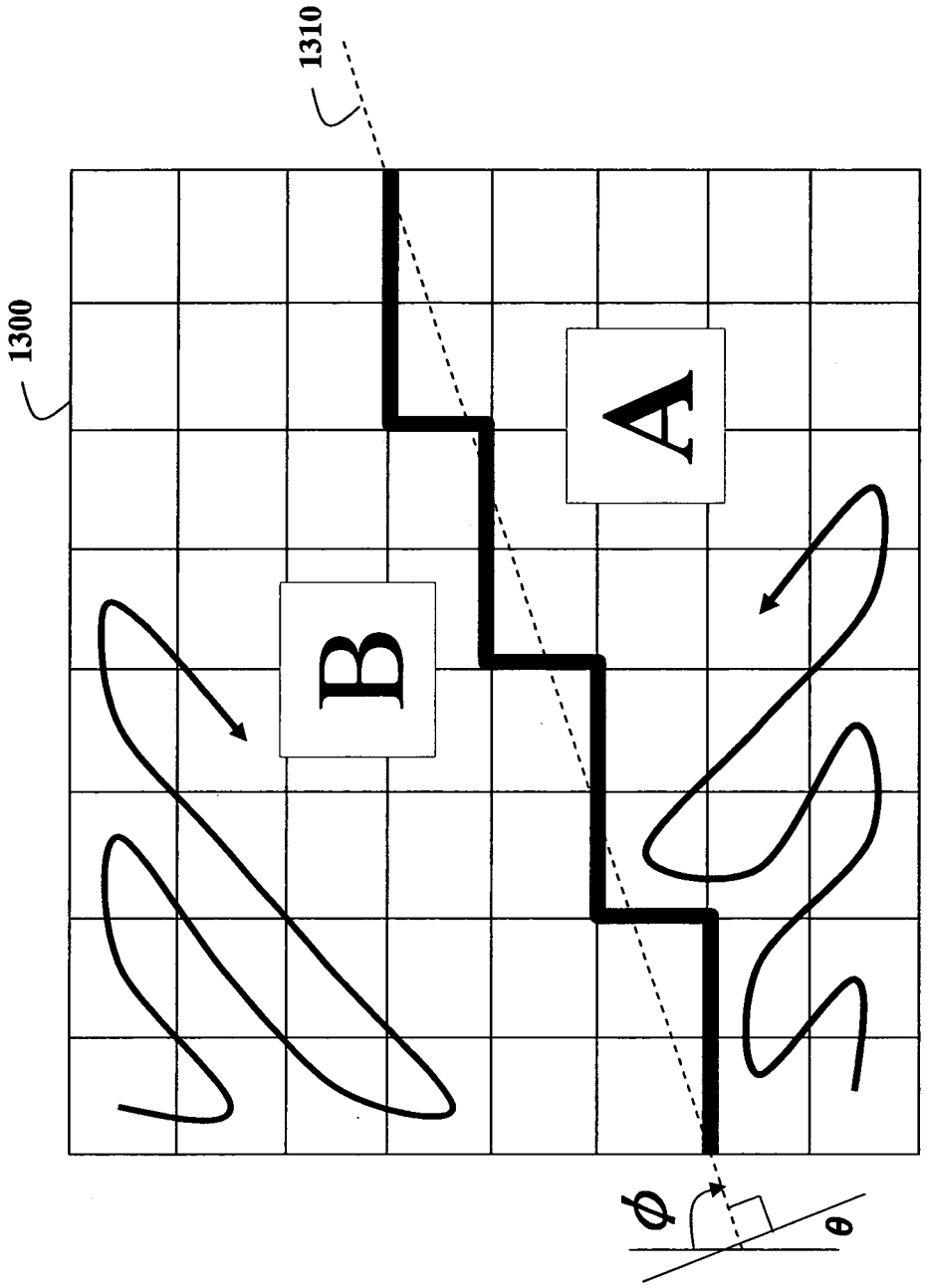


Fig. 13