FIG. 1

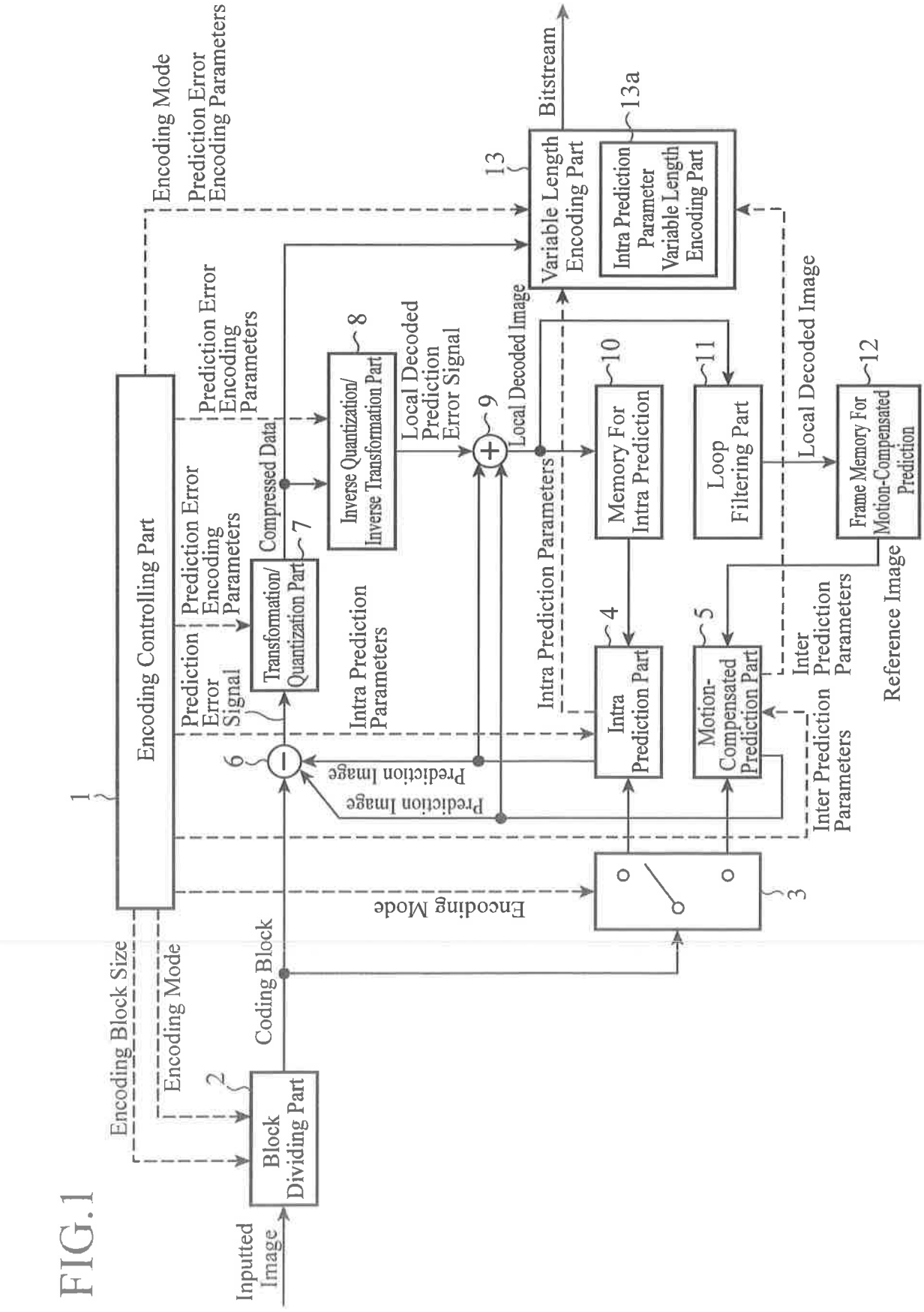

Inputted Image
Block Dividing Part
2
Encoding Block Size
Encoding Mode
Coding Block
1
Encoding Controlling Part
Encoding Mode
Prediction Error Encoding Parameters
Prediction Error Encoding Parameters
Prediction Error Signal
Transformation/ Quantization Part
7
Compressed Data
Inverse Quantization/ Inverse Transformation Part
8
Local Decoded Prediction Error Signal
9
Local Decoded Image
Variable Length Encoding Part
13
Bitstream
Intra Prediction Parameter Variable Length Encoding Part
13a
Intra Prediction Parameters
Memory For Intra Prediction
10
Loop Filtering Part
11
Local Decoded Image
Frame Memory For Motion-Compensated Prediction
12
Reference Image
Intra Prediction Part
4
Motion-Compensated Prediction Part
5
Inter Prediction Parameters
Inter Prediction Parameters
Intra Prediction Parameters
Prediction Image
Prediction Image
6
Encoding Mode
3

FIG.2

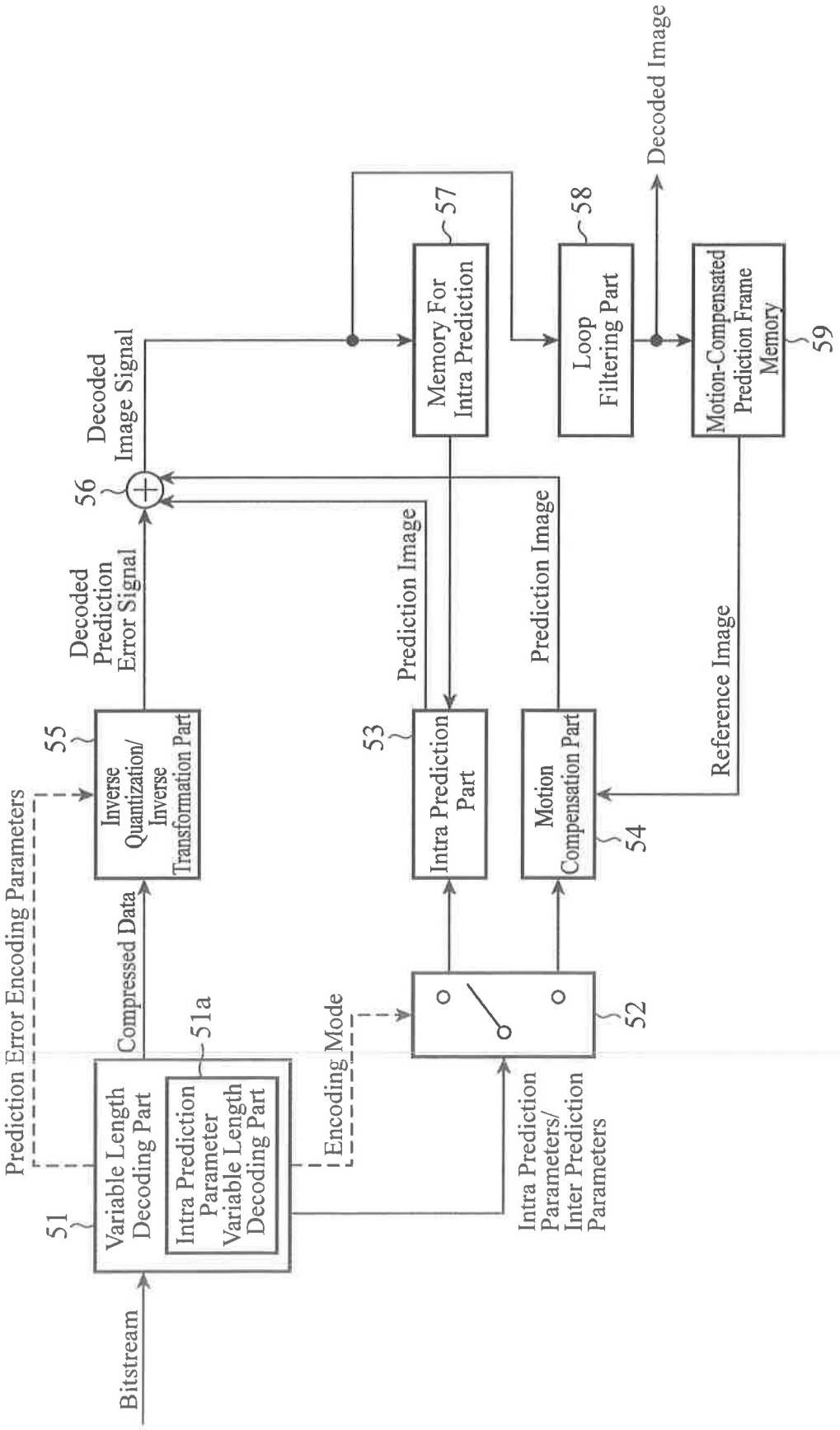

Bitstream
51
Variable Length Decoding Part
Intra Prediction Parameter Variable Length Decoding Part
51a
Prediction Error Encoding Parameters
Compressed Data
55
Inverse Quantization/ Inverse Transformation Part
Decoded Prediction Error Signal
56
Decoded Image Signal
Encoding Mode
52
Intra Prediction Parameters/ Inter Prediction Parameters
53
Intra Prediction Part
Prediction Image
54
Motion Compensation Part
Prediction Image
Reference Image
57
Memory For Intra Prediction
58
Loop Filtering Part
Decoded Image
59
Motion-Compensated Prediction Frame Memory

FIG.3

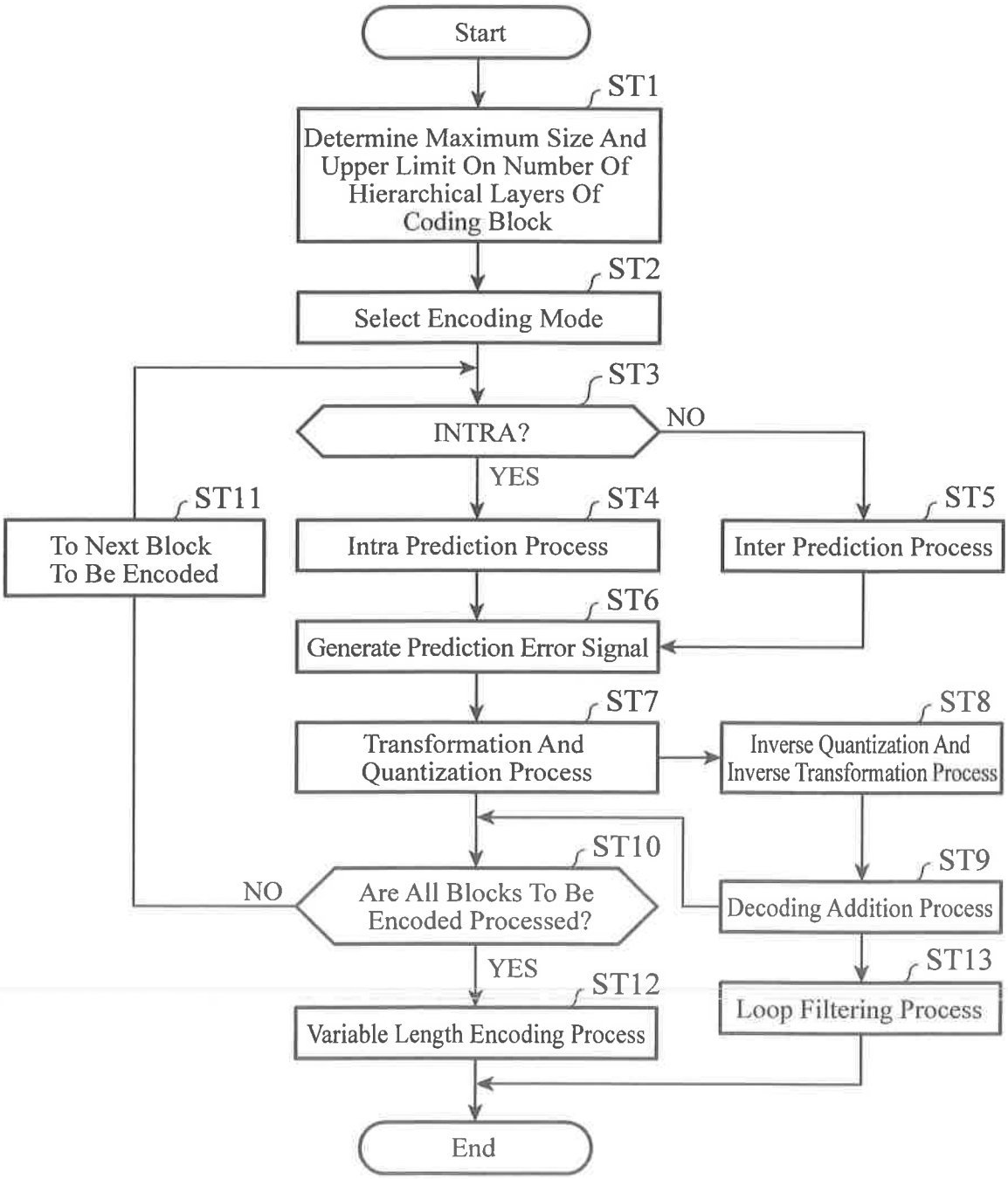

Start
ST1
Determine Maximum Size And Upper Limit On Number Of Hierarchical Layers Of Coding Block
ST2
Select Encoding Mode
ST3
INTRA?
NO
YES
ST4
Intra Prediction Process
ST5
Inter Prediction Process
ST11
To Next Block To Be Encoded
ST6
Generate Prediction Error Signal
ST7
Transformation And Quantization Process
ST8
Inverse Quantization And Inverse Transformation Process
ST10
Are All Blocks To Be Encoded Processed?
NO
ST9
Decoding Addition Process
YES
ST12
Variable Length Encoding Process
ST13
Loop Filtering Process
End

FIG.4

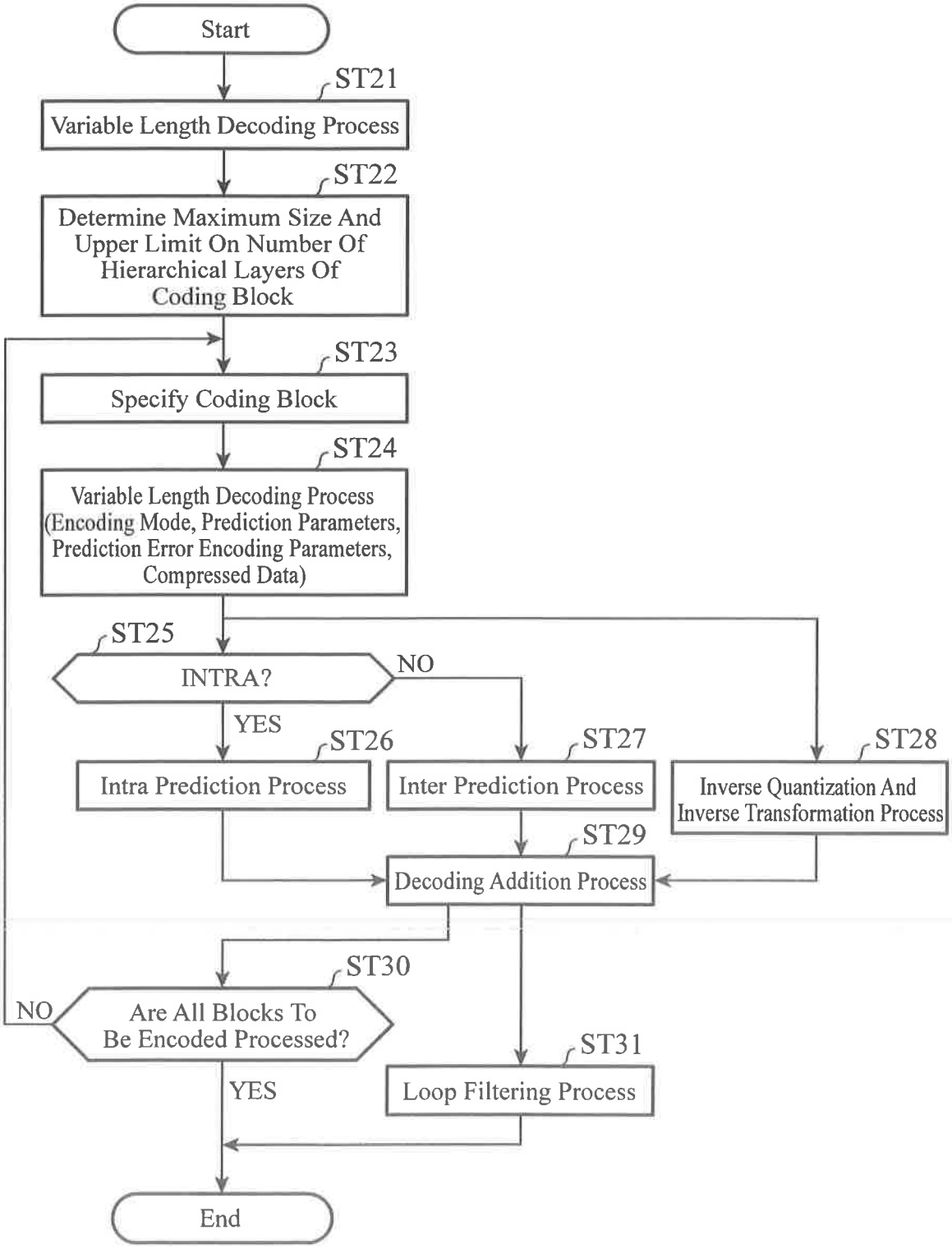

Start
ST21
Variable Length Decoding Process
ST22
Determine Maximum Size And Upper Limit On Number Of Hierarchical Layers Of Coding Block
ST23
Specify Coding Block
ST24
Variable Length Decoding Process (Encoding Mode, Prediction Parameters, Prediction Error Encoding Parameters, Compressed Data)
ST25
INTRA?
NO
YES
ST26
Intra Prediction Process
ST27
Inter Prediction Process
ST28
Inverse Quantization And Inverse Transformation Process
ST29
Decoding Addition Process
ST30
Are All Blocks To Be Encoded Processed?
NO
YES
ST31
Loop Filtering Process
End

FIG.5

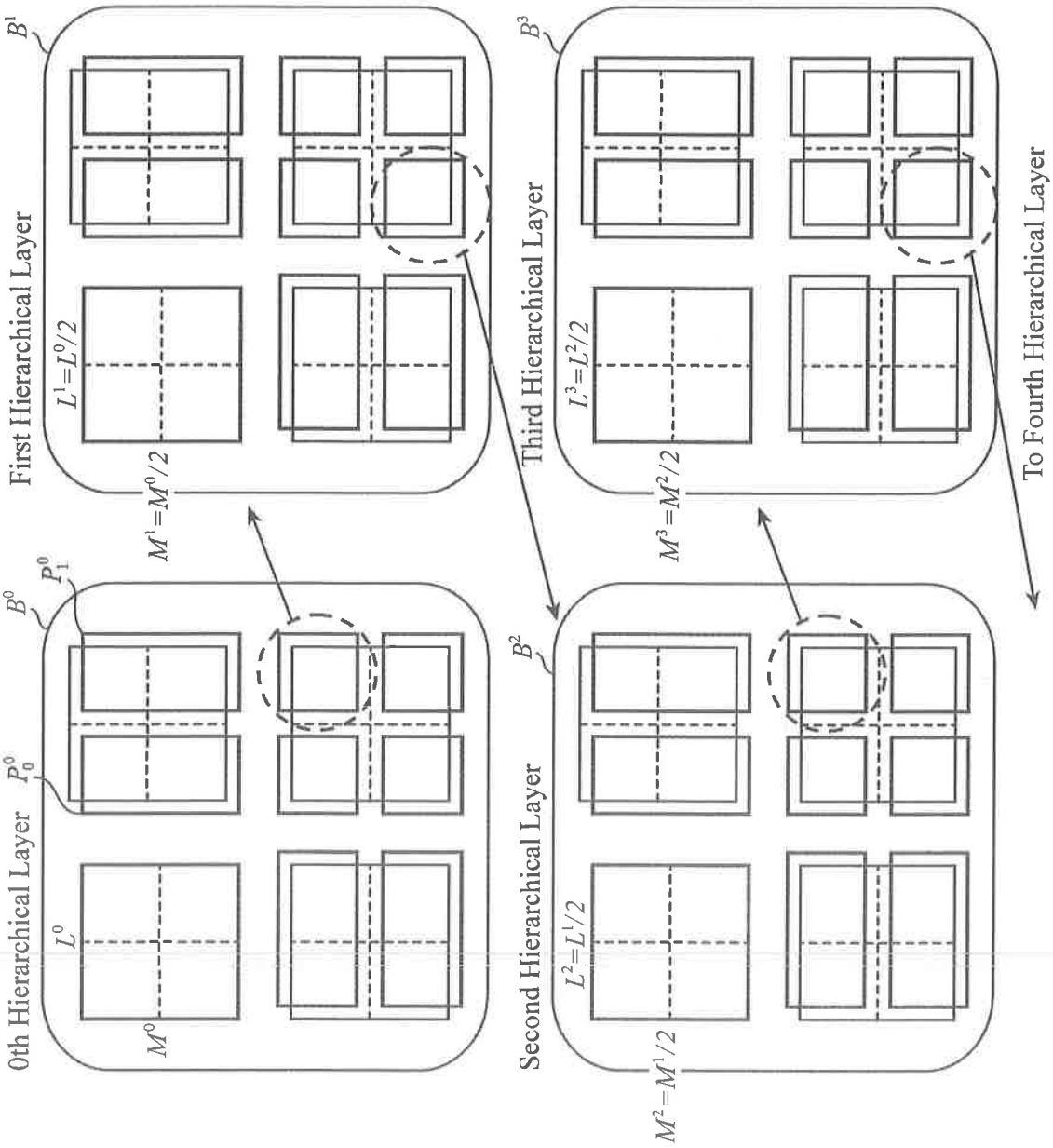

0th Hierarchical Layer
First Hierarchical Layer
Second Hierarchical Layer
Third Hierarchical Layer
To Fourth Hierarchical Layer
B^0
B^1
B^2
B^3
P_0^0
P_1^0
L^0
M^0
$L^1=L^0/2$
$M^1=M^0/2$
$L^2=L^1/2$
$M^2=M^1/2$
$L^3=L^2/2$
$M^3=M^2/2$

FIG.6

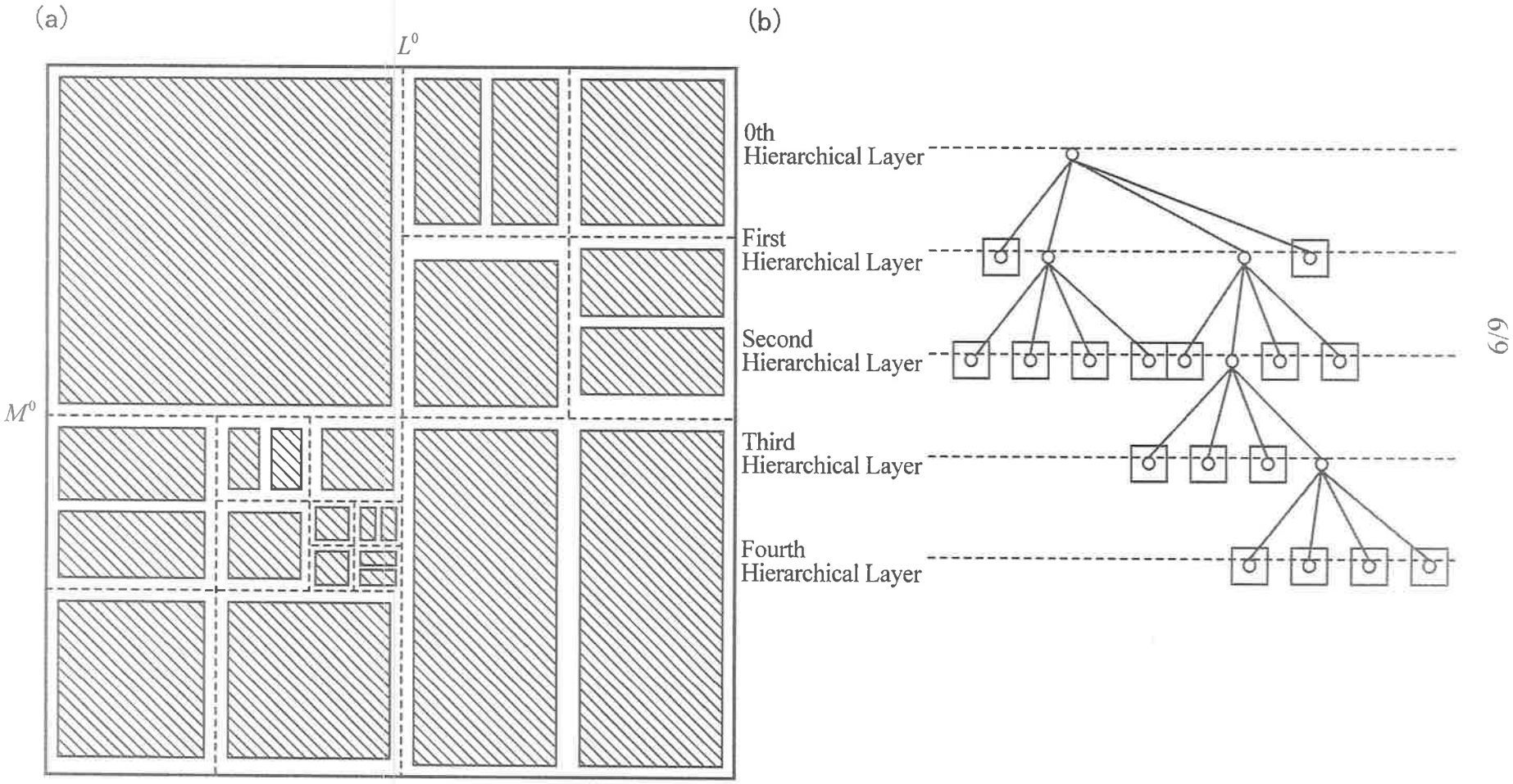
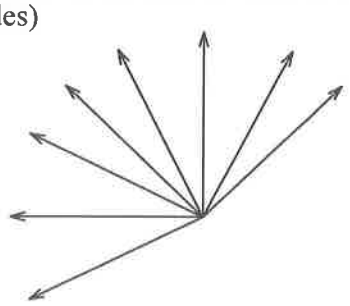

(a)
L^0
M^0
(b)
0th
Hierarchical Layer
First
Hierarchical Layer
Second
Hierarchical Layer
Third
Hierarchical Layer
Fourth
Hierarchical Layer

FIG.7

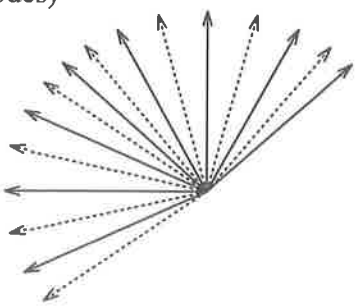
Intra Prediction Mode Index	Intra Prediction Mode
0	Vertical Prediction
1	Horizontal Prediction
2	Average Prediction
3～N-1	Diagonal Prediction

N: Number Of Intra Prediction Modes

Directional Predictions in Case of N=9 (8 Modes)



Directional Predictions in Case of N=17 (16 Modes)



Directional Prediction in Case of N=33 (32 Modes)

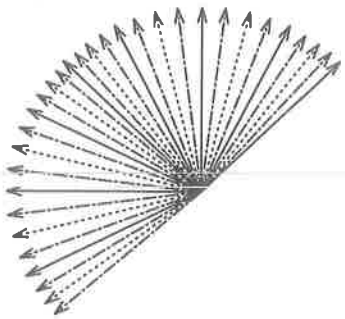


FIG.8

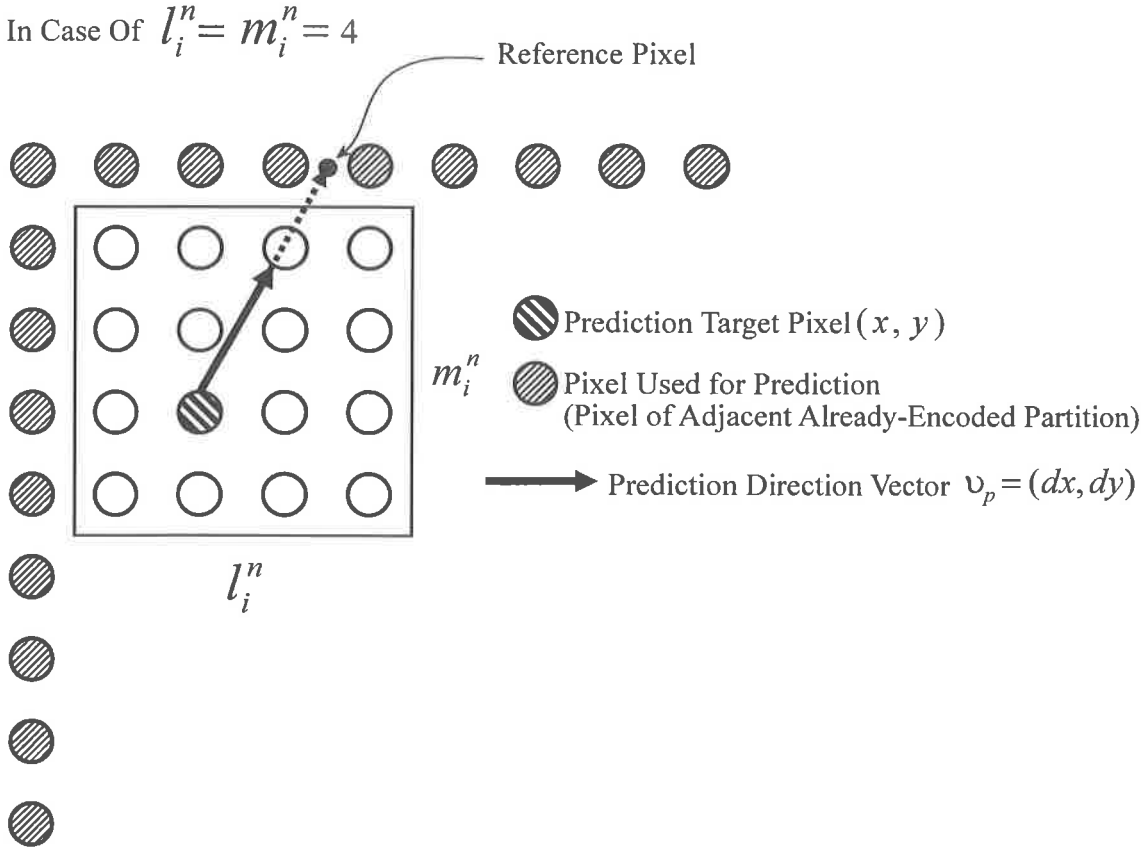

In Case Of $l_i^n = m_i^n = 4$
Reference Pixel
m_i^n
l_i^n
Prediction Target Pixel (x, y)
Pixel Used for Prediction
(Pixel of Adjacent Already-Encoded Partition)
Prediction Direction Vector $\upsilon_p = (dx, dy)$

FIG.9

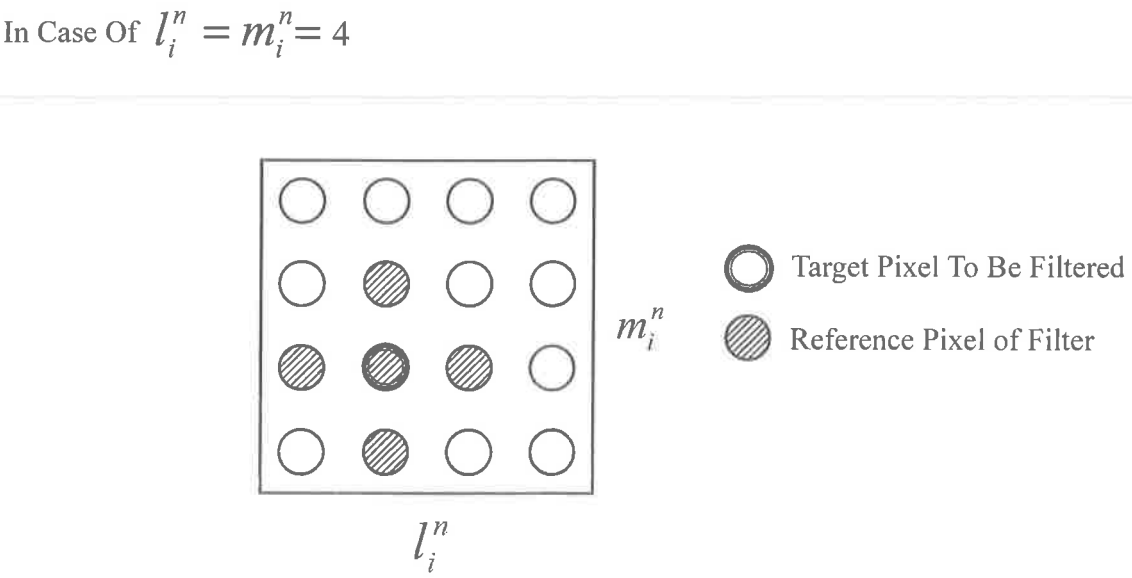

In Case Of $l_i^n = m_i^n = 4$
m_i^n
l_i^n
Target Pixel To Be Filtered
Reference Pixel of Filter

FIG.10

