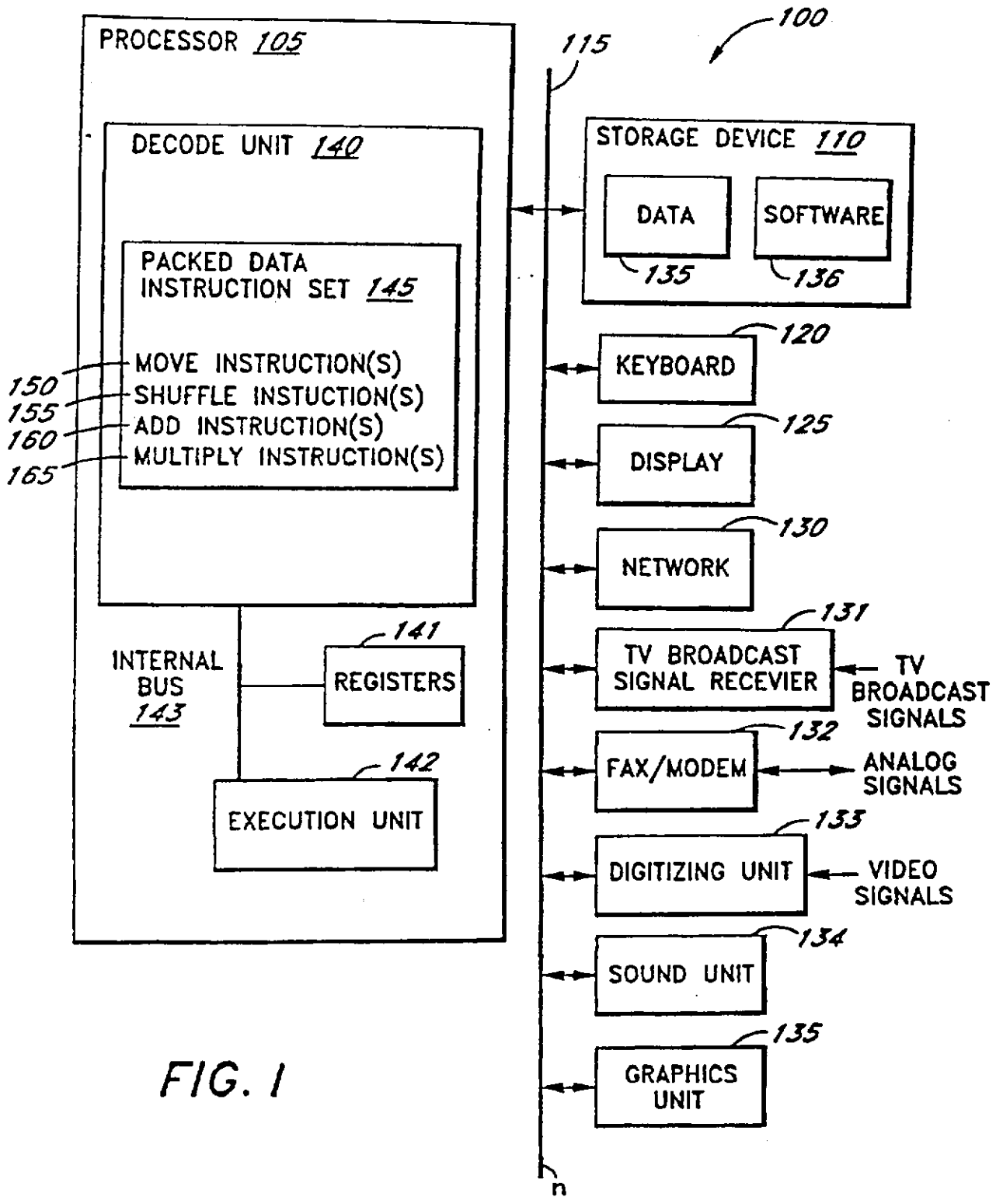

PROCESSOR 105
DECODE UNIT 140
PACKED DATA INSTRUCTION SET 145
MOVE INSTRUCTION(S)
SHUFFLE INSTUCTION(S)
ADD INSTRUCTION(S)
MULTIPLY INSTRUCTION(S)
150
155
160
165
INTERNAL BUS 143
REGISTERS
141
EXECUTION UNIT
142
115
100
STORAGE DEVICE 110
DATA
SOFTWARE
135
136
KEYBOARD
120
DISPLAY
125
NETWORK
130
TV BROADCAST SIGNAL RECEVIER
131
TV BROADCAST SIGNALS
FAX/MODEM
132
ANALOG SIGNALS
DIGITIZING UNIT
133
VIDEO SIGNALS
SOUND UNIT
134
GRAPHICS UNIT
135
n

FIG. 1

FIG. 2

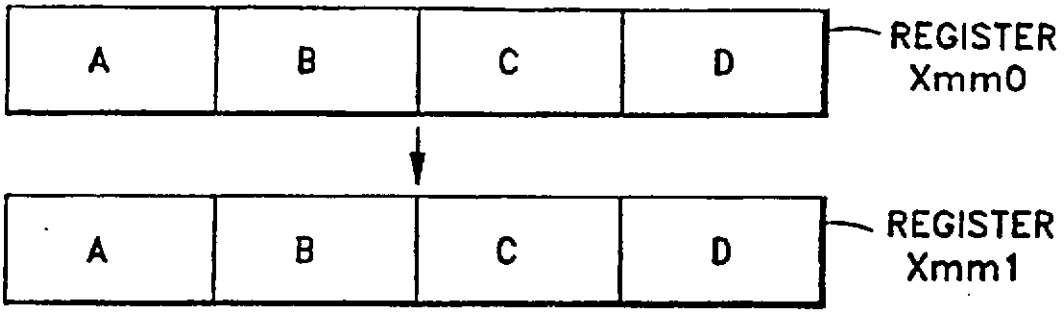

A
B
C
D
REGISTER
Xmm0
A
B
C
D
REGISTER
Xmm1

FIG. 3

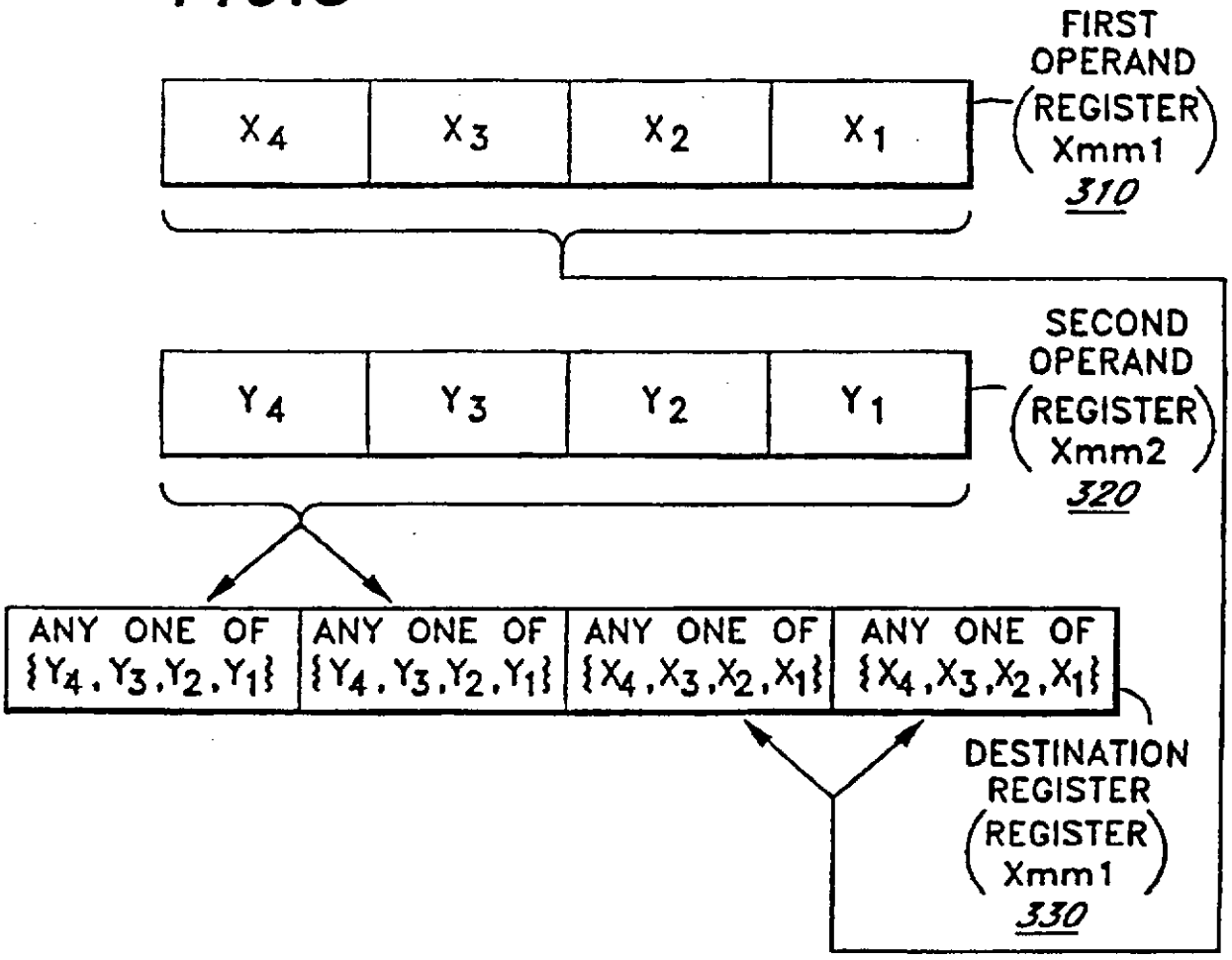

X_4
X_3
X_2
X_1
FIRST
OPERAND
(REGISTER
Xmm1)
310
Y_4
Y_3
Y_2
Y_1
SECOND
OPERAND
(REGISTER
Xmm2)
320
ANY ONE OF
{Y_4, Y_3, Y_2, Y_1}
ANY ONE OF
{Y_4, Y_3, Y_2, Y_1}
ANY ONE OF
{X_4, X_3, X_2, X_1}
ANY ONE OF
{X_4, X_3, X_2, X_1}
DESTINATION
REGISTER
(REGISTER
Xmm1)
330

FIG. 4

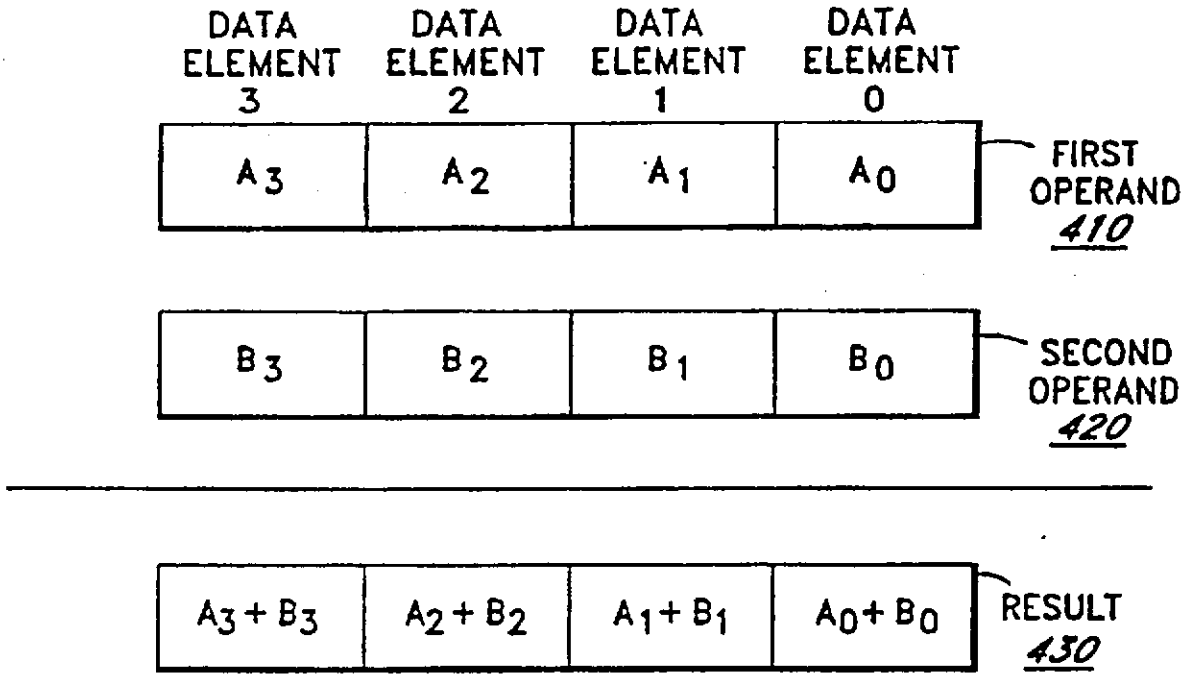
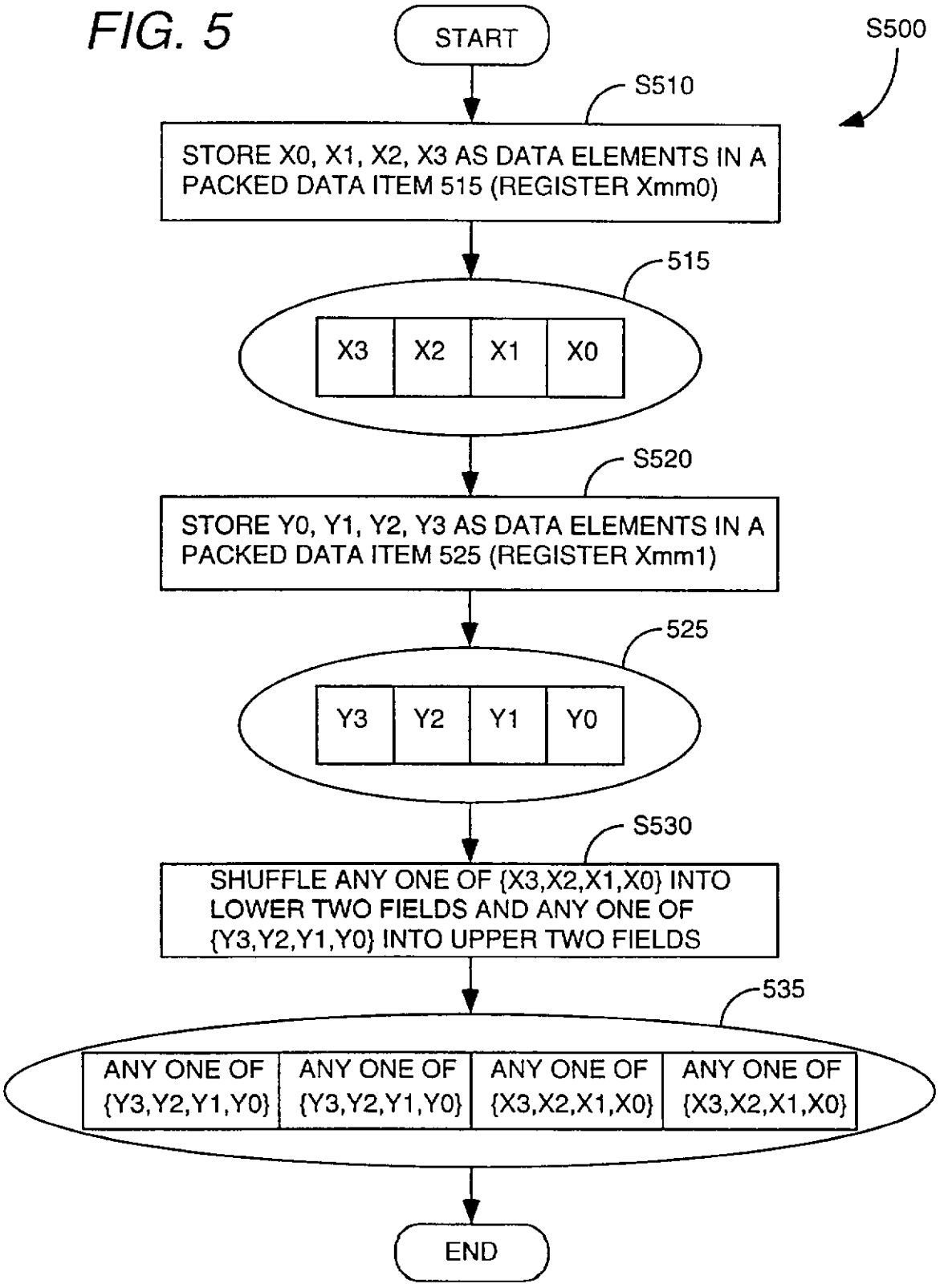

DATA ELEMENT 3
DATA ELEMENT 2
DATA ELEMENT 1
DATA ELEMENT 0
A3
A2
A1
A0
FIRST OPERAND 410
B3
B2
B1
B0
SECOND OPERAND 420
A3 + B3
A2 + B2
A1 + B1
A0 + B0
RESULT 430

FIG. 5


START
S500
S510
STORE X0, X1, X2, X3 AS DATA ELEMENTS IN A PACKED DATA ITEM 515 (REGISTER Xmm0)
515
X3
X2
X1
X0
S520
STORE Y0, Y1, Y2, Y3 AS DATA ELEMENTS IN A PACKED DATA ITEM 525 (REGISTER Xmm1)
525
Y3
Y2
Y1
Y0
S530
SHUFFLE ANY ONE OF {X3,X2,X1,X0} INTO LOWER TWO FIELDS AND ANY ONE OF {Y3,Y2,Y1,Y0} INTO UPPER TWO FIELDS
535
ANY ONE OF {Y3,Y2,Y1,Y0}
ANY ONE OF {Y3,Y2,Y1,Y0}
ANY ONE OF {X3,X2,X1,X0}
ANY ONE OF {X3,X2,X1,X0}
END

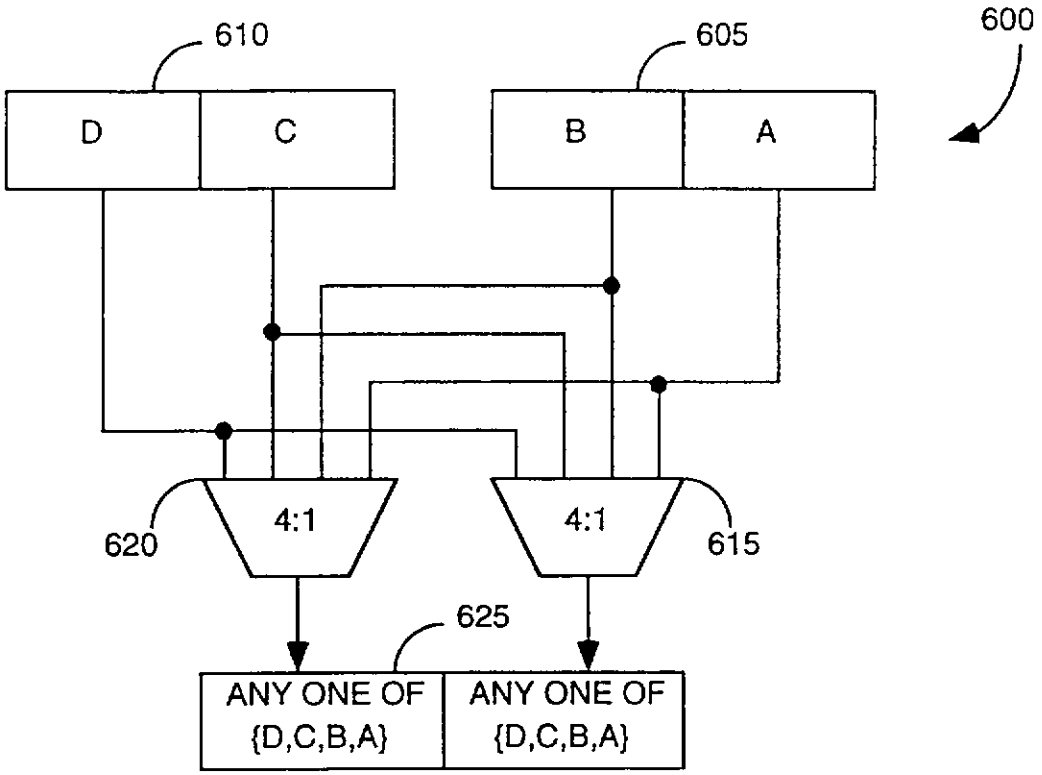

610
605
600
D
C
B
A
620
4:1
4:1
615
625
ANY ONE OF {D,C,B,A}
ANY ONE OF {D,C,B,A}

FIG. 6a

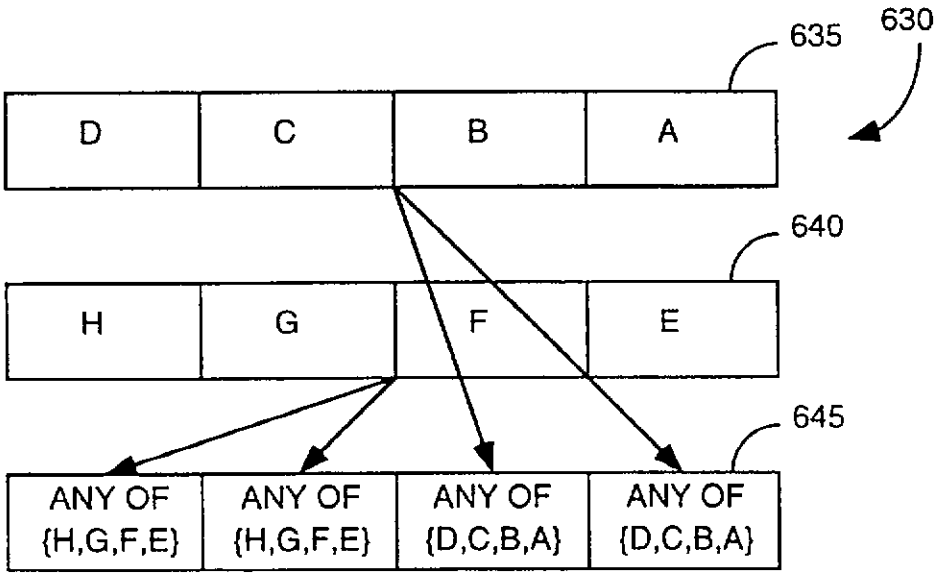

635
630
D
C
B
A
640
H
G
F
E
645
ANY OF {H,G,F,E}
ANY OF {H,G,F,E}
ANY OF {D,C,B,A}
ANY OF {D,C,B,A}

FIG. 6b

FIG. 7

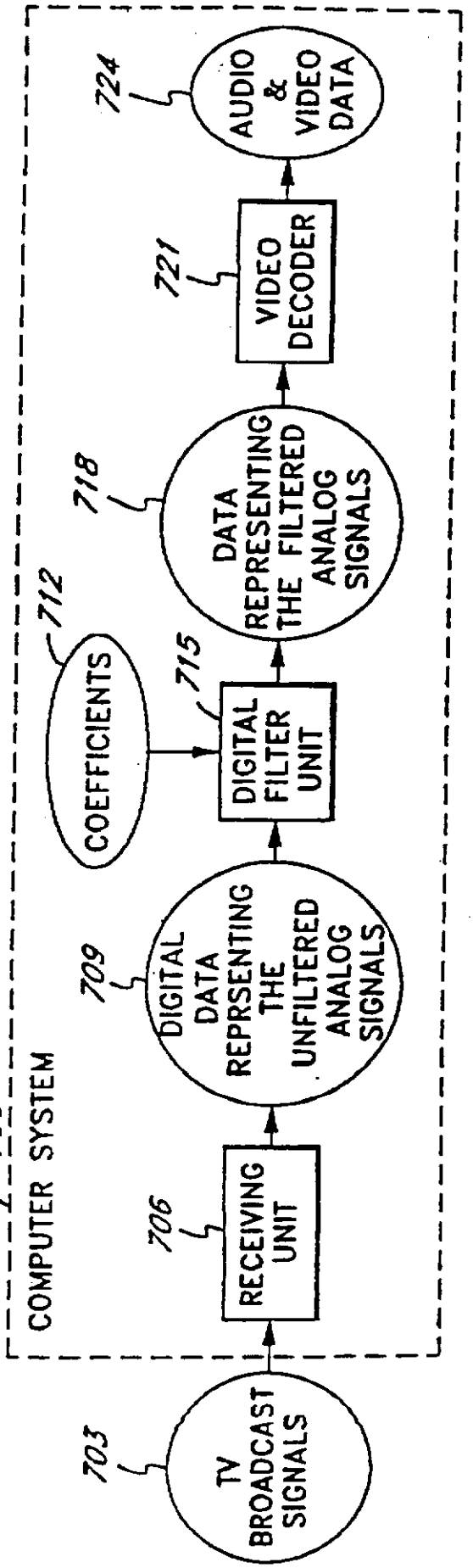
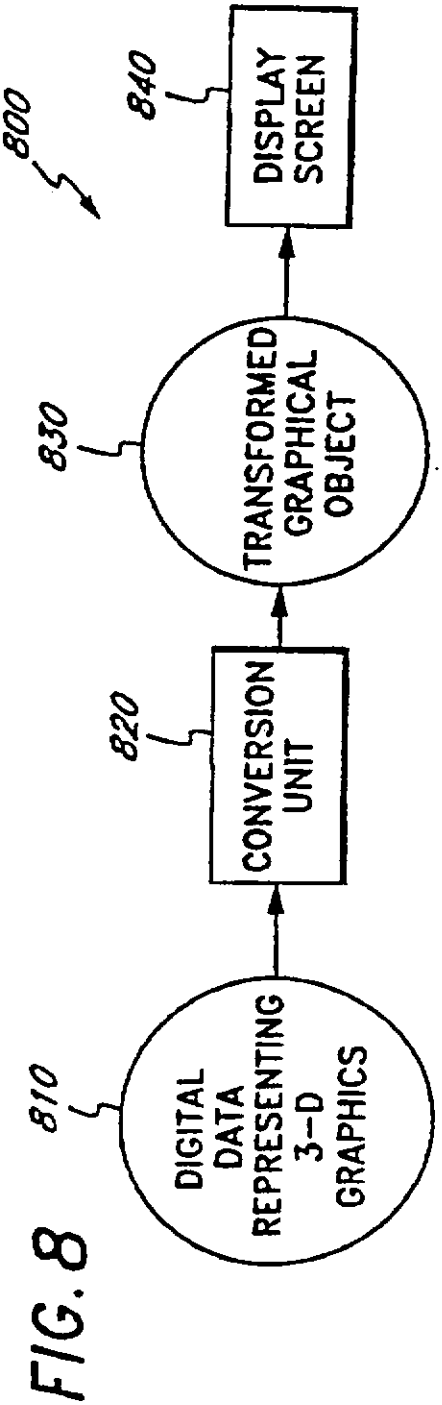

700
COMPUTER SYSTEM
703
TV BROADCAST SIGNALS
706
RECEIVING UNIT
709
DIGITAL DATA REPRSENTING THE UNFILTERED ANALOG SIGNALS
712
COEFFICIENTS
715
DIGITAL FILTER UNIT
718
DATA REPRESENTING THE FILTERED ANALOG SIGNALS
721
VIDEO DECODER
724
AUDIO & VIDEO DATA

FIG. 8


800
810
DIGITAL DATA REPRESENTING 3-D GRAPHICS
820
CONVERSION UNIT
830
TRANSFORMED GRAPHICAL OBJECT
840
DISPLAY SCREEN