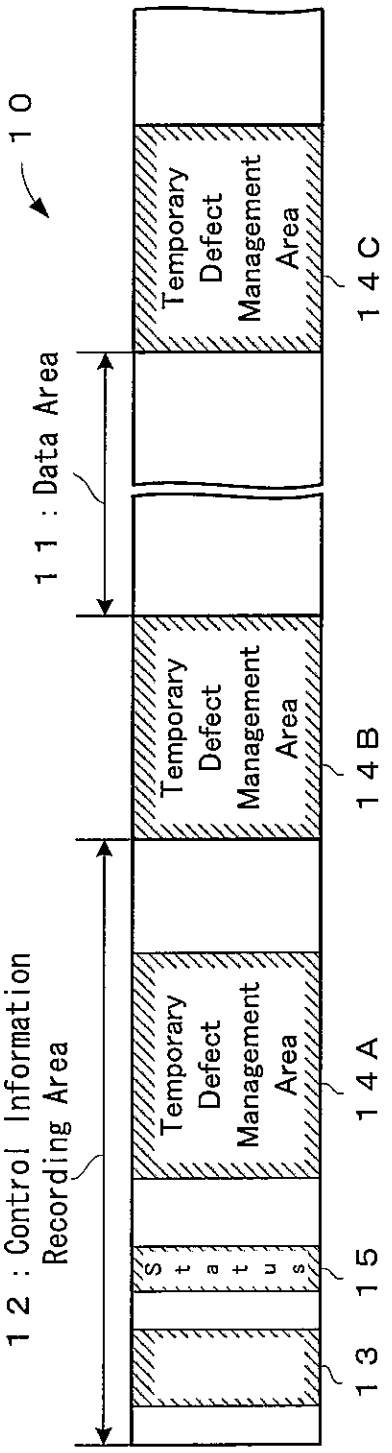
FIG. 1


10
11 : Data Area
12 : Control Information Recording Area
Temporary Defect Management Area
Temporary Defect Management Area
Temporary Defect Management Area
Status
13
15
14A
14B
14C

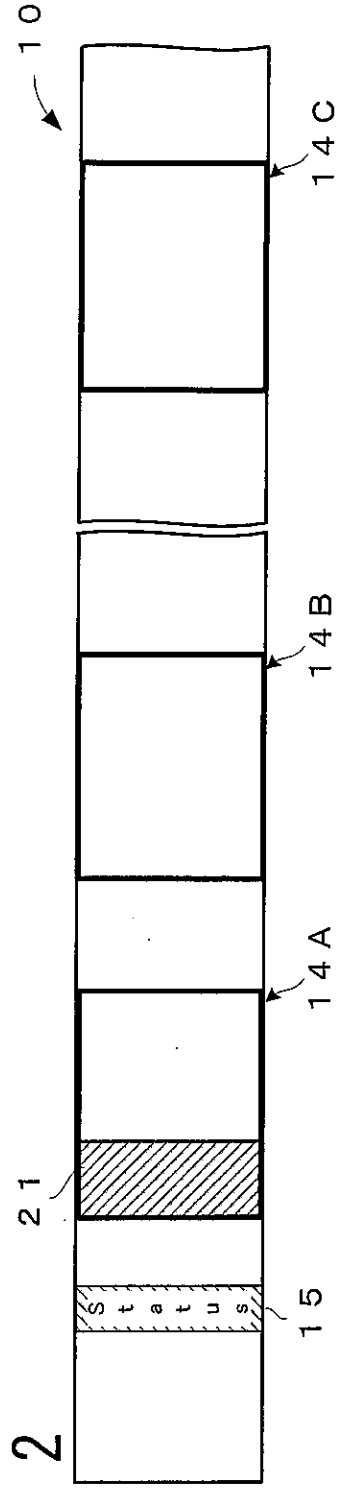


FIG. 2

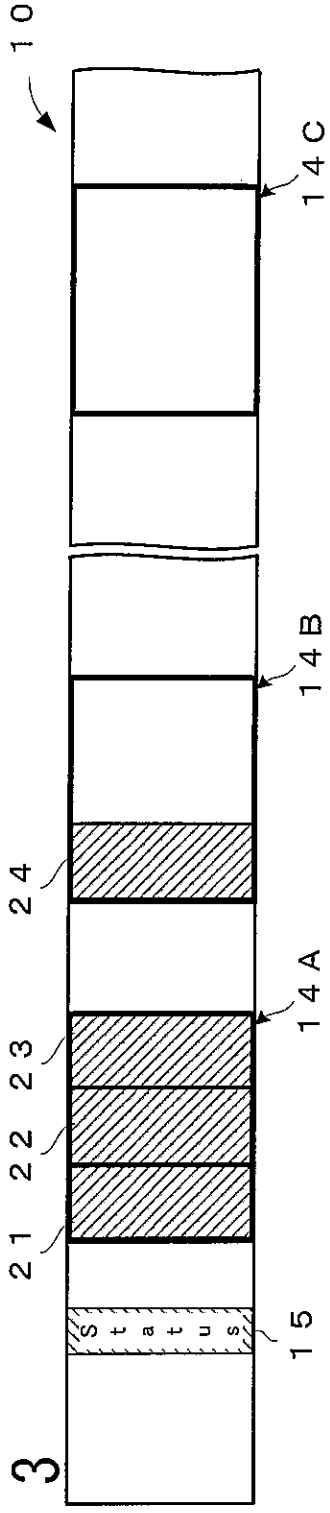


FIG. 3

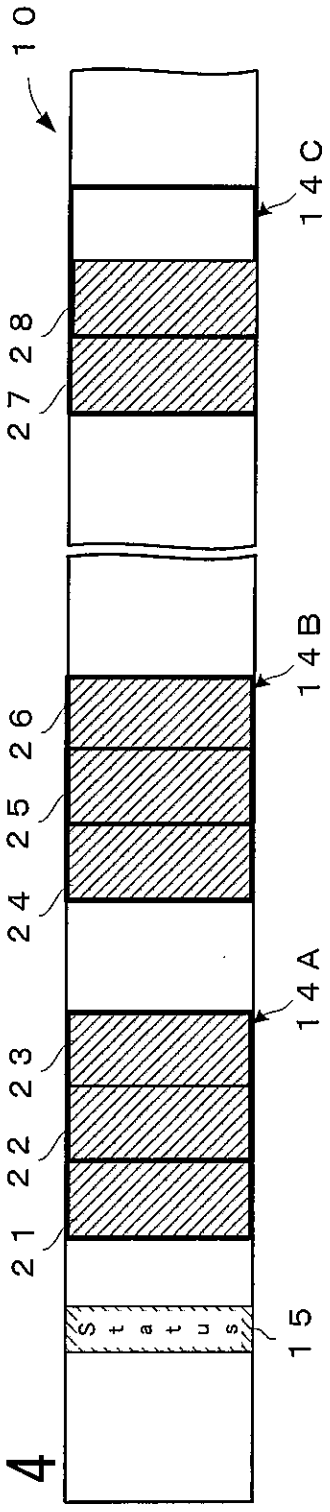


FIG. 4

FIG. 5

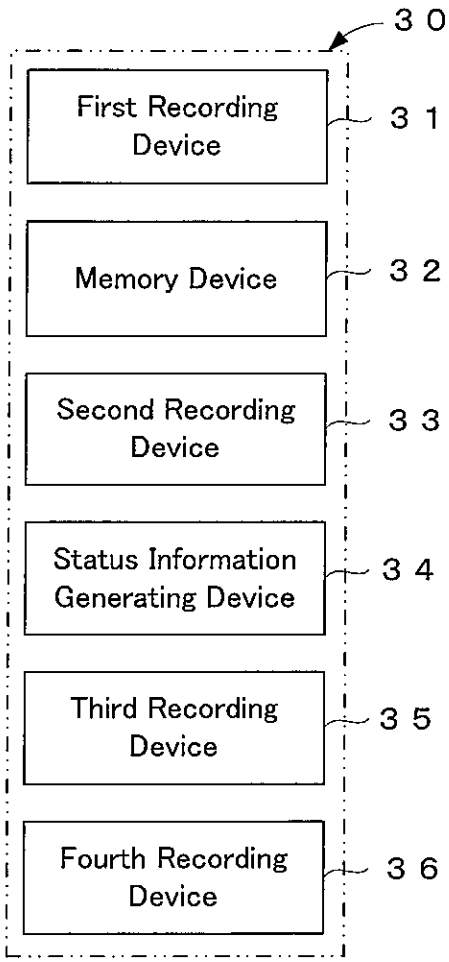

30
First Recording Device
31
Memory Device
32
Second Recording Device
33
Status Information Generating Device
34
Third Recording Device
35
Fourth Recording Device
36

FIG. 6

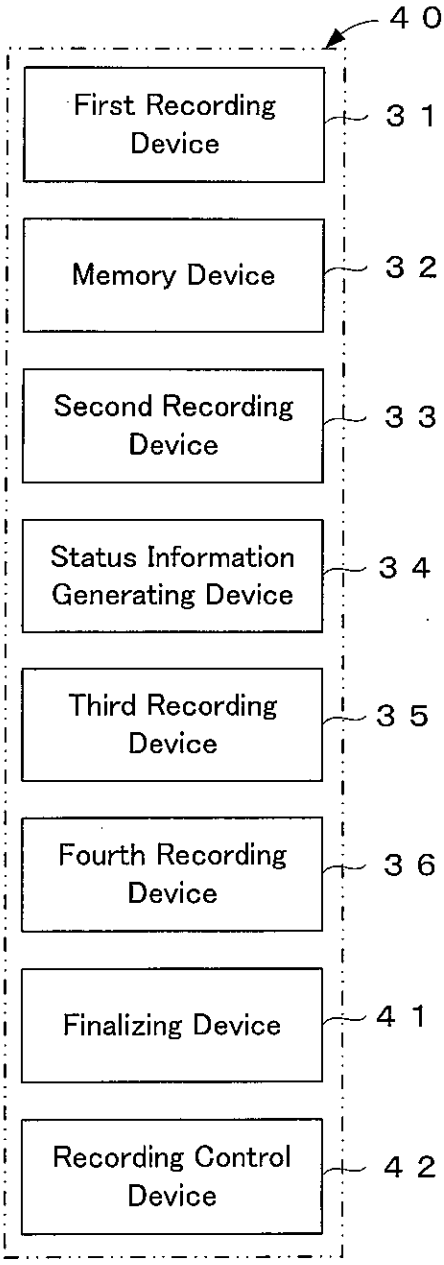

40
First Recording Device
31
Memory Device
32
Second Recording Device
33
Status Information Generating Device
34
Third Recording Device
35
Fourth Recording Device
36
Finalizing Device
41
Recording Control Device
42

FIG. 7

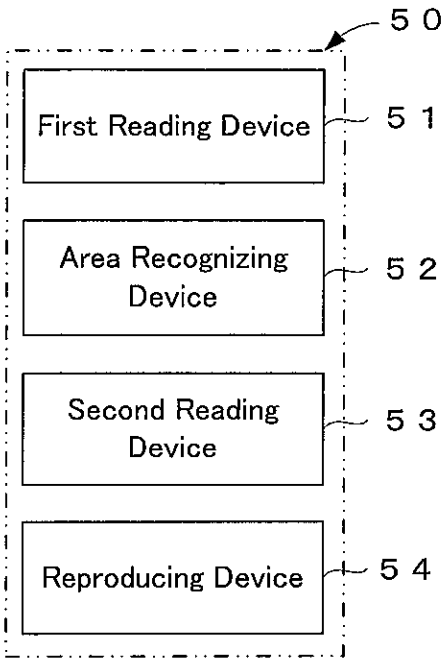

50
First Reading Device
51
Area Recognizing Device
52
Second Reading Device
53
Reproducing Device
54

FIG. 8

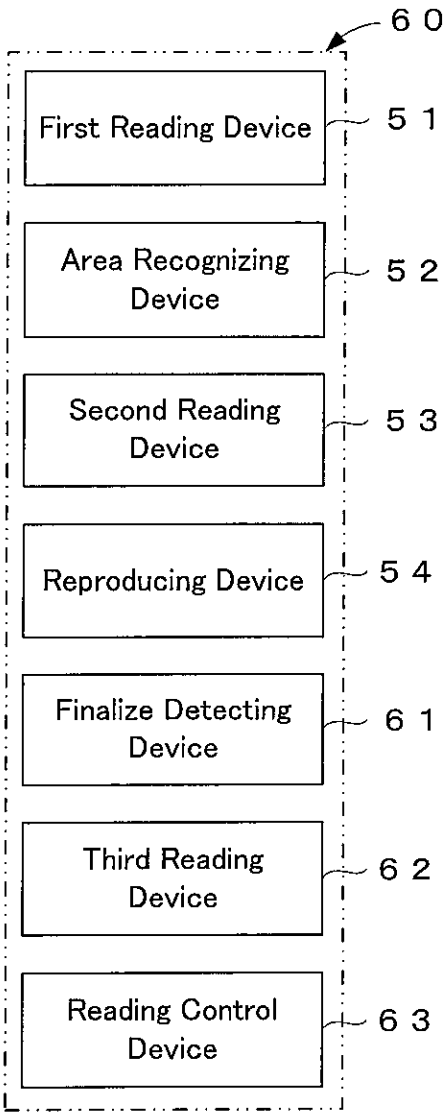

60
First Reading Device
51
Area Recognizing Device
52
Second Reading Device
53
Reproducing Device
54
Finalize Detecting Device
61
Third Reading Device
62
Reading Control Device
63

FIG. 9

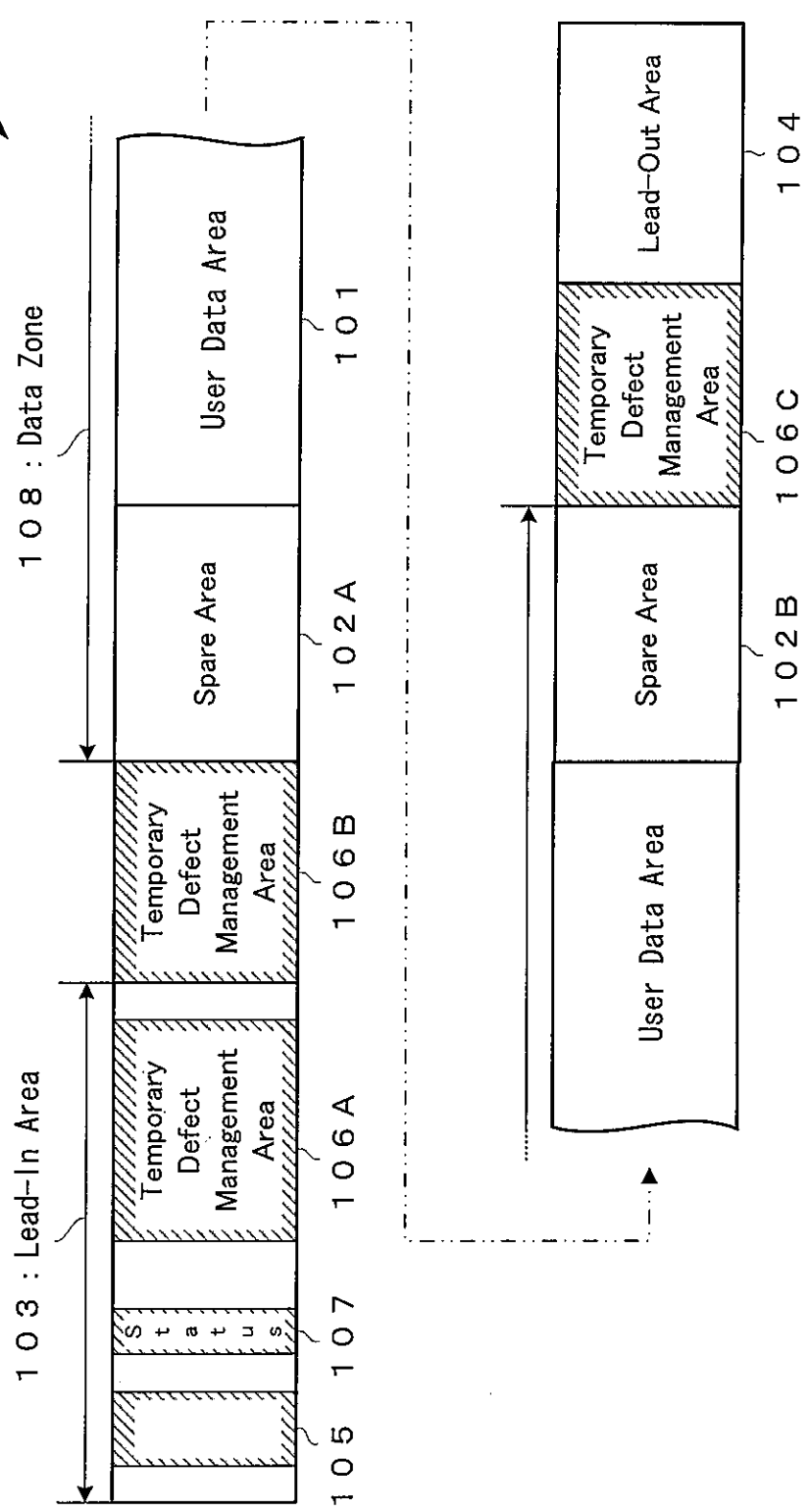

100
108 : Data Zone
103 : Lead-In Area
105
107
Status
106A
Temporary Defect Management Area
106B
Temporary Defect Management Area
102A
Spare Area
101
User Data Area
102B
Spare Area
106C
Temporary Defect Management Area
104
Lead-Out Area
User Data Area

FIG. 10

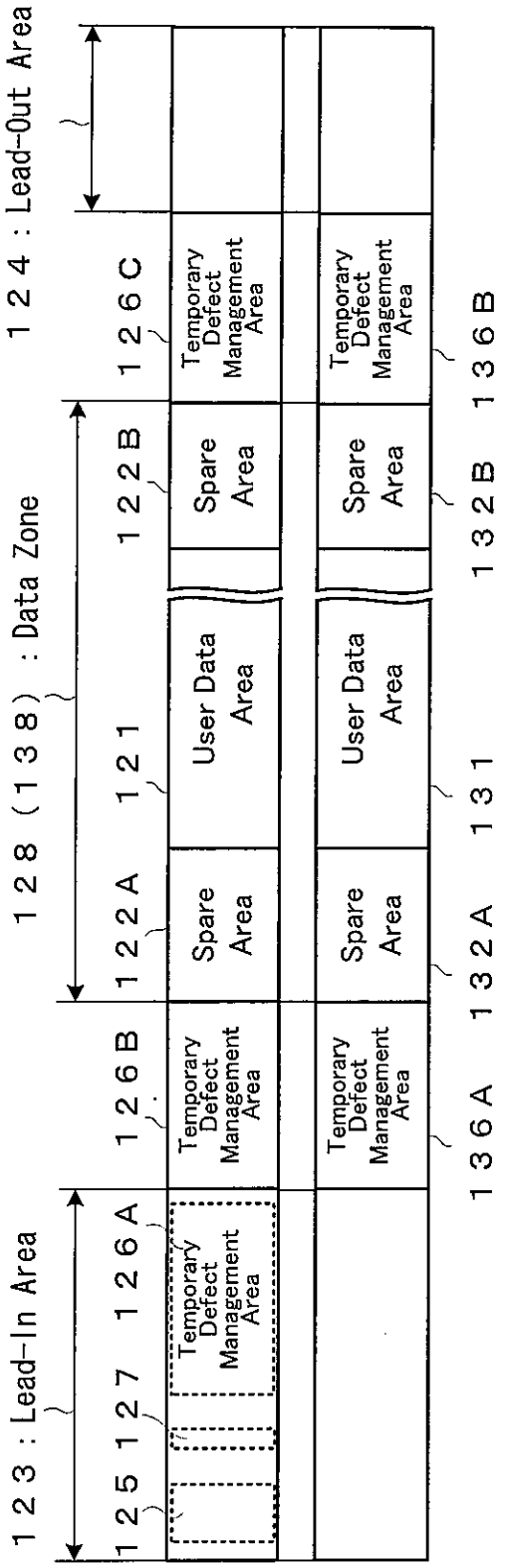

120
123 : Lead-In Area
128 (138) : Data Zone
124 : Lead-Out Area
125
127
126A
126B
122A
121
122B
126C
Temporary Defect Management Area
Spare Area
User Data Area
136A
132A
131
132B
136B

FIG. 11

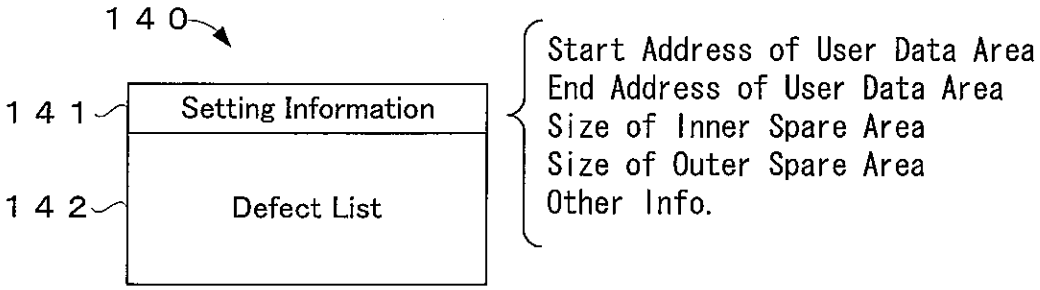


FIG. 12

142

Defect Address	Spare Address	Other Info.
Address aaaa	Address gggg	
Address bbbb	Address kkkk	
Address cccc	Address mmmm	
Address dddd	Address nnnn	
⋮	⋮	

FIG. 13

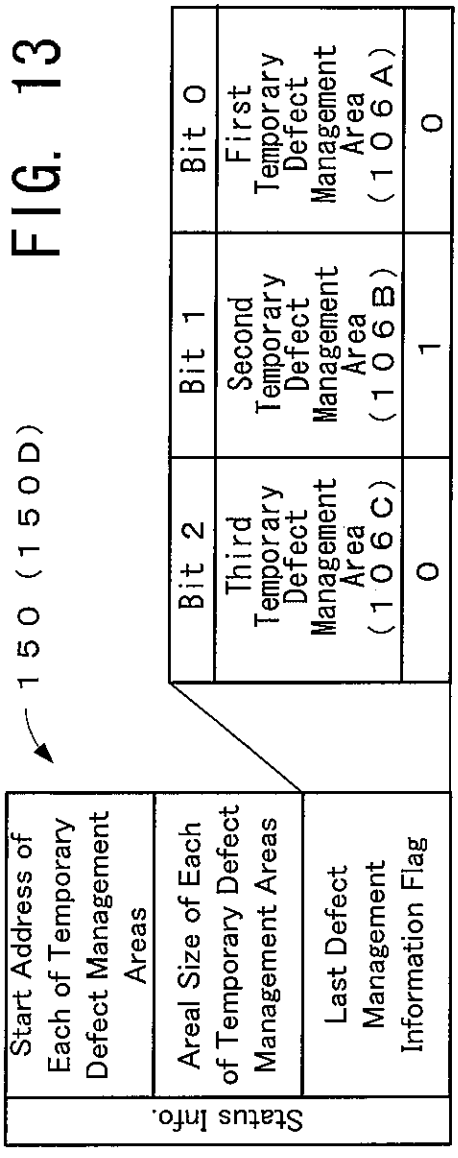

150 (150D)
Status Info.
Start Address of Each of Temporary Defect Management Areas
Areal Size of Each of Temporary Defect Management Areas
Last Defect Management Information Flag
Bit 2
Bit 1
Bit 0
Third Temporary Defect Management Area (106C)
Second Temporary Defect Management Area (106B)
First Temporary Defect Management Area (106A)
0
1
0
0 : There is No Last Defect Management Info.
1 : There is Last Defect Management Info.

FIG. 14

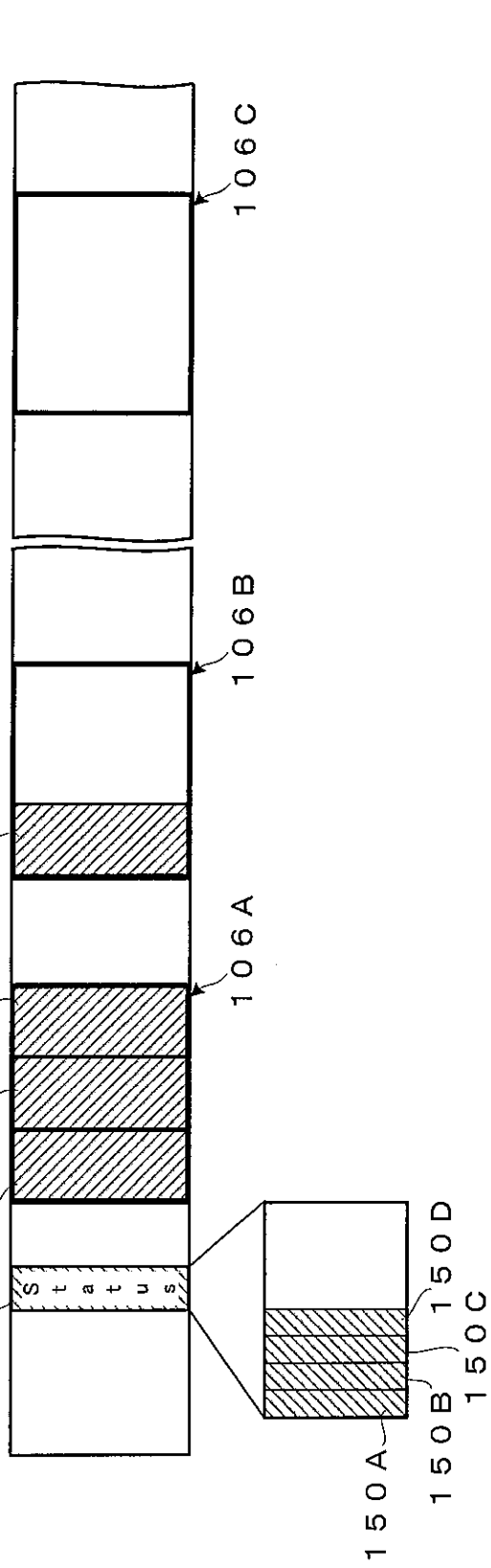

100
106C
106B
106A
140D
140C
140B
140A
107
Status
150A
150B
150C
150D

FIG. 15

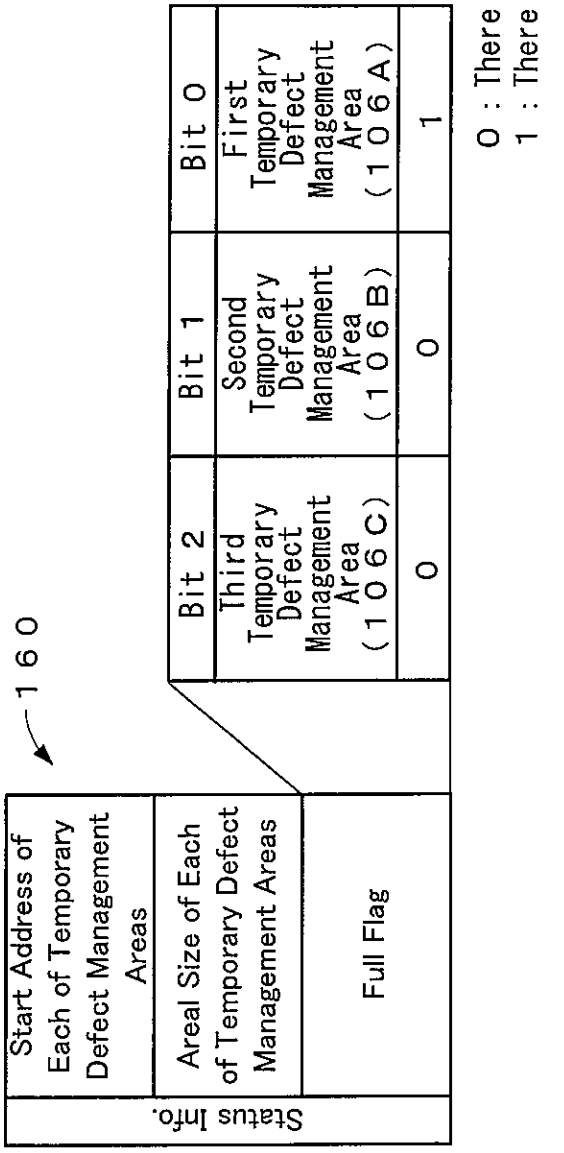

160
Status Info.
Start Address of Each of Temporary Defect Management Areas
Areal Size of Each of Temporary Defect Management Areas
Full Flag
Bit 2
Bit 1
Bit 0
Third Temporary Defect Management Area (106C)
Second Temporary Defect Management Area (106B)
First Temporary Defect Management Area (106A)
0
0
1
0 : There is Unrecorded Area
1 : There is No Unrecorded Area

FIG. 16

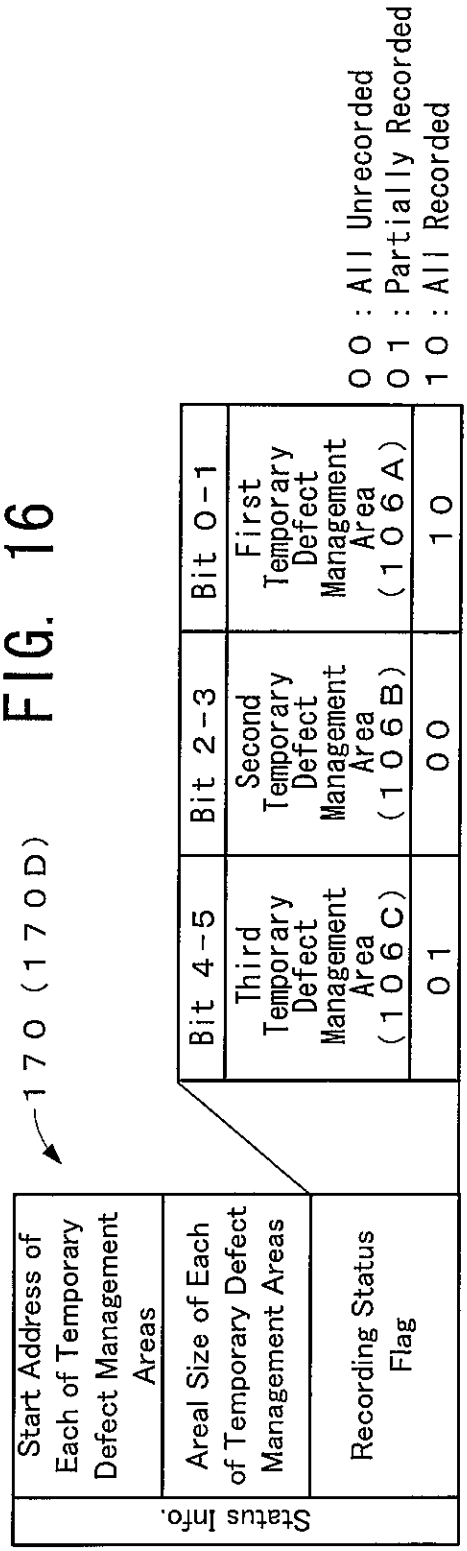

170 (170D)
Status Info.
Start Address of Each of Temporary Defect Management Areas
Areal Size of Each of Temporary Defect Management Areas
Recording Status Flag
Bit 4-5
Third Temporary Defect Management Area (106C)
01
Bit 2-3
Second Temporary Defect Management Area (106B)
00
Bit 0-1
First Temporary Defect Management Area (106A)
10
00 : All Unrecorded
01 : Partially Recorded
10 : All Recorded

FIG. 17

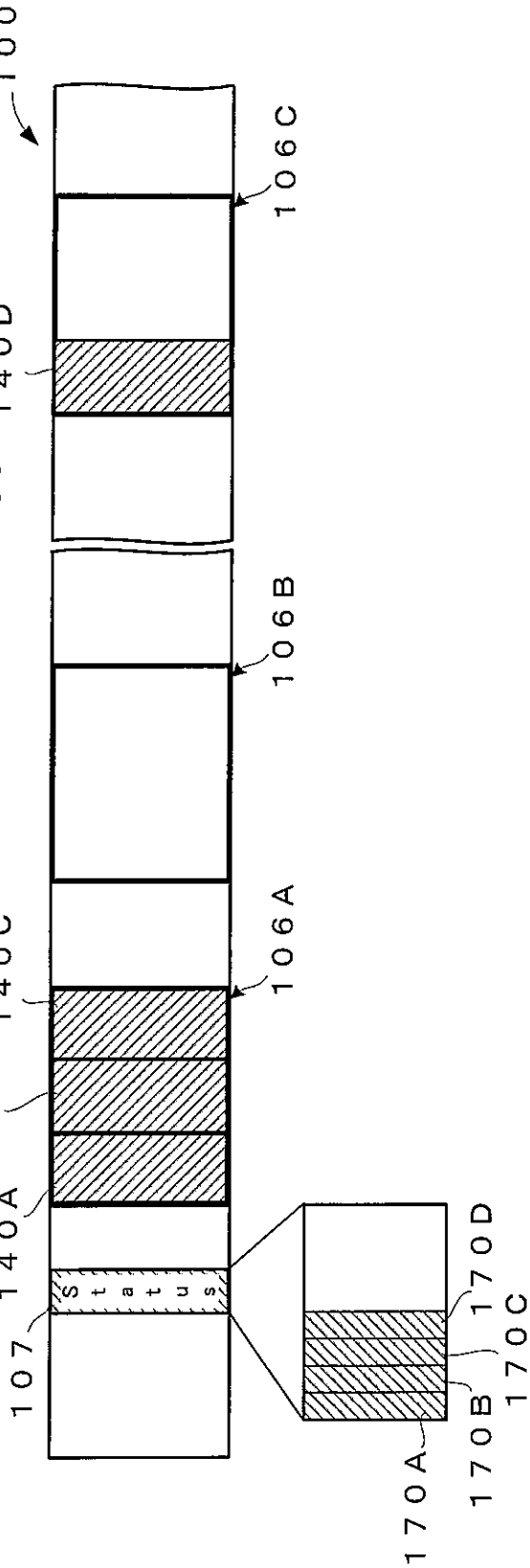

100
140D
106C
106B
140C
140B
140A
106A
107
Status
170A
170B
170C
170D

FIG. 18

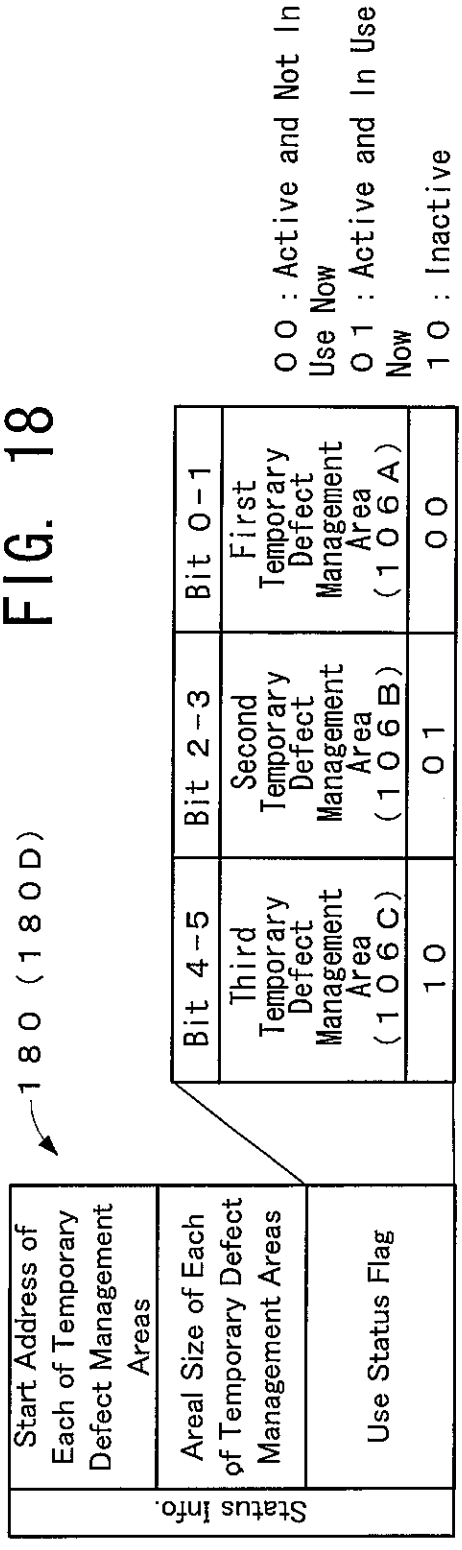

180 (180D)
Status Info.
Start Address of Each of Temporary Defect Management Areas
Areal Size of Each of Temporary Defect Management Areas
Use Status Flag
Bit 4-5
Third Temporary Defect Management Area (106C)
10
Bit 2-3
Second Temporary Defect Management Area (106B)
01
Bit 0-1
First Temporary Defect Management Area (106A)
00
00 : Active and Not In Use Now
01 : Active and In Use Now
10 : Inactive

FIG. 19

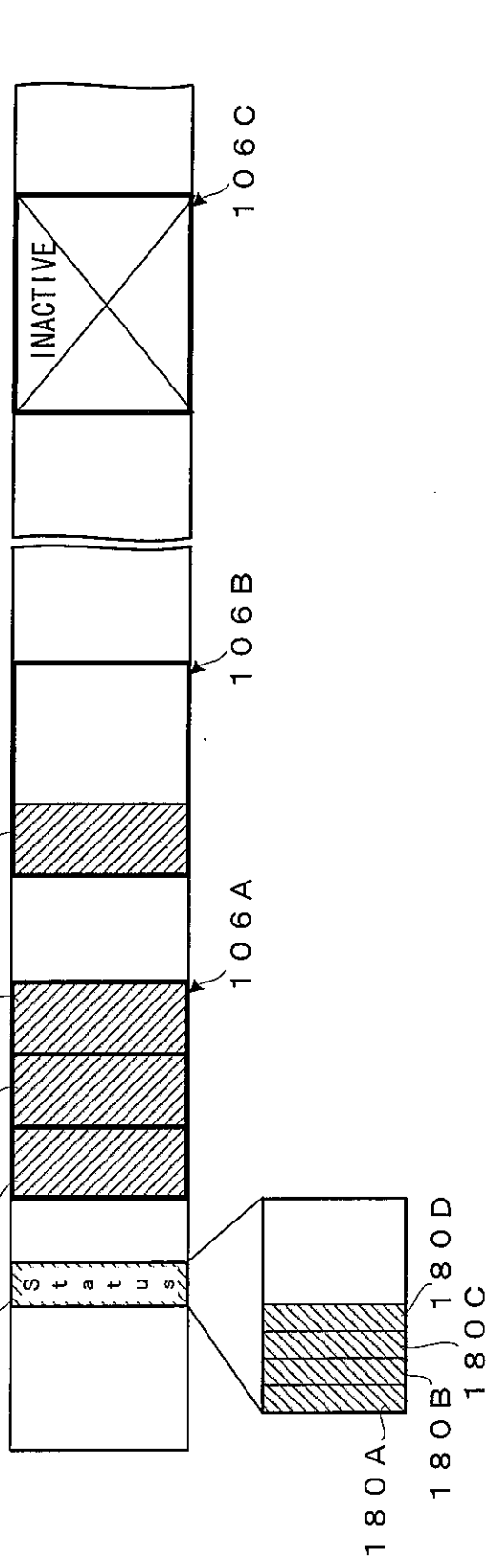

100
106C
INACTIVE
106B
106A
140D
140C
140B
140A
107
Status
180A
180B
180C
180D

FIG. 20

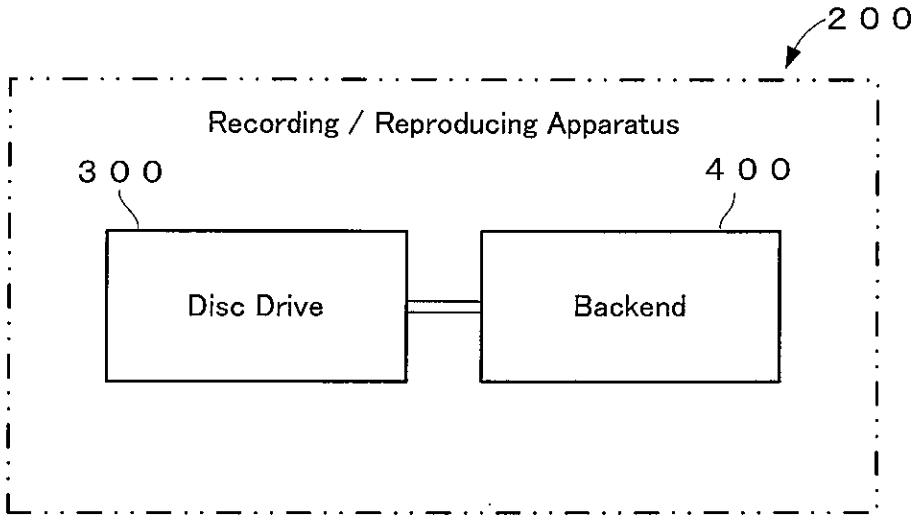

200
Recording / Reproducing Apparatus
300
400
Disc Drive
Backend

FIG. 21

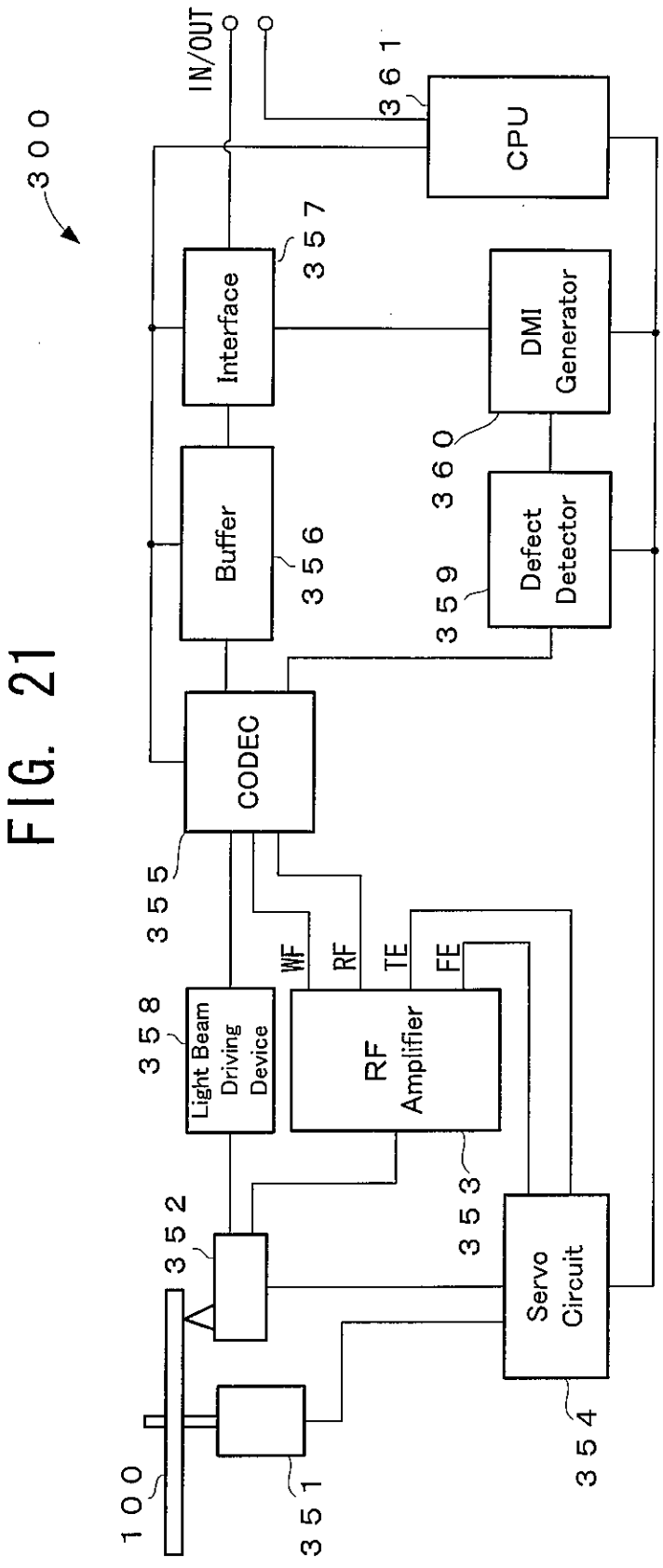

300
IN/OUT
361
CPU
357
Interface
DMI Generator
360
Buffer
356
359
Defect Detector
CODEC
355
WF
RF
TE
FE
358
Light Beam Driving Device
RF Amplifier
353
352
Servo Circuit
354
100
351

FIG. 22

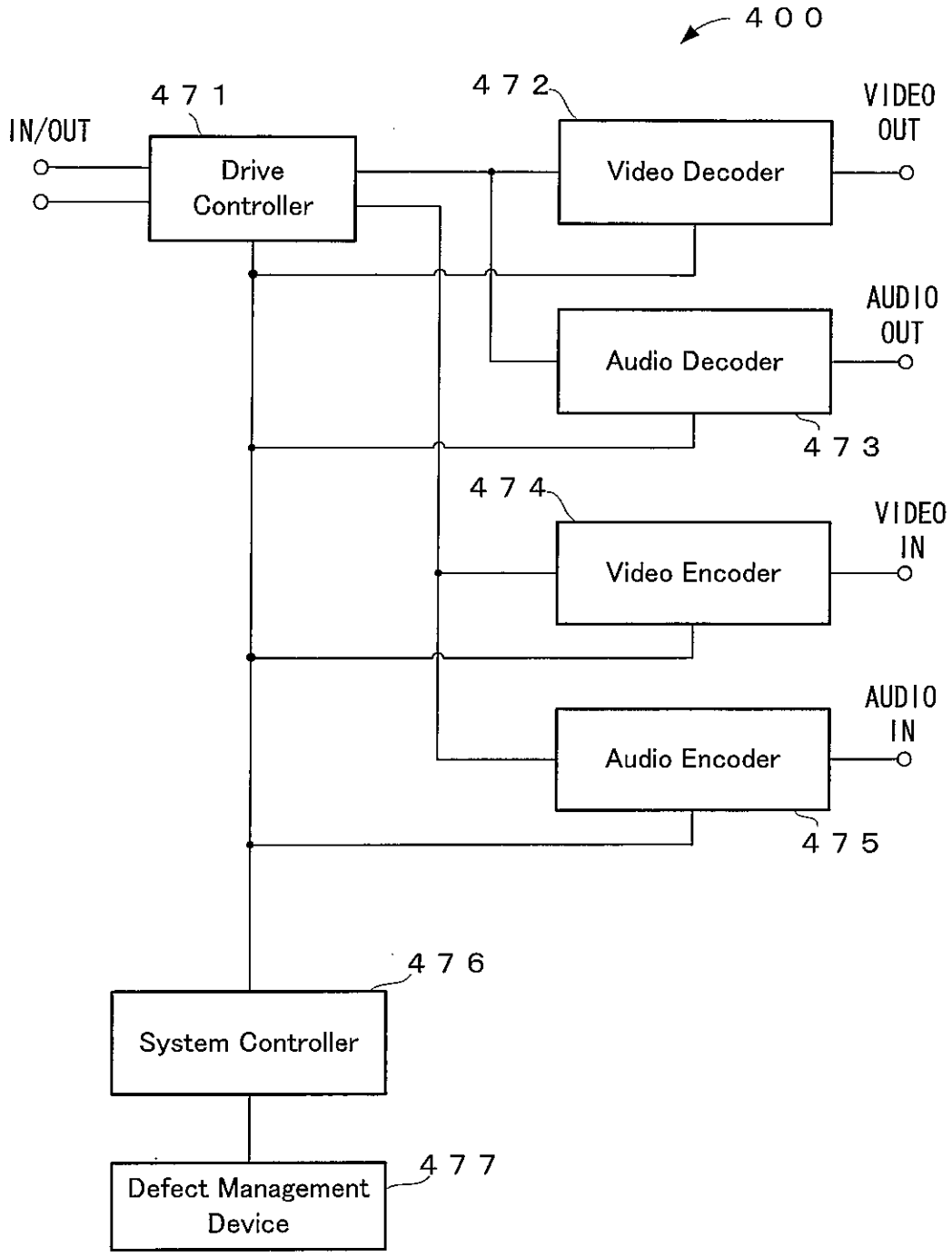
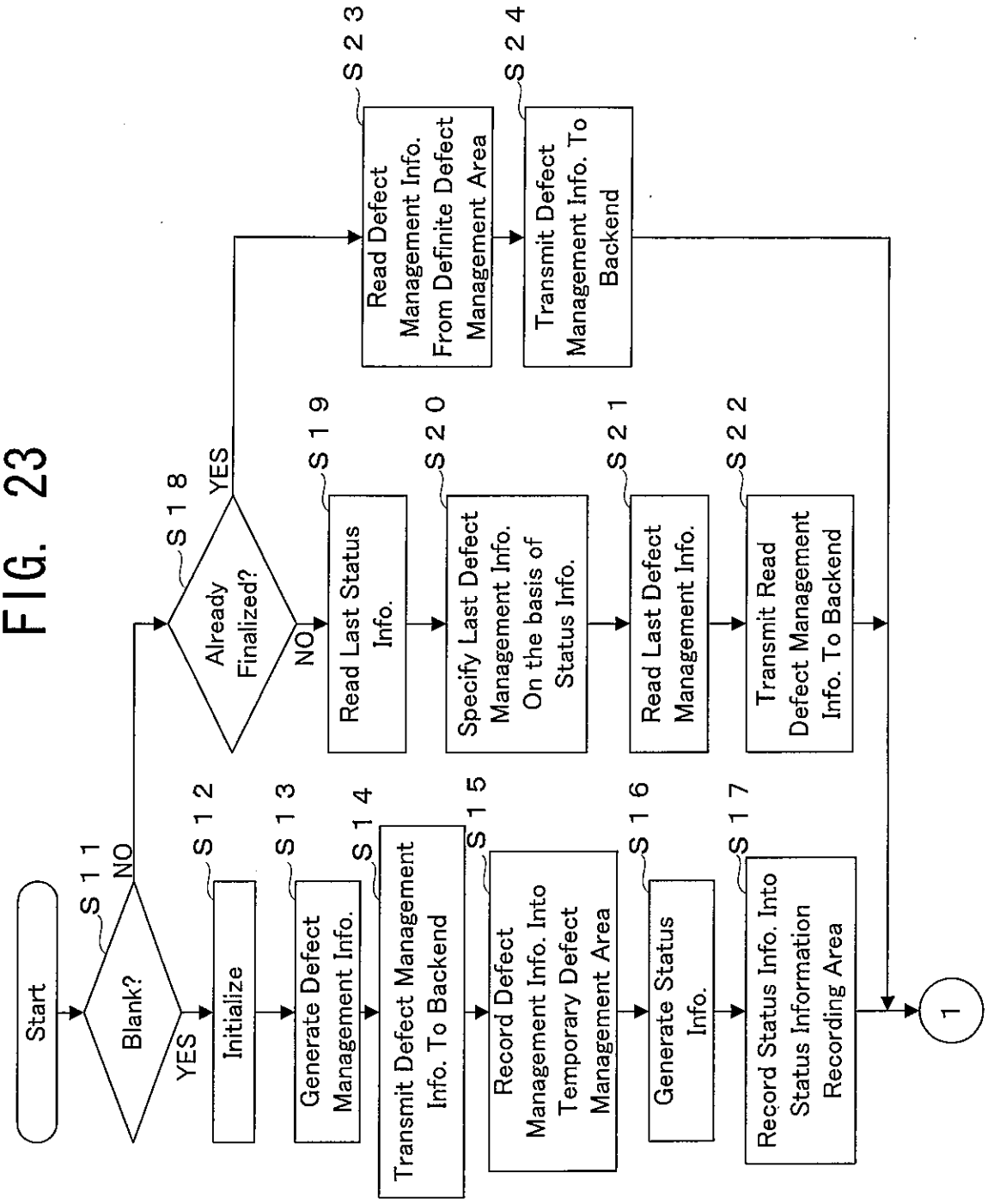

400
471
IN/OUT
Drive Controller
472
Video Decoder
VIDEO OUT
AUDIO OUT
Audio Decoder
473
474
Video Encoder
VIDEO IN
AUDIO IN
Audio Encoder
475
476
System Controller
477
Defect Management Device

FIG. 23


Start
S11
Blank?
NO
YES
S12
Initialize
S13
Generate Defect Management Info.
S14
Transmit Defect Management Info. To Backend
S15
Record Defect Management Info. Into Temporary Defect Management Area
S16
Generate Status Info.
S17
Record Status Info. Into Status Information Recording Area
1
S18
Already Finalized?
YES
NO
S19
Read Last Status Info.
S20
Specify Last Defect Management Info. On the basis of Status Info.
S21
Read Last Defect Management Info.
S22
Transmit Read Defect Management Info. To Backend
S23
Read Defect Management Info. From Definite Defect Management Area
S24
Transmit Defect Management Info. To Backend

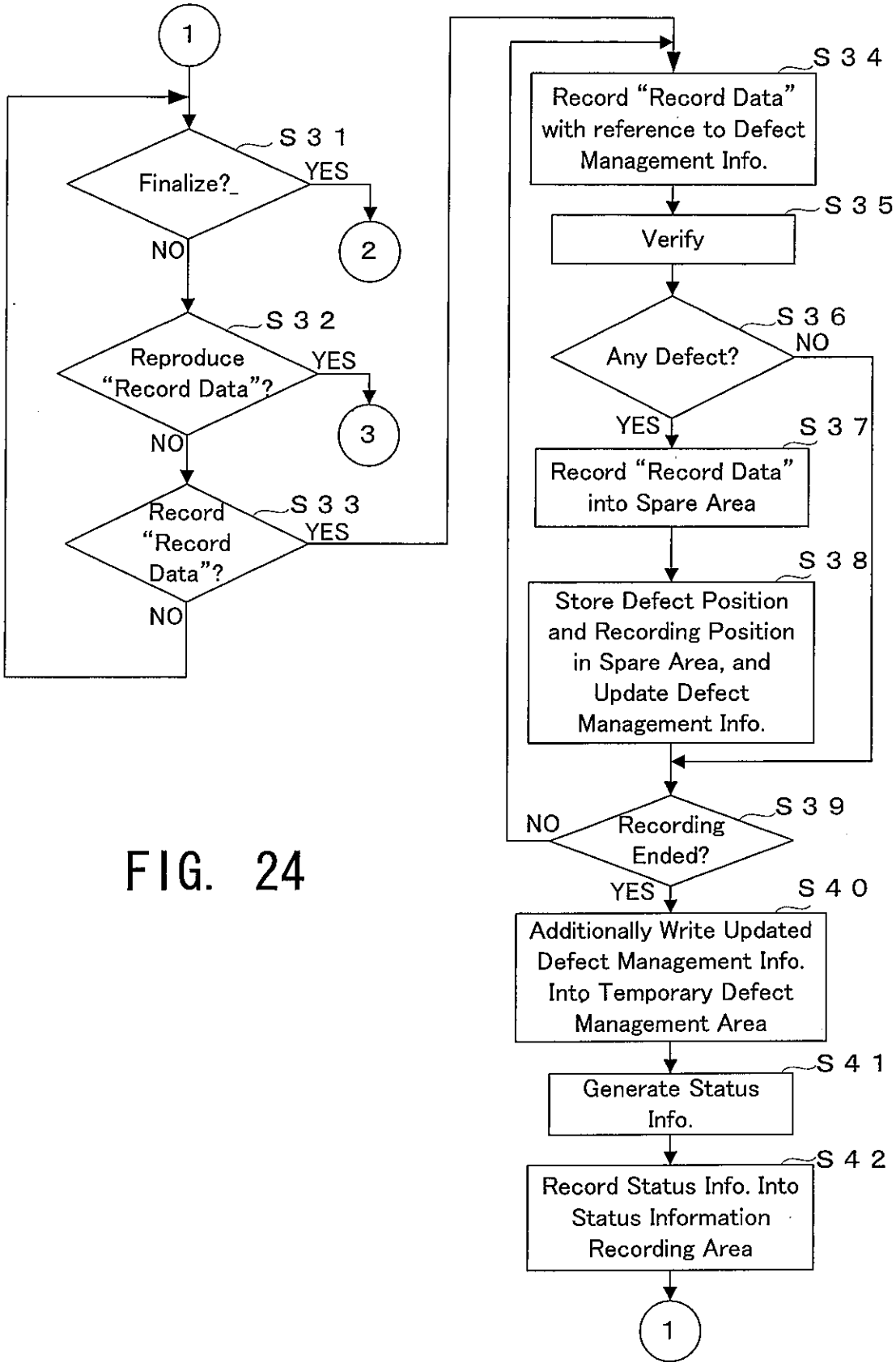

1
S 3 1
Finalize?_
YES
NO
2
S 3 2
Reproduce "Record Data"?
YES
NO
3
S 3 3
Record "Record Data"?
YES
NO
S 3 4
Record "Record Data" with reference to Defect Management Info.
S 3 5
Verify
S 3 6
Any Defect?
NO
YES
S 3 7
Record "Record Data" into Spare Area
S 3 8
Store Defect Position and Recording Position in Spare Area, and Update Defect Management Info.
S 3 9
Recording Ended?
NO
YES
S 4 0
Additionally Write Updated Defect Management Info. Into Temporary Defect Management Area
S 4 1
Generate Status Info.
S 4 2
Record Status Info. Into Status Information Recording Area
1

FIG. 24

FIG. 25

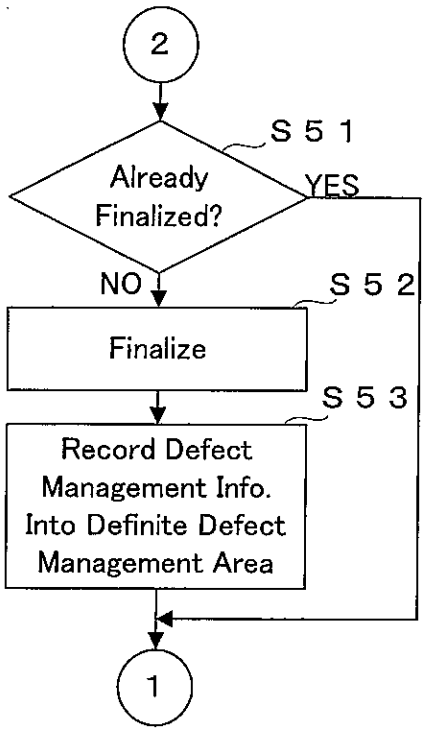
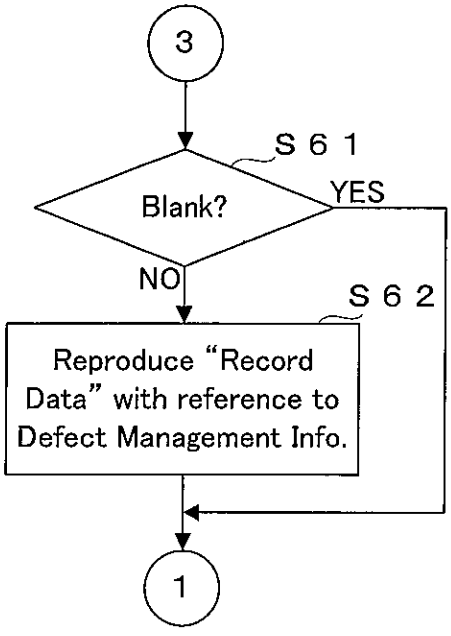

2
S 5 1
Already Finalized?
YES
NO
S 5 2
Finalize
S 5 3
Record Defect Management Info. Into Definite Defect Management Area
1

FIG. 26


3
S 6 1
Blank?
YES
NO
S 6 2
Reproduce "Record Data" with reference to Defect Management Info.
1