FIG.1

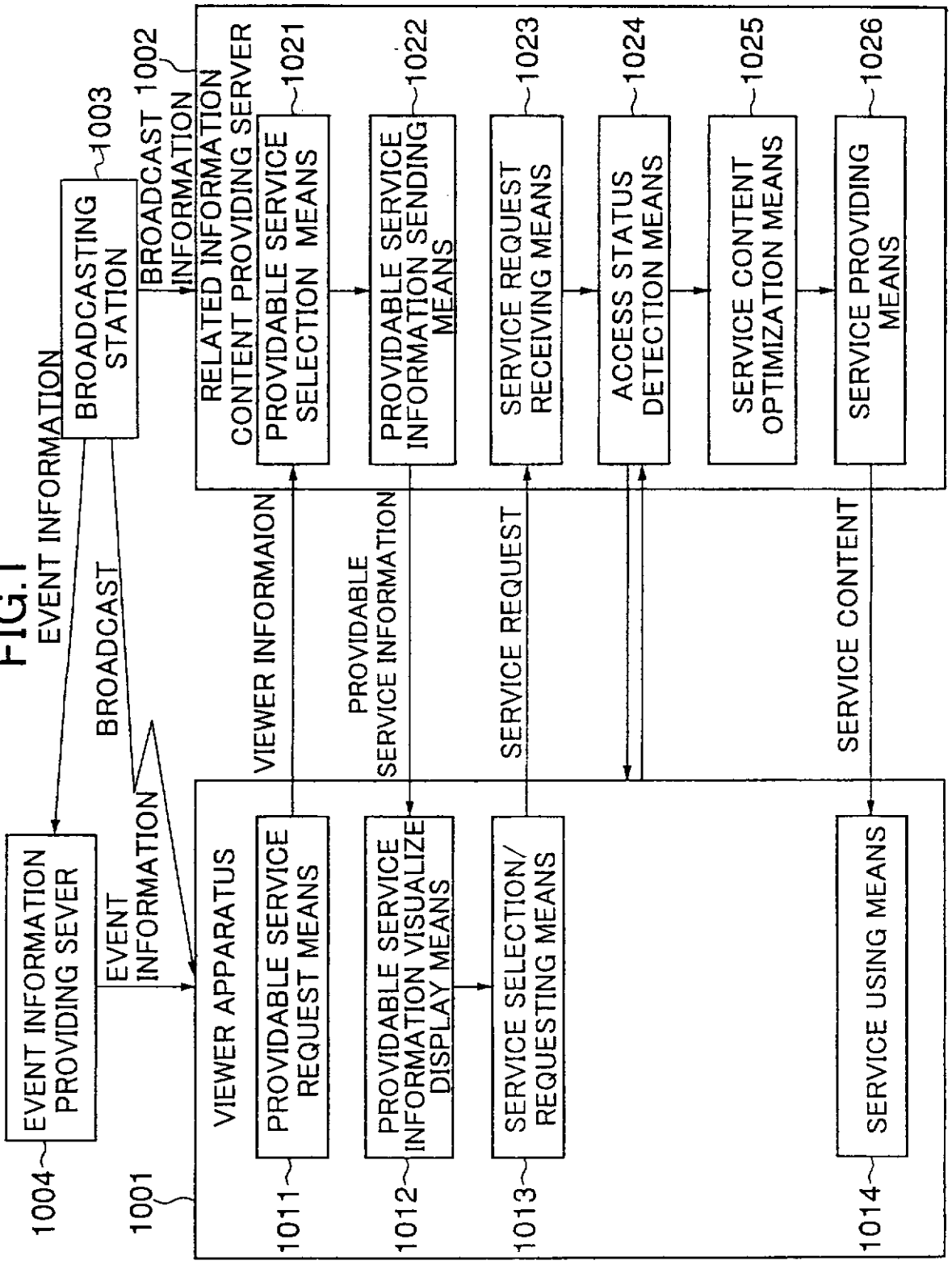

EVENT INFORMATION
BROADCAST
EVENT INFORMATION
BROADCAST INFORMATION
VIEWER INFORMAION
PROVIDABLE SERVICE INFORMATION
SERVICE REQUEST
SERVICE CONTENT
EVENT INFORMATION PROVIDING SEVER
1004
BROADCASTING STATION
1003
1001
VIEWER APPARATUS
1002
RELATED INFORMATION CONTENT PROVIDING SERVER
PROVIDABLE SERVICE REQUEST MEANS
1011
PROVIDABLE SERVICE INFORMATION VISUALIZE DISPLAY MEANS
1012
SERVICE SELECTION/ REQUESTING MEANS
1013
SERVICE USING MEANS
1014
PROVIDABLE SERVICE SELECTION MEANS
1021
PROVIDABLE SERVICE INFORMATION SENDING MEANS
1022
SERVICE REQUEST RECEIVING MEANS
1023
ACCESS STATUS DETECTION MEANS
1024
SERVICE CONTENT OPTIMIZATION MEANS
1025
SERVICE PROVIDING MEANS
1026

FIG.2

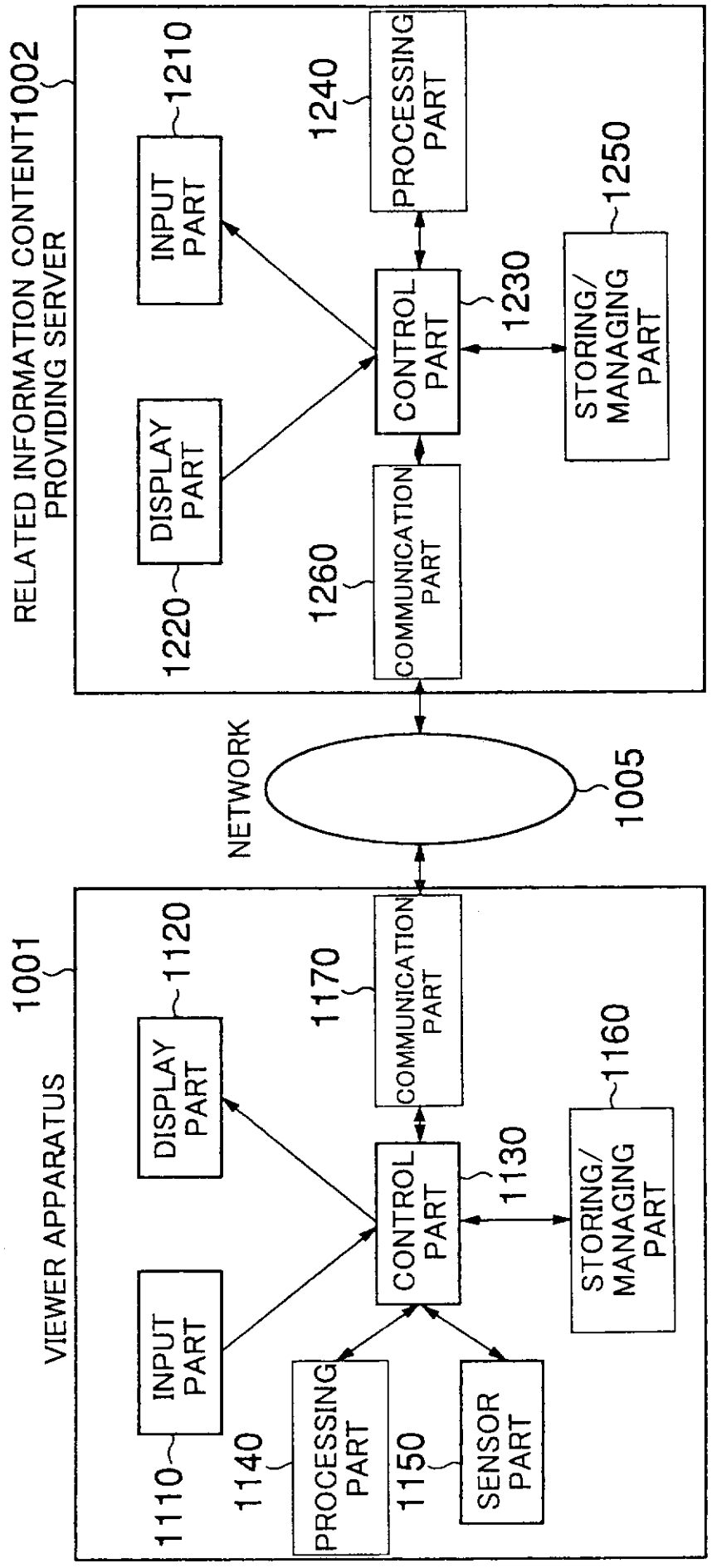

RELATED INFORMATION CONTENT PROVIDING SERVER
1002
INPUT PART
1210
DISPLAY PART
1220
COMMUNICATION PART
1260
CONTROL PART
1230
PROCESSING PART
1240
STORING/ MANAGING PART
1250
NETWORK
1005
VIEWER APPARATUS
1001
INPUT PART
1110
DISPLAY PART
1120
COMMUNICATION PART
1170
CONTROL PART
1130
PROCESSING PART
1140
SENSOR PART
1150
STORING/ MANAGING PART
1160

FIG.3

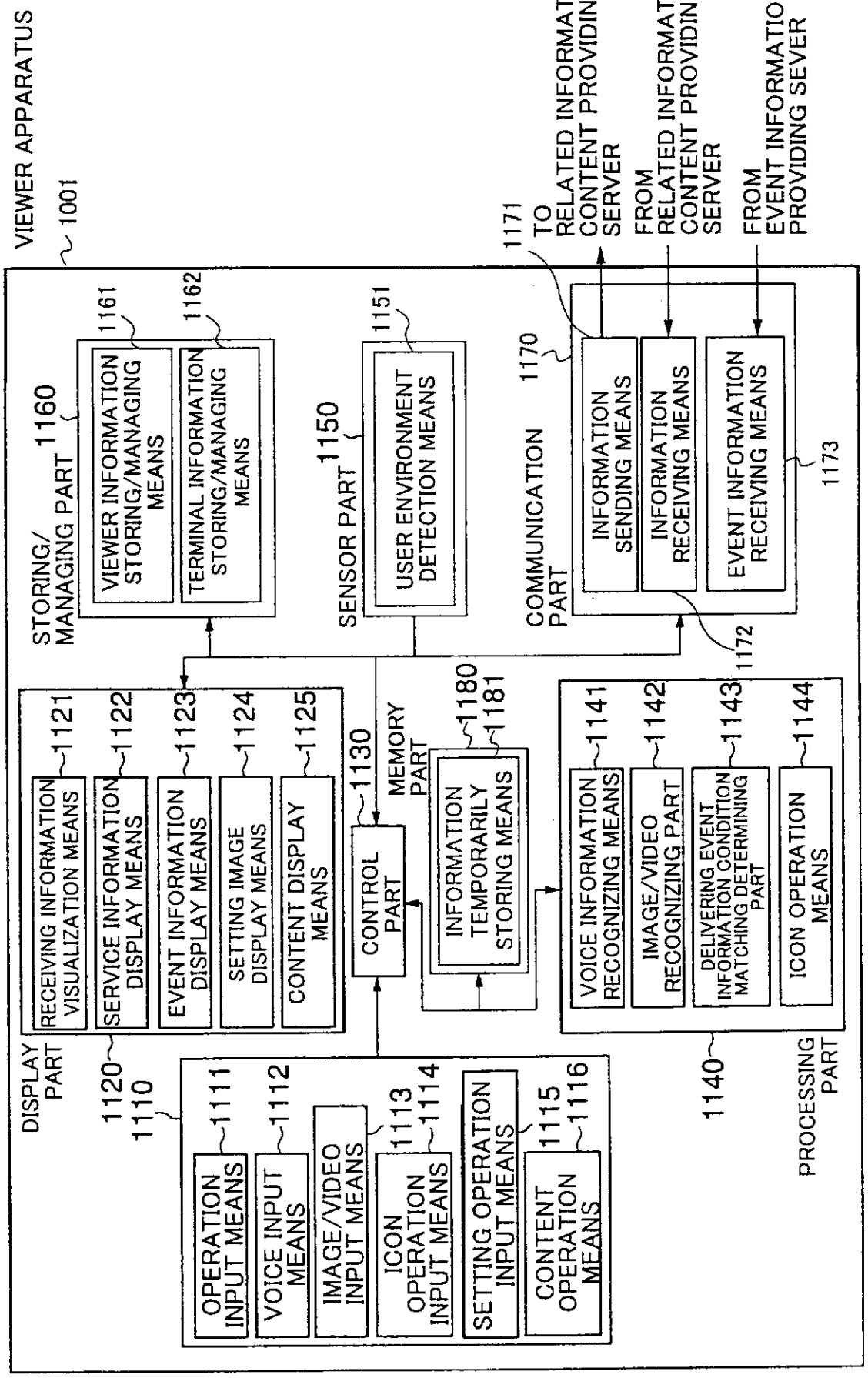

VIEWER APPARATUS
1001
STORING/MANAGING PART
1160
VIEWER INFORMATION STORING/MANAGING MEANS
1161
TERMINAL INFORMATION STORING/MANAGING MEANS
1162
SENSOR PART
1150
USER ENVIRONMENT DETECTION MEANS
1151
COMMUNICATION PART
1170
INFORMATION SENDING MEANS
INFORMATION RECEIVING MEANS
EVENT INFORMATION RECEIVING MEANS
1171
TO RELATED INFORMATION CONTENT PROVIDING SERVER
FROM RELATED INFORMATION CONTENT PROVIDING SERVER
FROM EVENT INFORMATION PROVIDING SEVER
1172
1173
DISPLAY PART
1120
RECEIVING INFORMATION VISUALIZATION MEANS
1121
SERVICE INFORMATION DISPLAY MEANS
1122
EVENT INFORMATION DISPLAY MEANS
1123
SETTING IMAGE DISPLAY MEANS
1124
CONTENT DISPLAY MEANS
1125
CONTROL PART
1130
MEMORY PART
1180
INFORMATION TEMPORARILY STORING MEANS
1181
PROCESSING PART
1140
VOICE INFORMATION RECOGNIZING MEANS
1141
IMAGE/VIDEO RECOGNIZING PART
1142
DELIVERING EVENT INFORMATION CONDITION MATCHING DETERMINING PART
1143
ICON OPERATION MEANS
1144
1110
OPERATION INPUT MEANS
1111
VOICE INPUT MEANS
1112
IMAGE/VIDEO INPUT MEANS
1113
ICON OPERATION INPUT MEANS
1114
SETTING OPERATION INPUT MEANS
1115
CONTENT OPERATION MEANS
1116

FIG.4

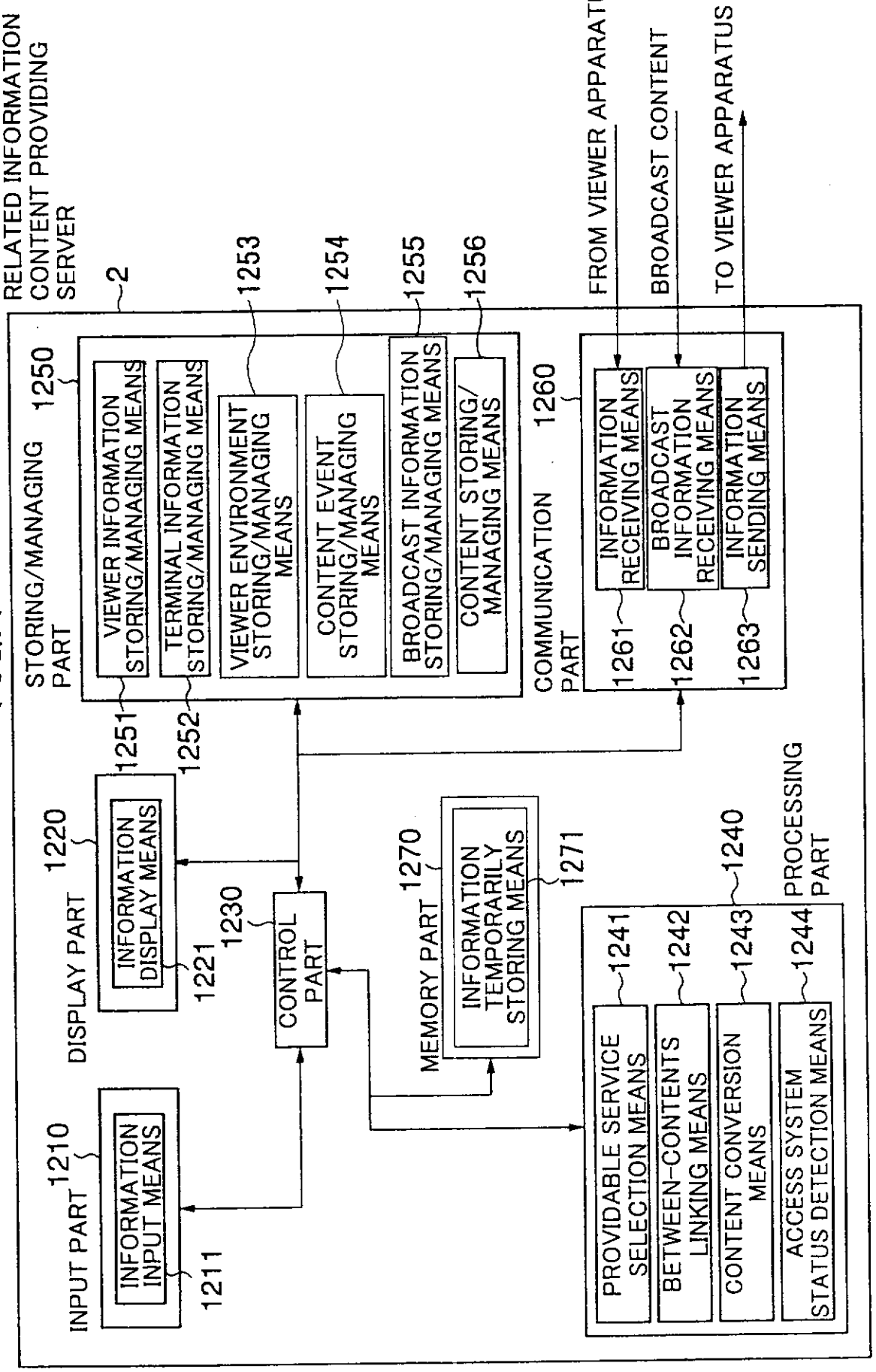

RELATED INFORMATION CONTENT PROVIDING SERVER
2
STORING/MANAGING PART
1250
VIEWER INFORMATION STORING/MANAGING MEANS
1251
TERMINAL INFORMATION STORING/MANAGING MEANS
1252
VIEWER ENVIRONMENT STORING/MANAGING MEANS
1253
CONTENT EVENT STORING/MANAGING MEANS
1254
BROADCAST INFORMATION STORING/MANAGING MEANS
1255
CONTENT STORING/MANAGING MEANS
1256
COMMUNICATION PART
1260
INFORMATION RECEIVING MEANS
1261
BROADCAST INFORMATION RECEIVING MEANS
1262
INFORMATION SENDING MEANS
1263
FROM VIEWER APPARATUS
BROADCAST CONTENT
TO VIEWER APPARATUS
DISPLAY PART
1220
INFORMATION DISPLAY MEANS
1221
CONTROL PART
1230
MEMORY PART
1270
INFORMATION TEMPORARILY STORING MEANS
1271
INPUT PART
1210
INFORMATION INPUT MEANS
1211
PROCESSING PART
1240
PROVIDABLE SERVICE SELECTION MEANS
1241
BETWEEN-CONTENTS LINKING MEANS
1242
CONTENT CONVERSION MEANS
1243
ACCESS SYSTEM STATUS DETECTION MEANS
1244

FIG.5

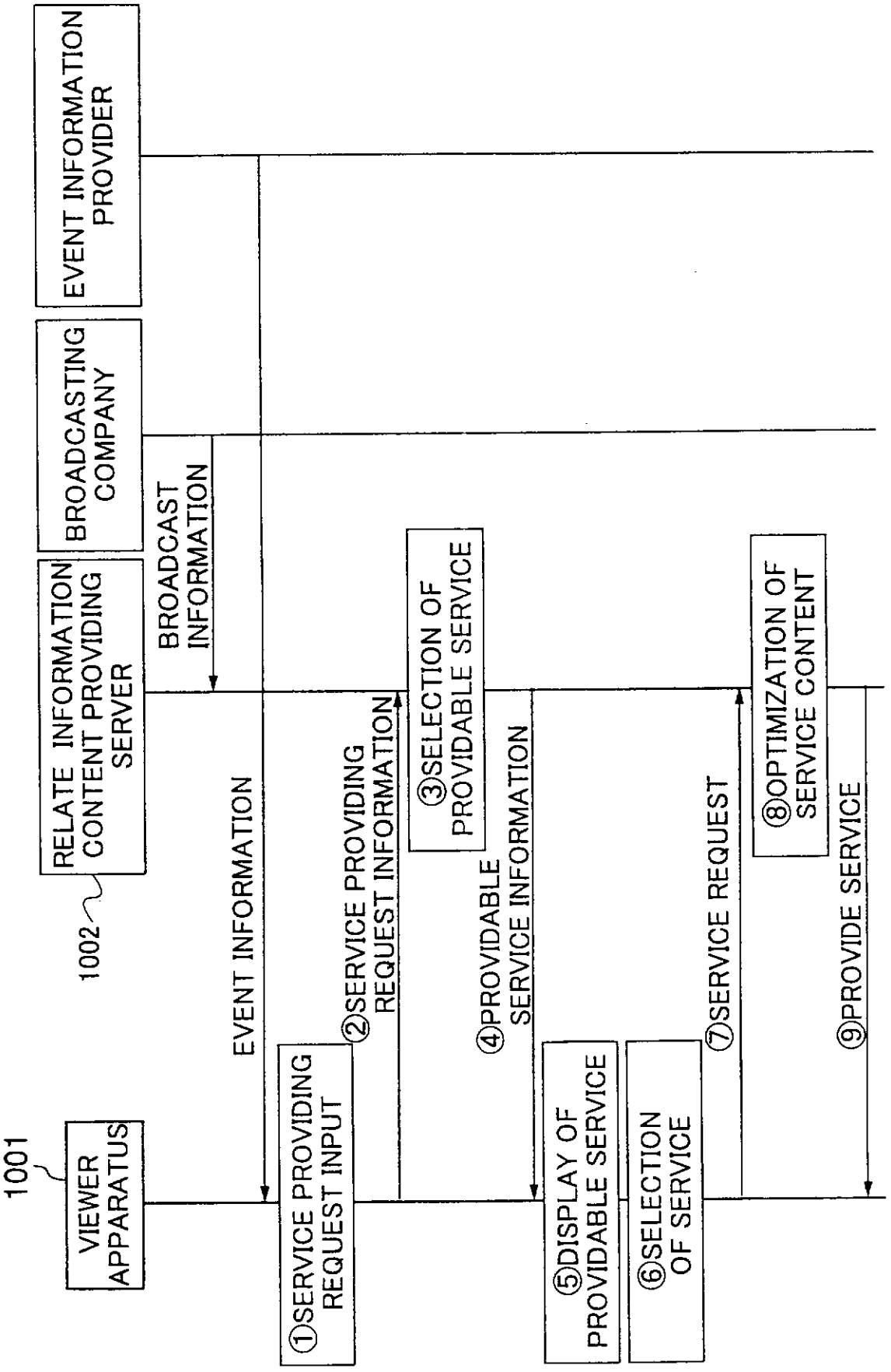

EVENT INFORMATION PROVIDER
BROADCASTING COMPANY
RELATE INFORMATION CONTENT PROVIDING SERVER
1002
BROADCAST INFORMATION
EVENT INFORMATION
②SERVICE PROVIDING REQUEST INFORMATION
③SELECTION OF PROVIDABLE SERVICE
④PROVIDABLE SERVICE INFORMATION
⑧OPTIMIZATION OF SERVICE CONTENT
1001
VIEWER APPARATUS
①SERVICE PROVIDING REQUEST INPUT
⑤DISPLAY OF PROVIDABLE SERVICE
⑥SELECTION OF SERVICE
⑦SERVICE REQUEST
⑨PROVIDE SERVICE

FIG.6

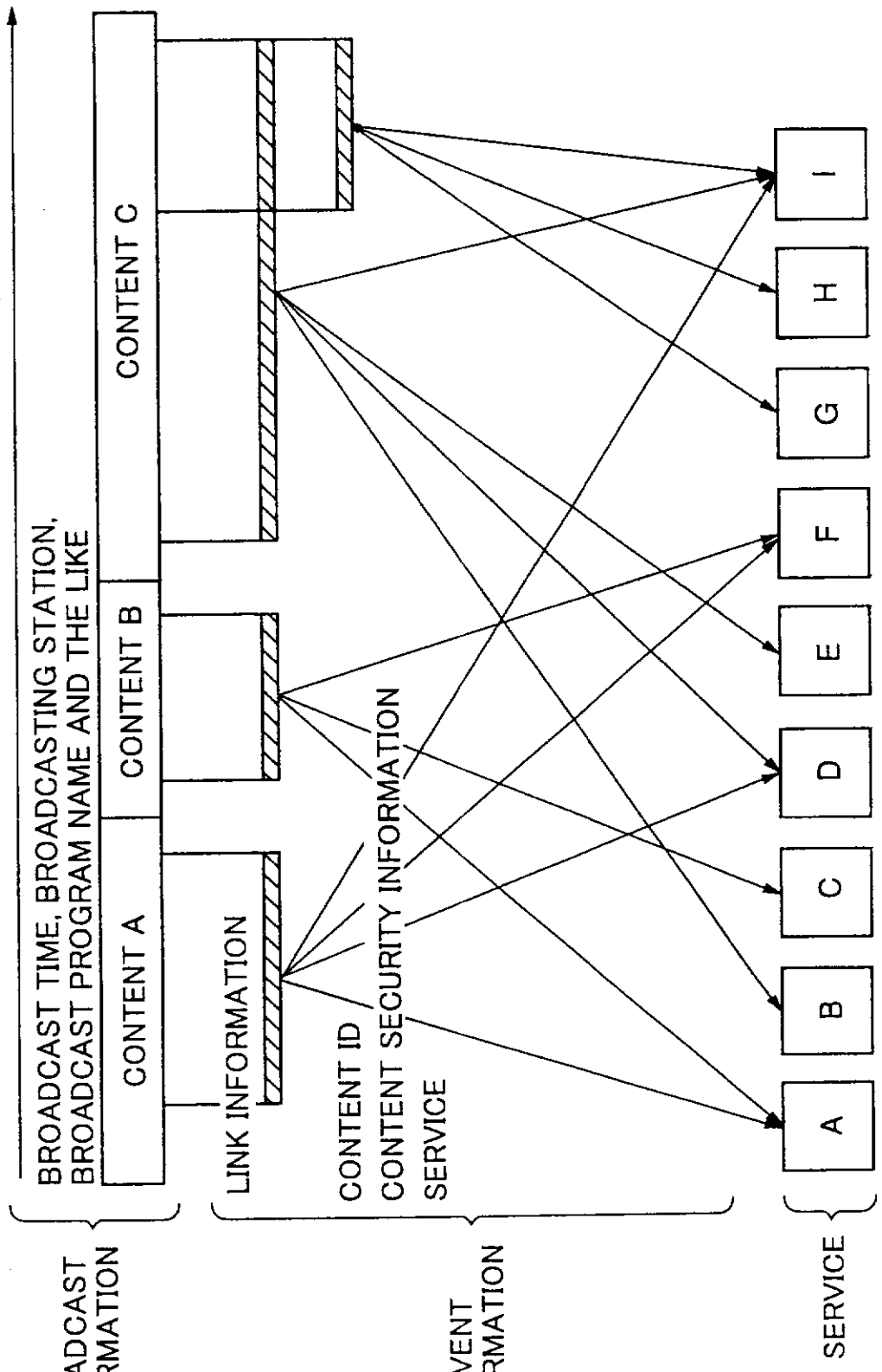

BROADCAST TIME
BROADCAST TIME, BROADCASTING STATION, BROADCAST PROGRAM NAME AND THE LIKE
CONTENT A
CONTENT B
CONTENT C
LINK INFORMATION
CONTENT ID
CONTENT SECURITY INFORMATION
SERVICE
A
B
C
D
E
F
G
H
I
BROADCAST INFORMATION
EVENT INFORMATION
SERVICE

FIG.7

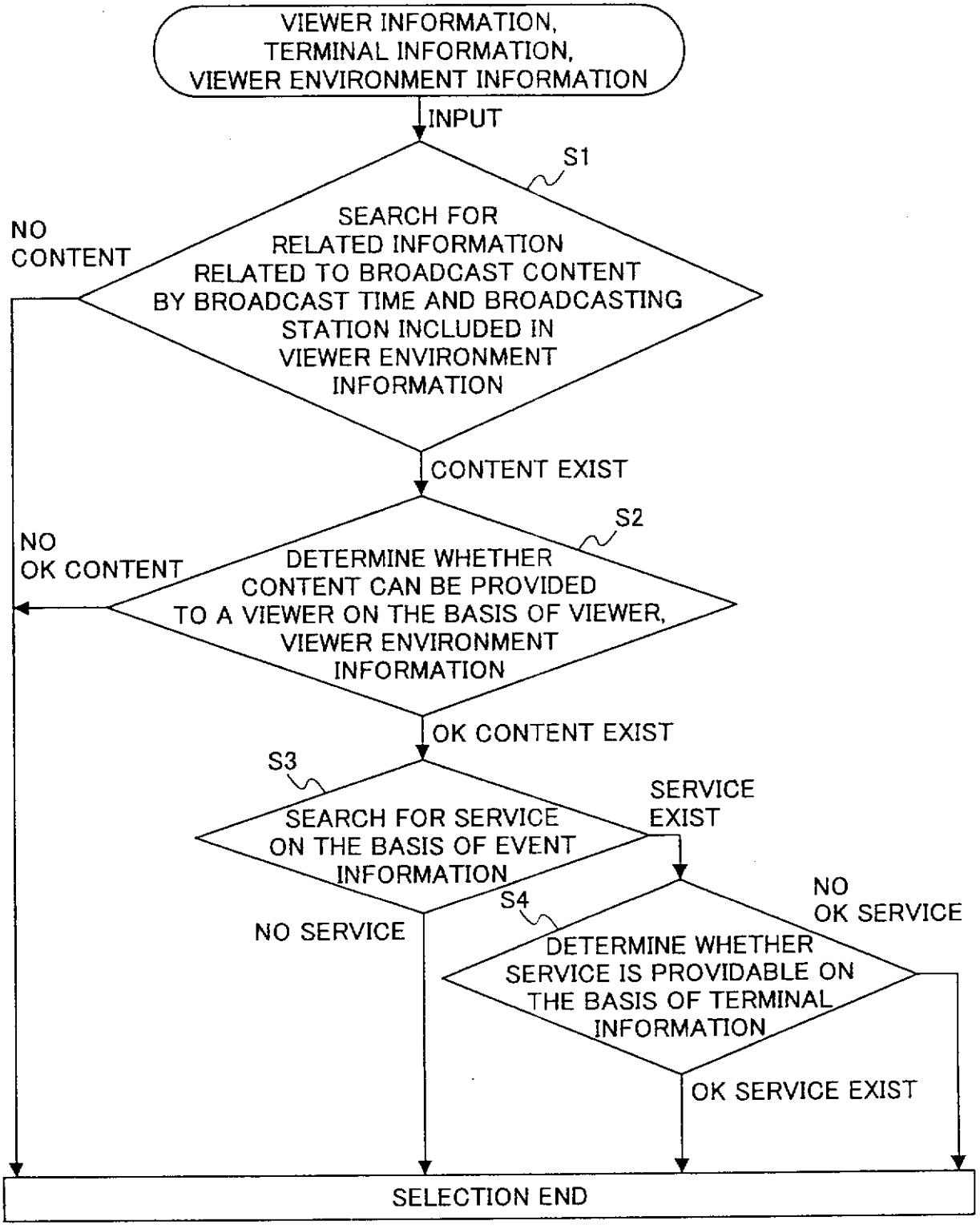

VIEWER INFORMATION, TERMINAL INFORMATION, VIEWER ENVIRONMENT INFORMATION
INPUT
S1
SEARCH FOR RELATED INFORMATION RELATED TO BROADCAST CONTENT BY BROADCAST TIME AND BROADCASTING STATION INCLUDED IN VIEWER ENVIRONMENT INFORMATION
NO CONTENT
CONTENT EXIST
S2
DETERMINE WHETHER CONTENT CAN BE PROVIDED TO A VIEWER ON THE BASIS OF VIEWER, VIEWER ENVIRONMENT INFORMATION
NO OK CONTENT
OK CONTENT EXIST
S3
SEARCH FOR SERVICE ON THE BASIS OF EVENT INFORMATION
SERVICE EXIST
NO SERVICE
S4
DETERMINE WHETHER SERVICE IS PROVIDABLE ON THE BASIS OF TERMINAL INFORMATION
NO OK SERVICE
OK SERVICE EXIST
SELECTION END

FIG.8

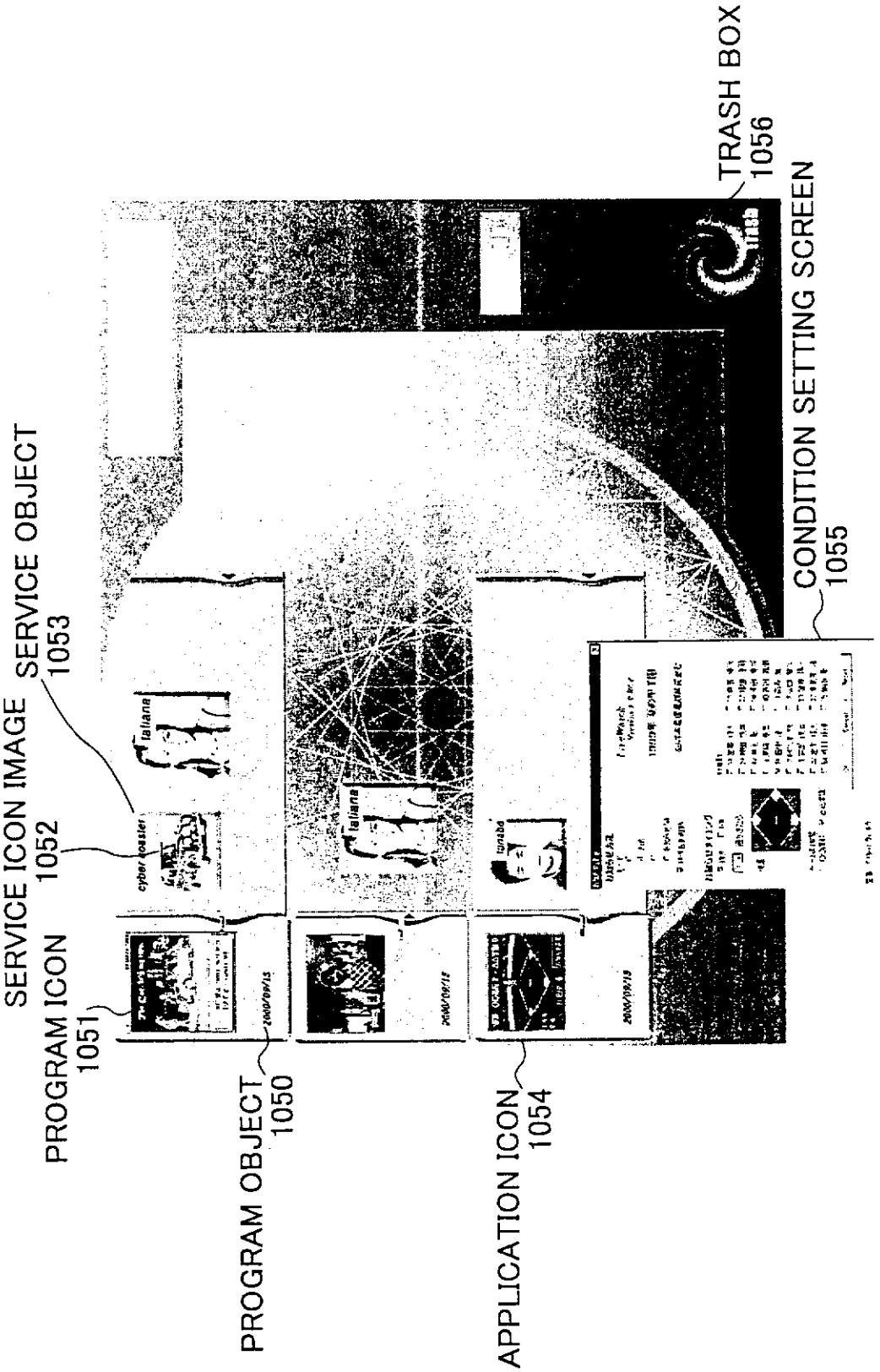

SERVICE ICON IMAGE
1052
SERVICE OBJECT
1053
PROGRAM ICON
1051
PROGRAM OBJECT
1050
APPLICATION ICON
1054
CONDITION SETTING SCREEN
1055
TRASH BOX
1056

FIG.9

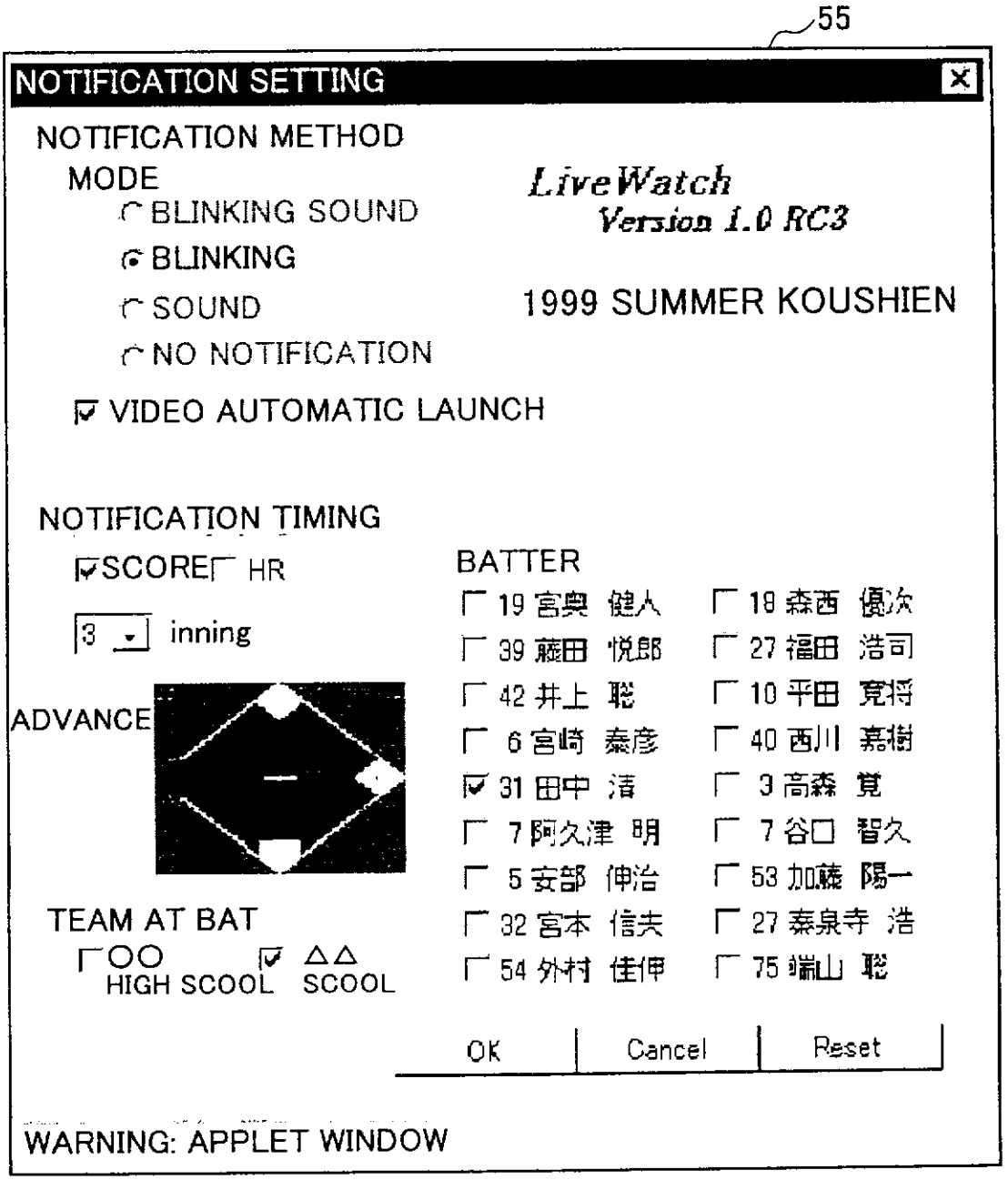

55
NOTIFICATION SETTING
NOTIFICATION METHOD
MODE
BLINKING SOUND
BLINKING
SOUND
NO NOTIFICATION
LiveWatch
Version 1.0 RC3
1999 SUMMER KOUSHIEN
VIDEO AUTOMATIC LAUNCH
NOTIFICATION TIMING
SCORE HR
3 inning
ADVANCE
TEAM AT BAT
OO HIGH SCOOL
△△ SCOOL
BATTER
19 宮奥 健人
18 森西 優次
39 藤田 悦郎
27 福田 浩司
42 井上 聡
10 平田 寛将
6 宮崎 泰彦
40 西川 嘉樹
31 田中 清
3 高森 覚
7 阿久津 明
7 谷口 智久
5 安部 伸治
53 加藤 陽一
32 宮本 信夫
27 泰泉寺 浩
54 外村 佳伸
75 端山 聡
OK
Cancel
Reset
WARNING: APPLET WINDOW

FIG.10

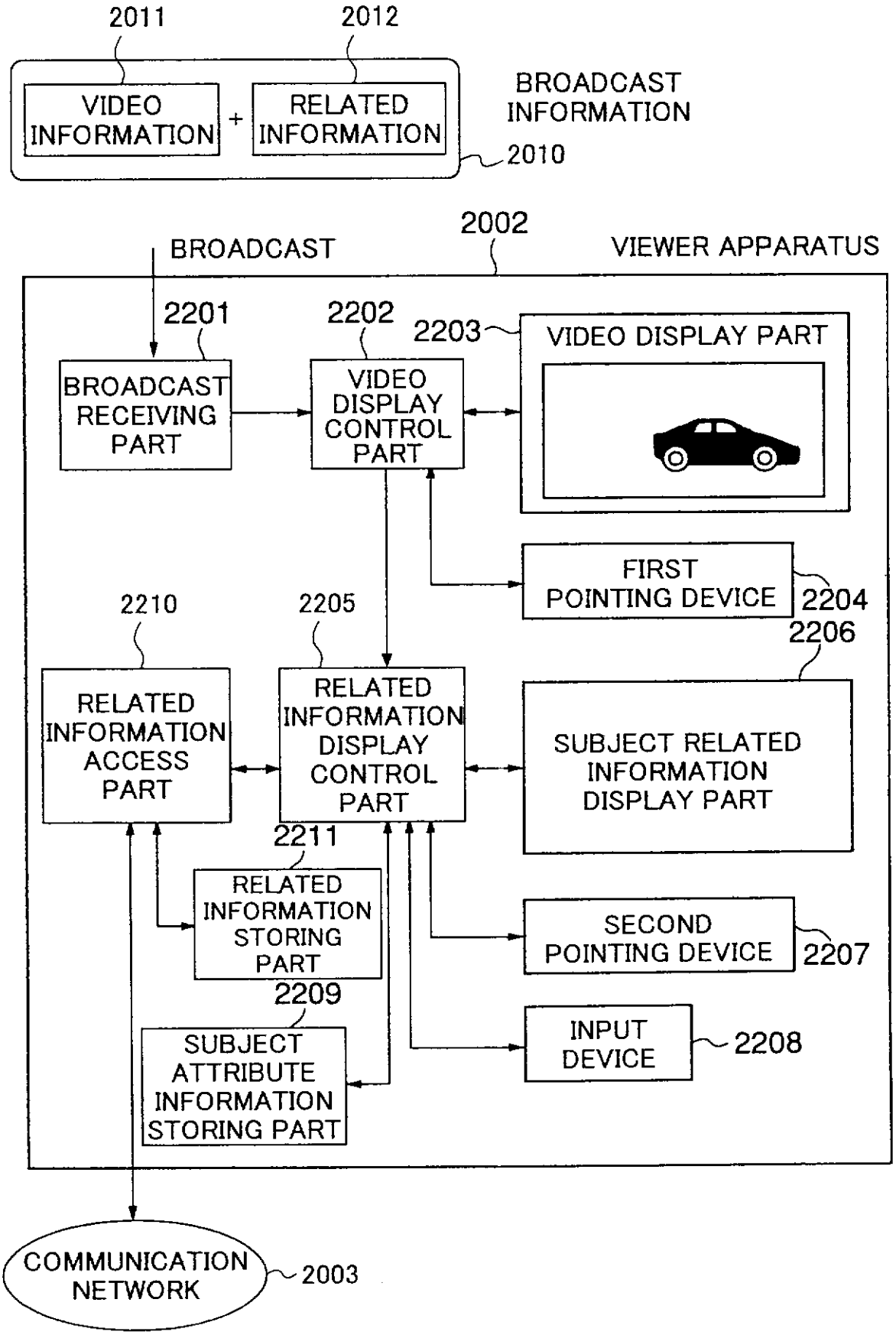

2011
2012
VIDEO INFORMATION
+
RELATED INFORMATION
BROADCAST INFORMATION
2010
2002
BROADCAST
VIEWER APPARATUS
2201
2202
2203
VIDEO DISPLAY PART
BROADCAST RECEIVING PART
VIDEO DISPLAY CONTROL PART
FIRST POINTING DEVICE
2204
2206
2210
2205
RELATED INFORMATION ACCESS PART
RELATED INFORMATION DISPLAY CONTROL PART
SUBJECT RELATED INFORMATION DISPLAY PART
2211
RELATED INFORMATION STORING PART
SECOND POINTING DEVICE
2207
2209
SUBJECT ATTRIBUTE INFORMATION STORING PART
INPUT DEVICE
2208
COMMUNICATION NETWORK
2003

FIG.11

2012

2121 FRAME NUMBER	2122 SUBJECT COORDINATES	2123 SUBJECT ATTRIBUTE INFORMATION	2124 URI INFORMATION
N	(XA,YA)	OB-A	URI-A
	(XB,YB)	OB-B	URI-B
	...	...	...
	...	...	...

FIG.12

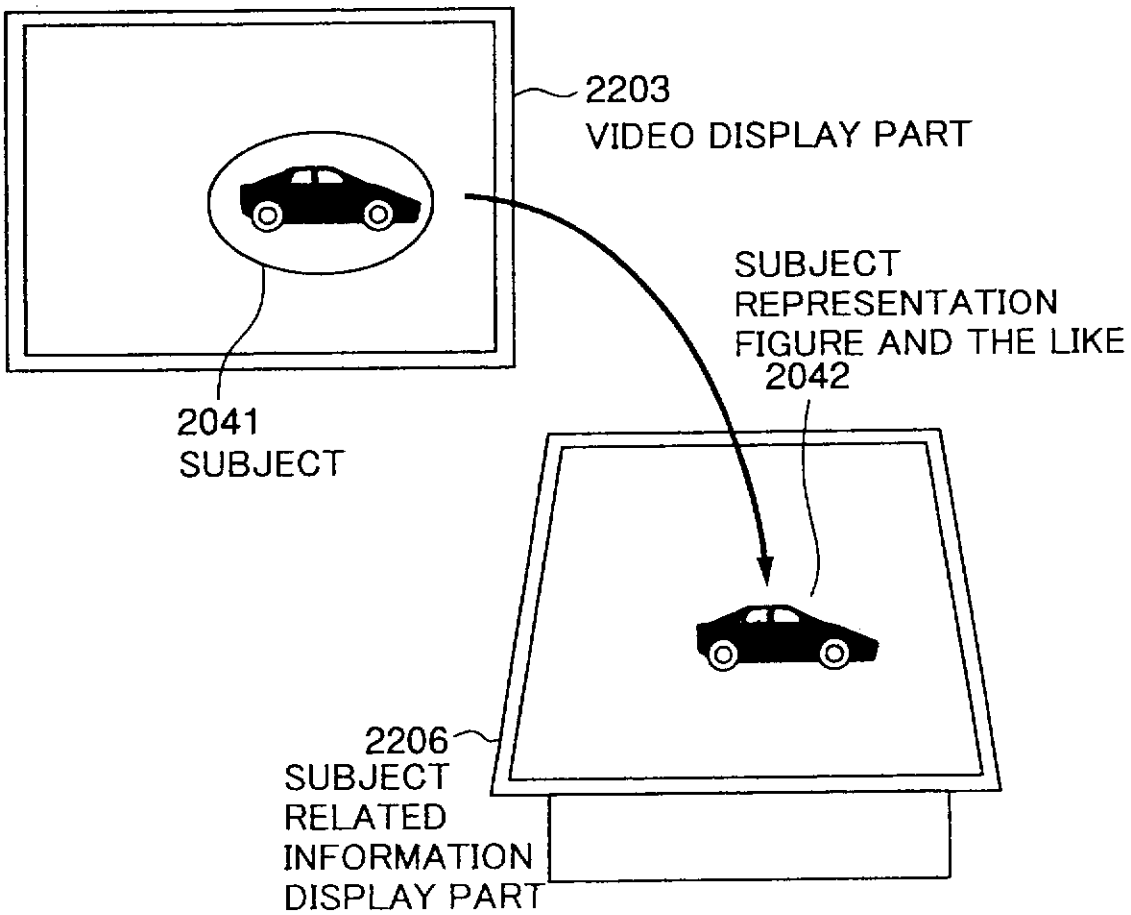


FIG.13

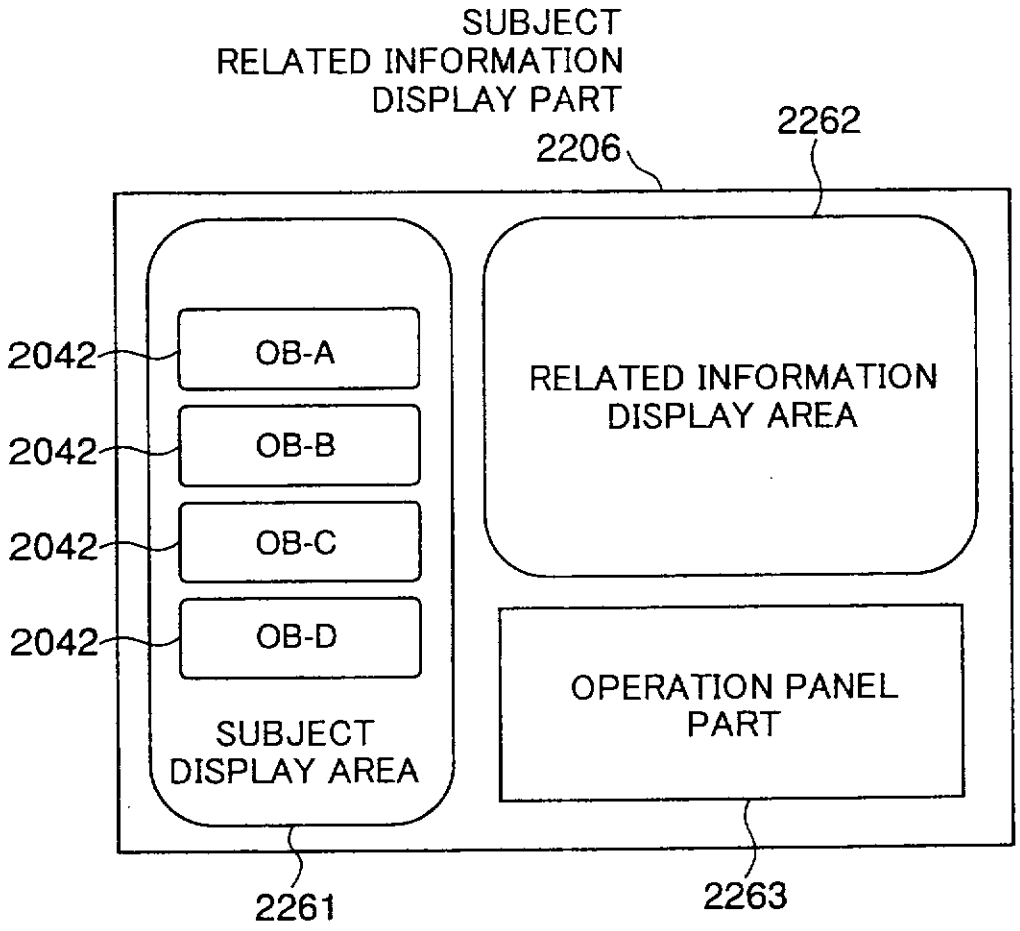

SUBJECT
RELATED INFORMATION
DISPLAY PART
2206
2262
2042
OB-A
2042
OB-B
2042
OB-C
2042
OB-D
SUBJECT
DISPLAY AREA
RELATED INFORMATION
DISPLAY AREA
OPERATION PANEL
PART
2261
2263

FIG.14

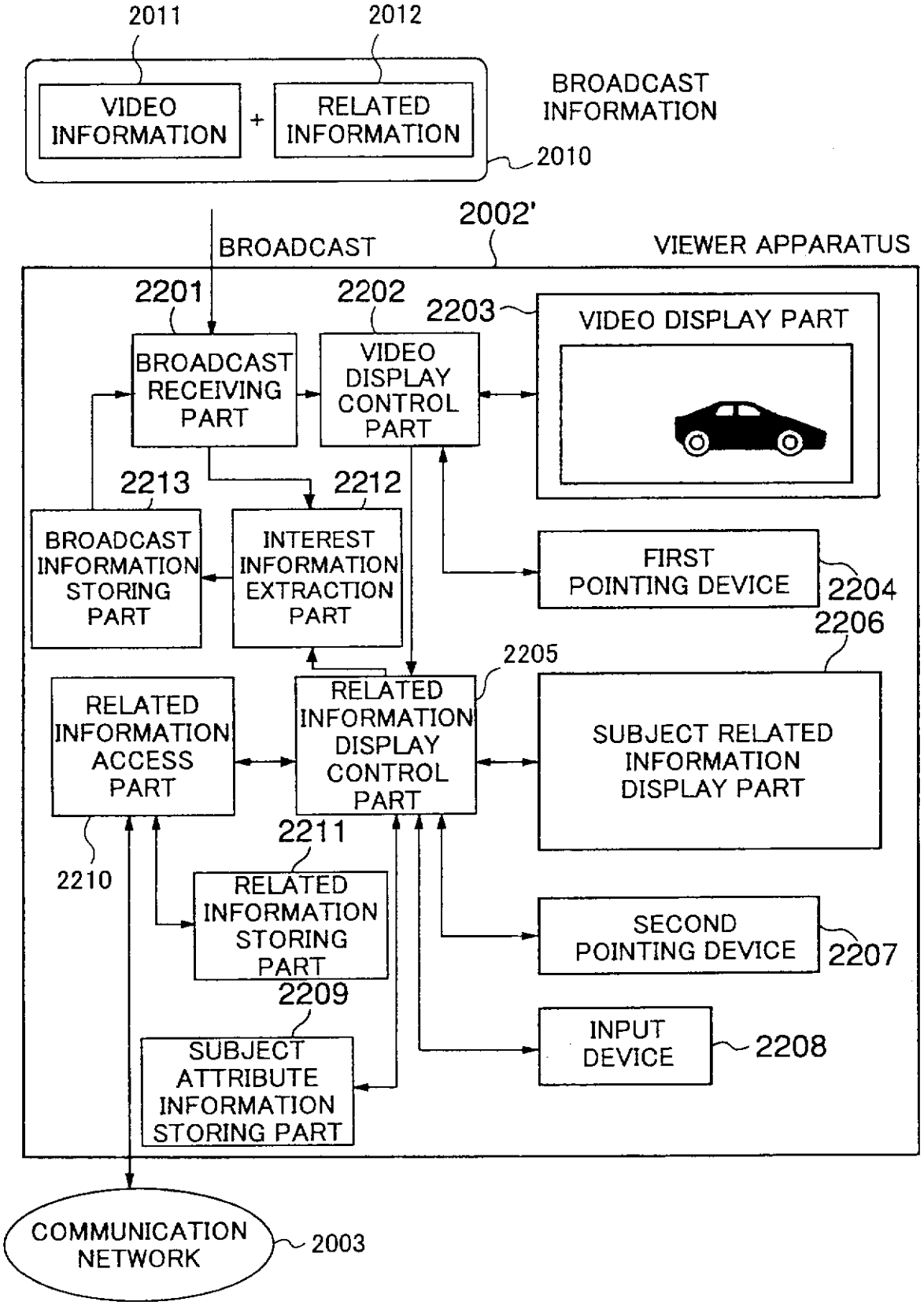

2011
2012
VIDEO INFORMATION
+
RELATED INFORMATION
BROADCAST INFORMATION
2010
2002'
BROADCAST
VIEWER APPARATUS
2201
2202
2203
VIDEO DISPLAY PART
BROADCAST RECEIVING PART
VIDEO DISPLAY CONTROL PART
2213
2212
BROADCAST INFORMATION STORING PART
INTEREST INFORMATION EXTRACTION PART
FIRST POINTING DEVICE
2204
2206
2205
RELATED INFORMATION ACCESS PART
RELATED INFORMATION DISPLAY CONTROL PART
SUBJECT RELATED INFORMATION DISPLAY PART
2211
2210
RELATED INFORMATION STORING PART
SECOND POINTING DEVICE
2207
2209
INPUT DEVICE
2208
SUBJECT ATTRIBUTE INFORMATION STORING PART
COMMUNICATION NETWORK
2003

FIG.15

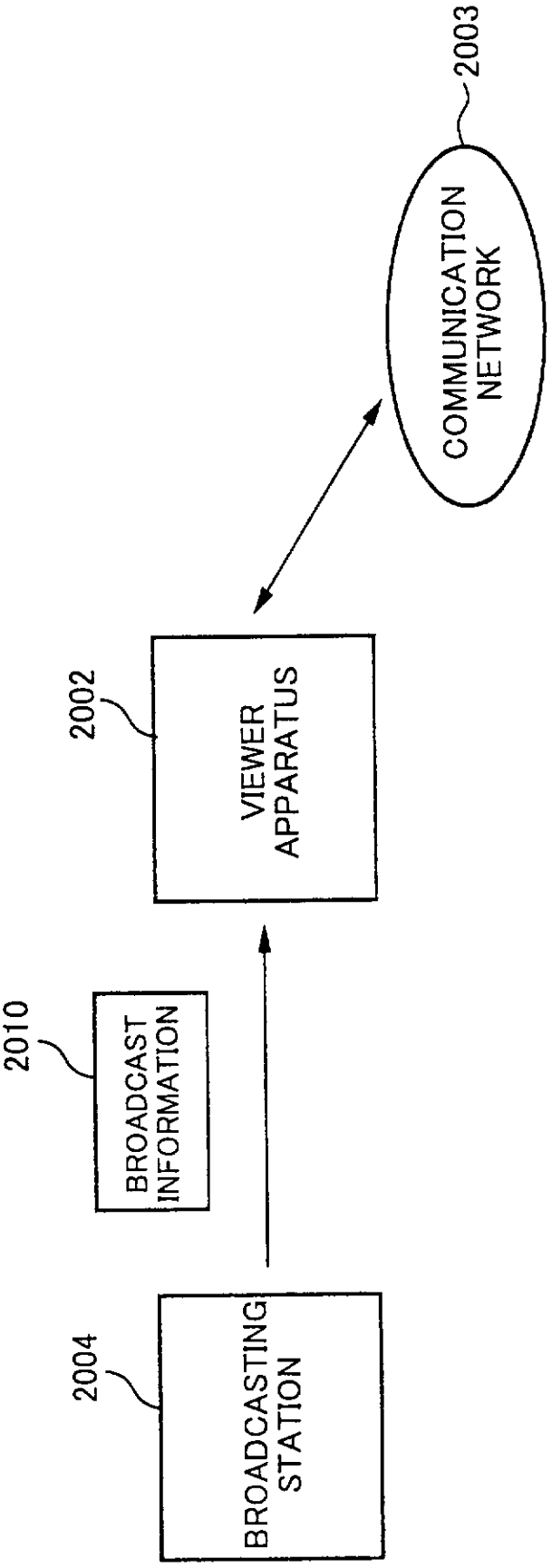

2003
COMMUNICATION NETWORK
2002
VIEWER APPARATUS
2010
BROADCAST INFORMATION
2004
BROADCASTING STATION

FIG.16

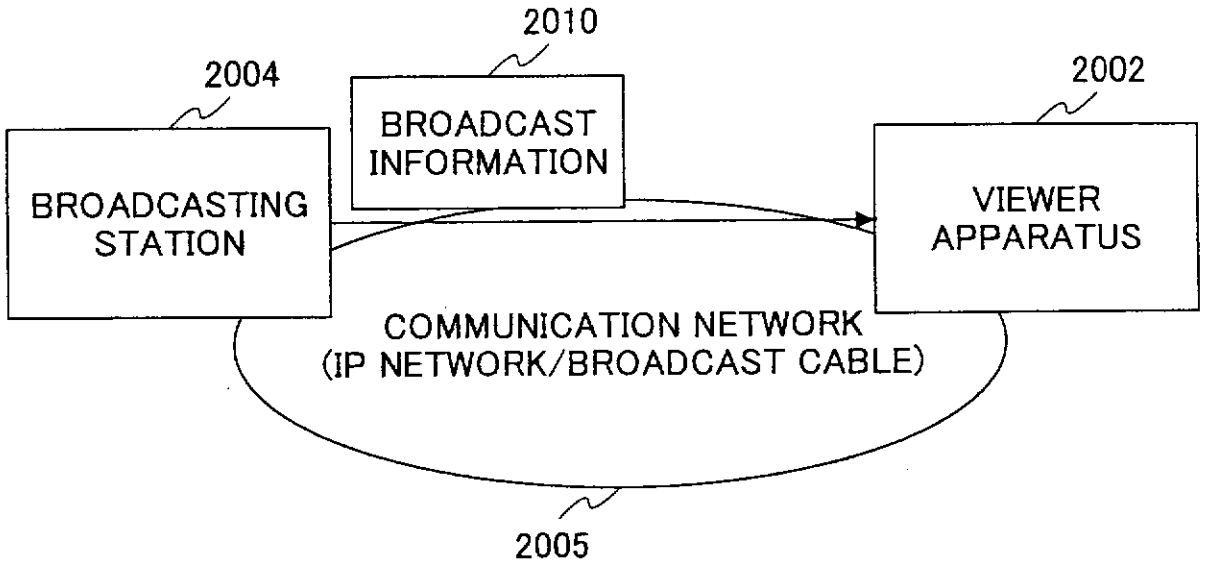

2010
2004
2002
BROADCAST INFORMATION
BROADCASTING STATION
VIEWER APPARATUS
COMMUNICATION NETWORK
(IP NETWORK/BROADCAST CABLE)
2005

FIG.17

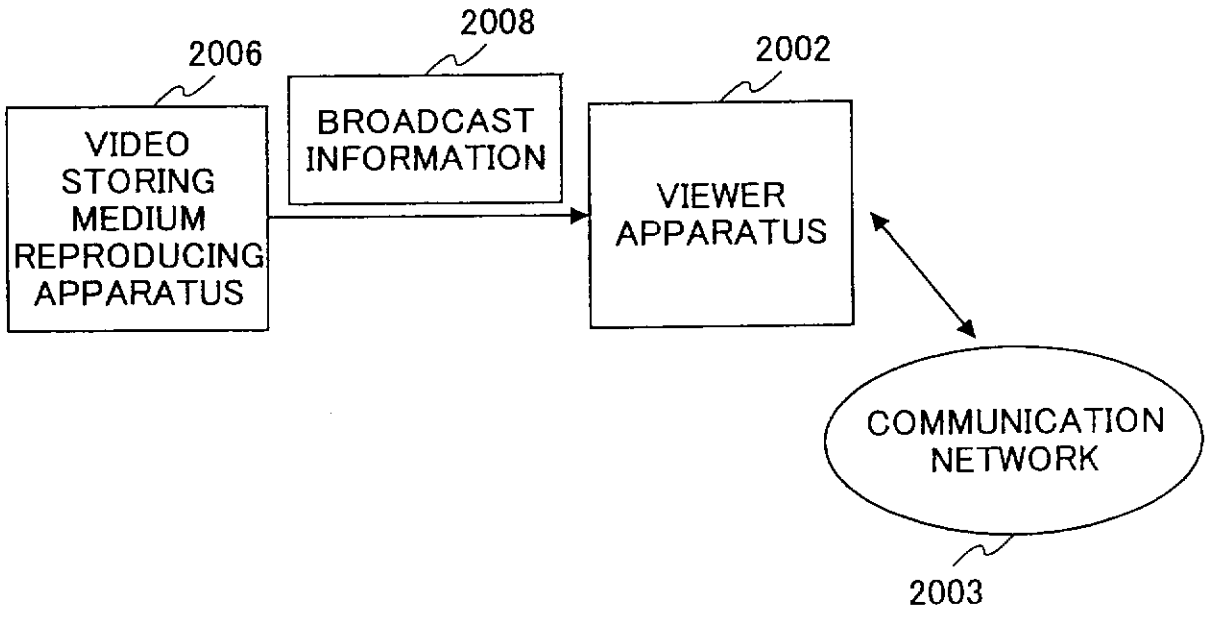

2008
2006
2002
BROADCAST INFORMATION
VIDEO STORING MEDIUM REPRODUCING APPARATUS
VIEWER APPARATUS
COMMUNICATION NETWORK
2003

FIG.18

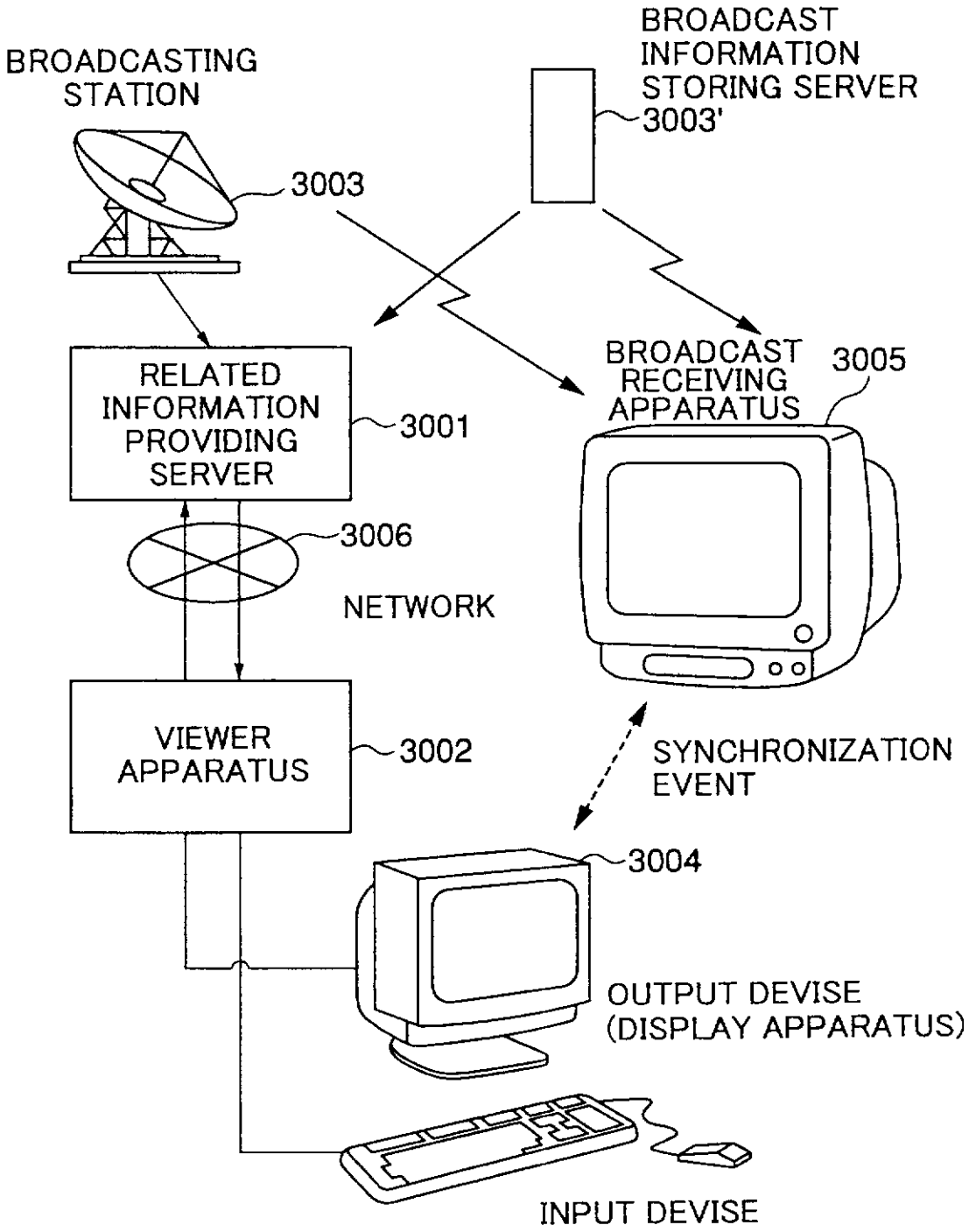

BROADCASTING STATION
3003
BROADCAST INFORMATION STORING SERVER
3003'
RELATED INFORMATION PROVIDING SERVER
3001
BROADCAST RECEIVING APPARATUS
3005
3006
NETWORK
VIEWER APPARATUS
3002
SYNCHRONIZATION EVENT
3004
OUTPUT DEVISE (DISPLAY APPARATUS)
INPUT DEVISE

FIG.19

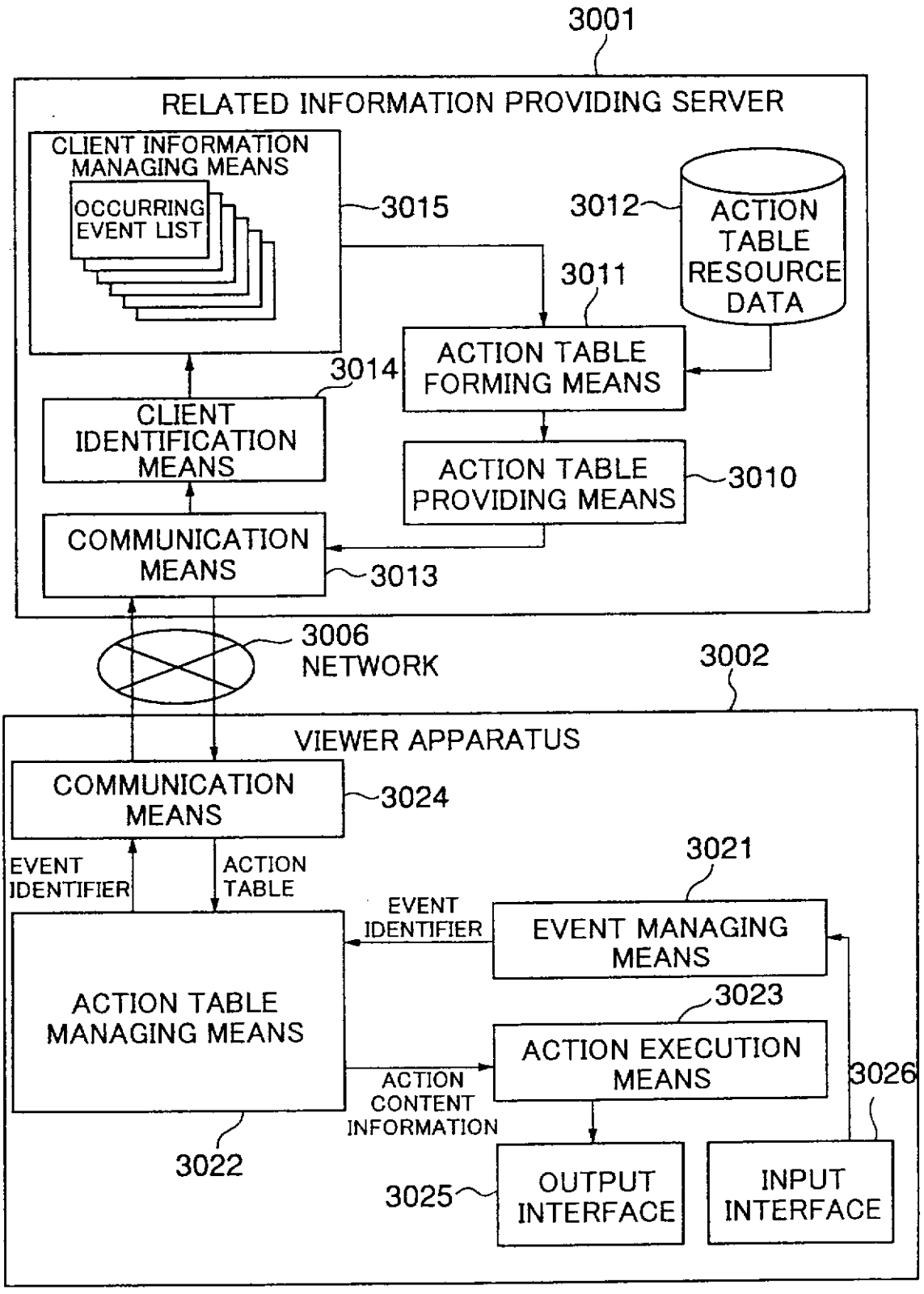

3001
RELATED INFORMATION PROVIDING SERVER
CLIENT INFORMATION MANAGING MEANS
OCCURRING EVENT LIST
3015
3012
ACTION TABLE RESOURCE DATA
3011
ACTION TABLE FORMING MEANS
3014
CLIENT IDENTIFICATION MEANS
ACTION TABLE PROVIDING MEANS
3010
COMMUNICATION MEANS
3013
3006
NETWORK
3002
VIEWER APPARATUS
COMMUNICATION MEANS
3024
EVENT IDENTIFIER
ACTION TABLE
3021
EVENT IDENTIFIER
EVENT MANAGING MEANS
ACTION TABLE MANAGING MEANS
3023
ACTION EXECUTION MEANS
3026
ACTION CONTENT INFORMATION
3022
3025
OUTPUT INTERFACE
INPUT INTERFACE

FIG.20

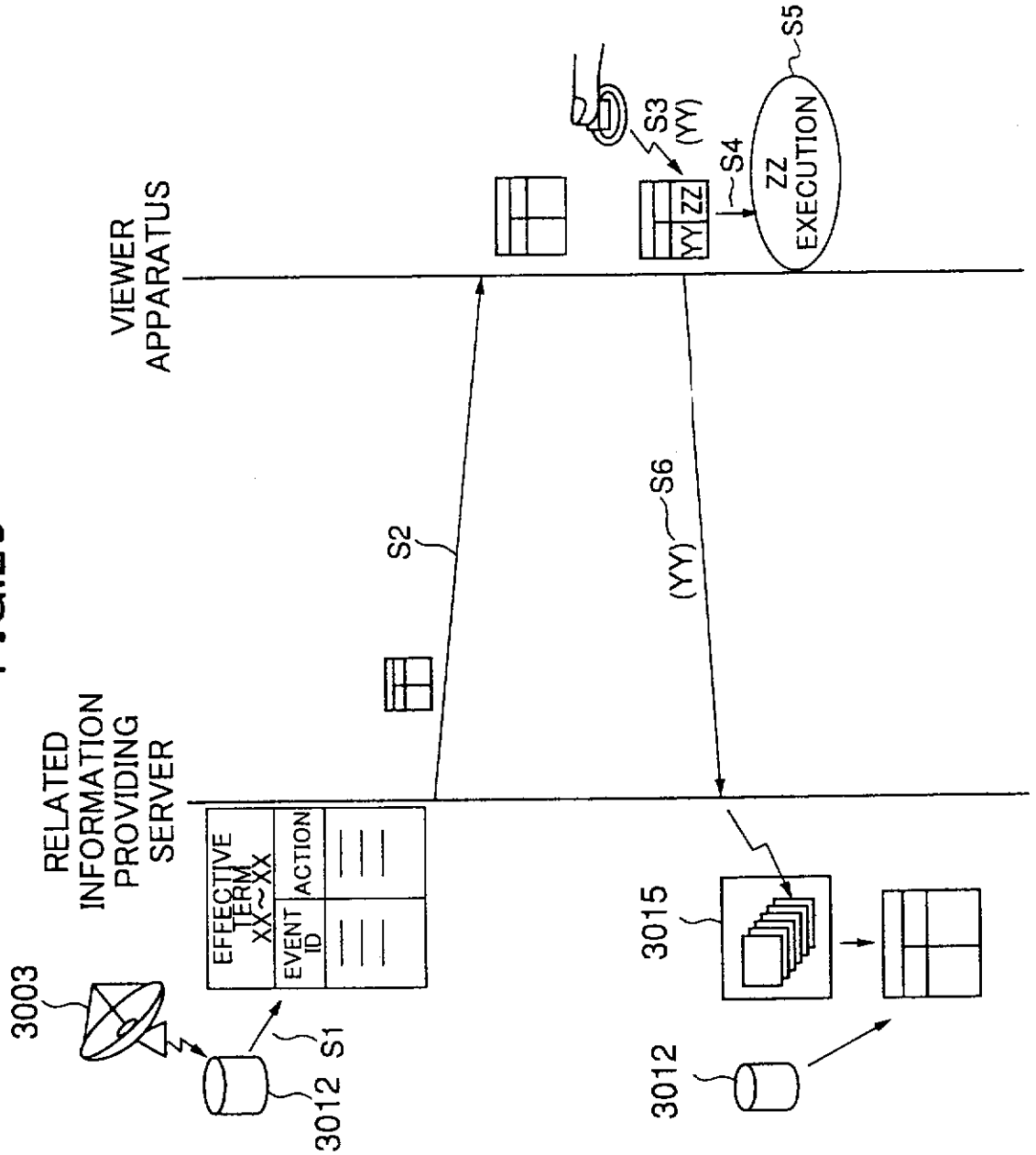

VIEWER APPARATUS
RELATED INFORMATION PROVIDING SERVER
S1
S2
S3 (YY)
S4
S5
S6
(YY)
ZZ EXECUTION
YY ZZ
EFFECTIVE TERM XX~XX
EVENT ID
ACTION
3003
3012
3015

FIG.21

EFFECTIVE TERM XXXX~YYYY	
EVENT IDENTIFIER	ACTION CONTENT INFORMATION
event_id0	action_description_0;
event_id1	action_description_1;
event_id2	action_description_2;
⋮	⋮

FIG.22

CLIENT IDENTIFIER XXXXXXXX	
TIME	OCCURRING EVENT
0000	event_idA
1000	event_idB
2000	event_idC
3000	event_idD
⋮	⋮

FIG.23

EFFECTIVE TERM 0～999	
EVENT IDENTIFIER	ACTION CONTENT INFORMATION
[(0,499),(0,0)]	add icon_A;
[(0,499),(1,0)]	add icon_B;
[(0,499),(2,0)]	add icon_C;
[(500,999),(0,0)]	add icon_D;
[(500,999),(1,0)]	add icon_E;
[(500,999),(2,0)]	add icon_F;
⋮	⋮

FIG.24

EFFECTIVE TERM 1000～1999	
EVENT IDENTIFIER	ACTION CONTENT INFORMATION
[(1000,1499),(0,0)]	add icon_G;
[(1000,1499),(1,0)]	add icon_H;
[(1000,1499),(2,0)]	add icon_I;
[(1500,1999),(0,0)]	add icon_J;
[(1500,1999),(1,0)]	add icon_K;
[(1500,1999),(2,0)]	add icon_L;
⋮	⋮

FIG.25

EFFECTIVE TERM 1000～1999	
EVENT IDENTIFIER	ACTION CONTENT INFORMATION
[(1000,1499),(0,0)]	add icon_A;
[(1000,1499),(1,0)]	add icon_G;
[(1000,1499),(2,0)]	add icon_C;
[(1500,1999),(0,0)]	add icon_D;
[(1500,1999),(1,0)]	add icon_E;
[(1500,1999),(2,0)]	add icon_F;
⋮	⋮

FIG.26

EFFECTIVE TERM 1000～1999	
EVENT IDENTIFIER	ACTION CONTENT INFORMATION
[(1000,1499),(0,0)]	add icon_G;
[(1000,1499),(1,0)]	add icon_B;
[(1000,1499),(2,0)]	add icon_C;
[(1500,1999),(0,0)]	add icon_D;
[(1500,1999),(1,0)]	add icon_E;
[(1500,1999),(2,0)]	add icon_F;
⋮	⋮

FIG.27

EFFECTIVE TERM 00/09/04/19:00:00～00/09/04/19:15:00	
EVENT IDENTIFIER	ACTION CONTENT INFORMATION
[00/09/04/19:00:00]	open http://page1;
[00/09/04/19:04:00]	open http://page2;
[00/09/04/19:09:15]	open http://page3;
[00/09/04/19:12:50]	open http://page4;
[00/09/04/19:13:00]	open http://page5;
[00/09/04/19:14:30]	open http://page6;
⋮	⋮

FIG.28

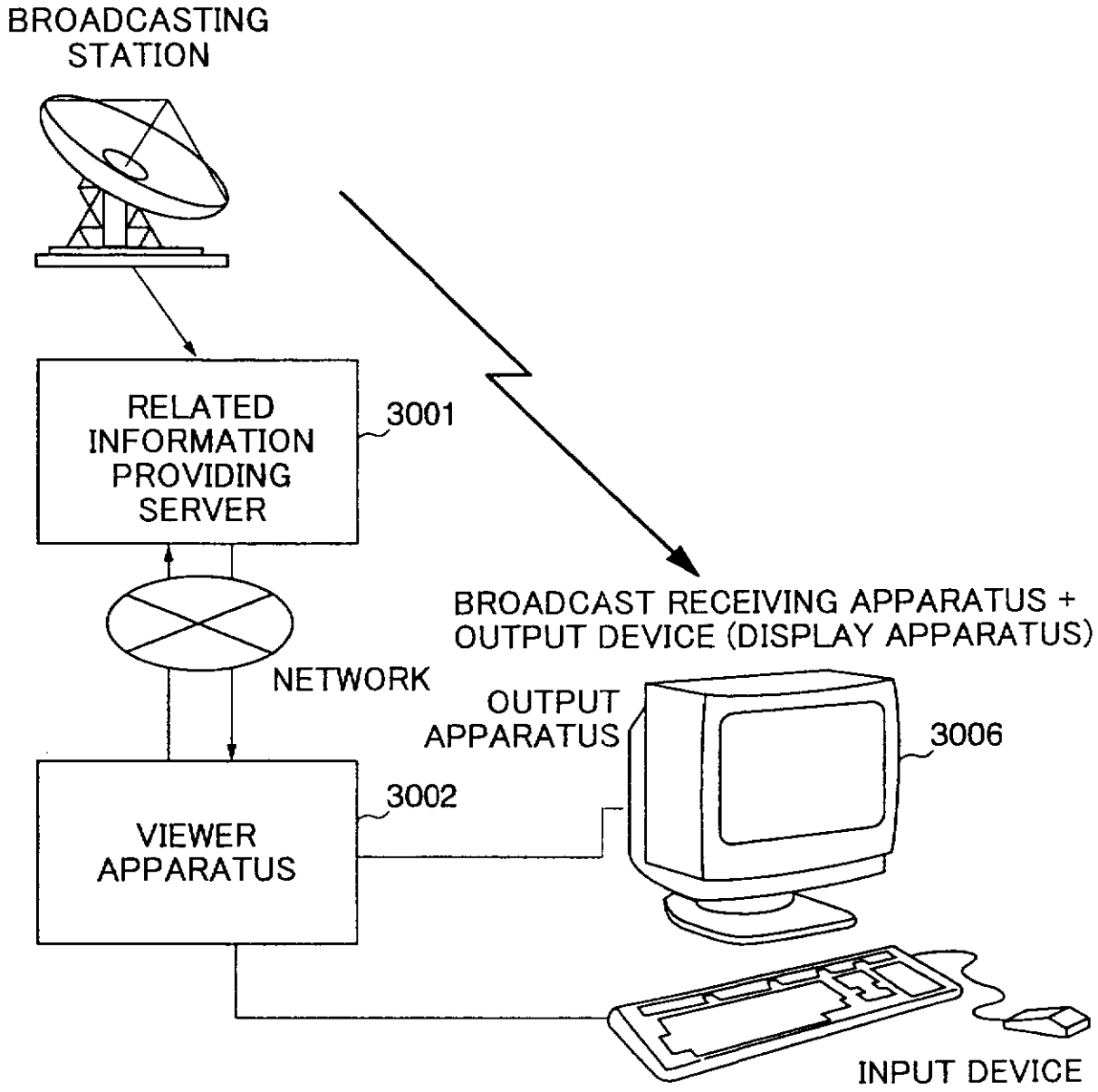

BROADCASTING STATION
RELATED INFORMATION PROVIDING SERVER
3001
NETWORK
BROADCAST RECEIVING APPARATUS + OUTPUT DEVICE (DISPLAY APPARATUS)
OUTPUT APPARATUS
3006
3002
VIEWER APPARATUS
INPUT DEVICE

FIG.29

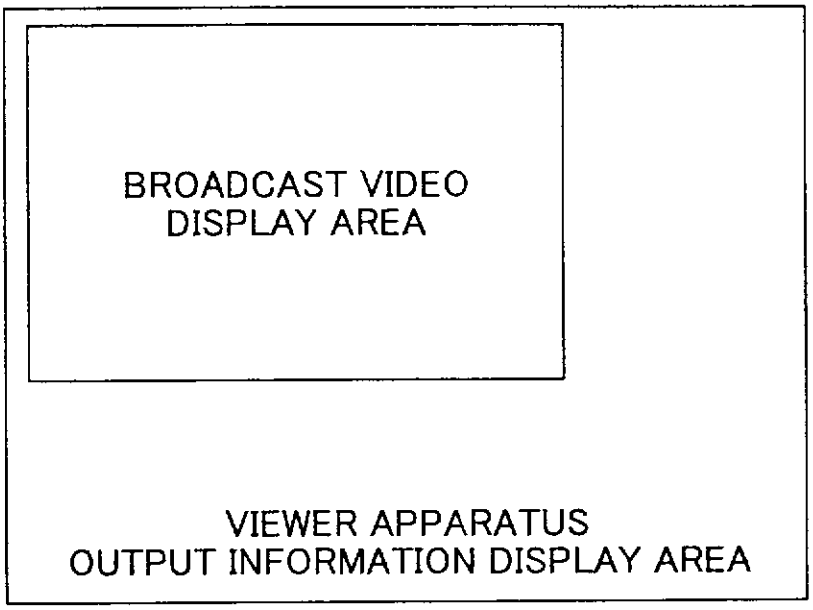

BROADCAST VIDEO
DISPLAY AREA
VIEWER APPARATUS
OUTPUT INFORMATION DISPLAY AREA

FIG.30

EFFECTIVE TERM 0～999	
EVENT IDENTIFIER	ACTION CONTENT INFORMATION
[(0,299),(100,100)]－(200,200)]	add icon_A;
[(0,299),(300,300)]－(400,400)]	add icon_B;
[(300,599),(200,100)]－(300,200)]	add icon_A;
[(300,599),(200,300)]－(300,400)]	add icon_B;
[(600,999),(300,100)]－(400,200)]	add icon_A;
[(600,999),(100,300)]－(200,300)]	add icon_B;
⋮	⋮

FIG.31

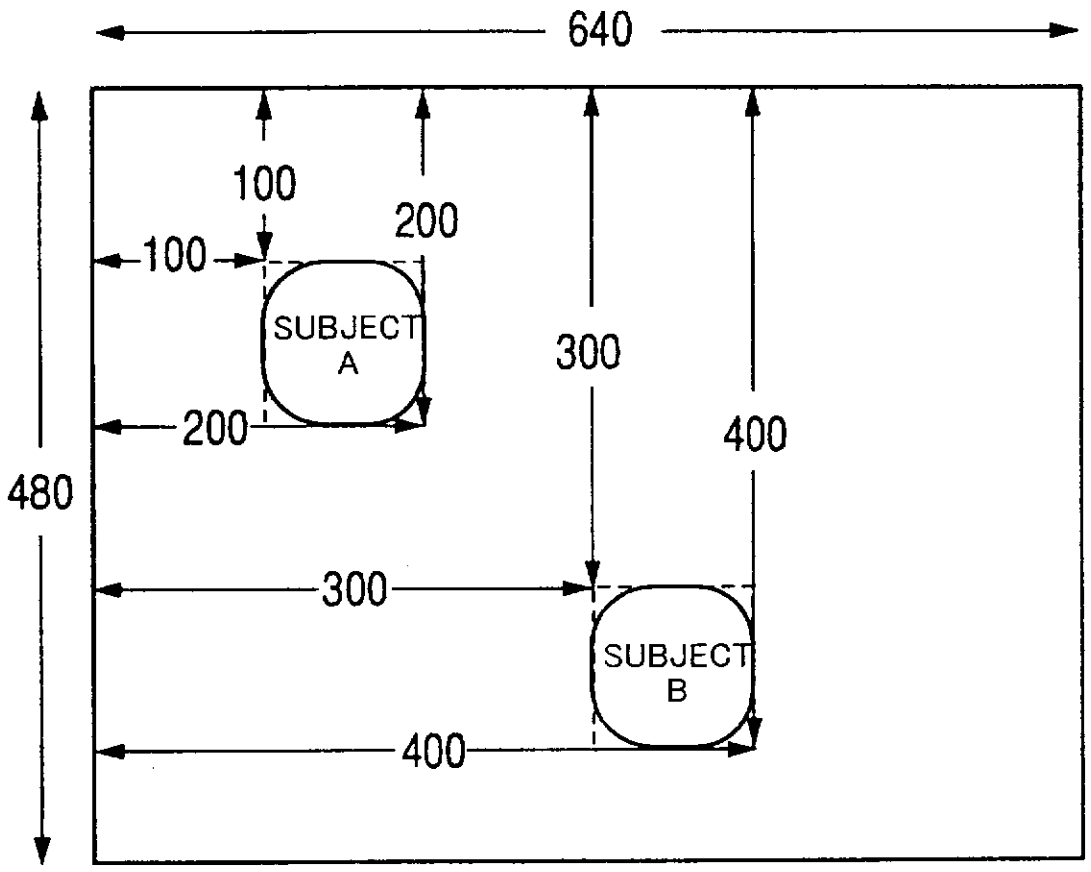

640
480
100
200
100
SUBJECT A
200
300
400
300
SUBJECT B
400

FIG.32

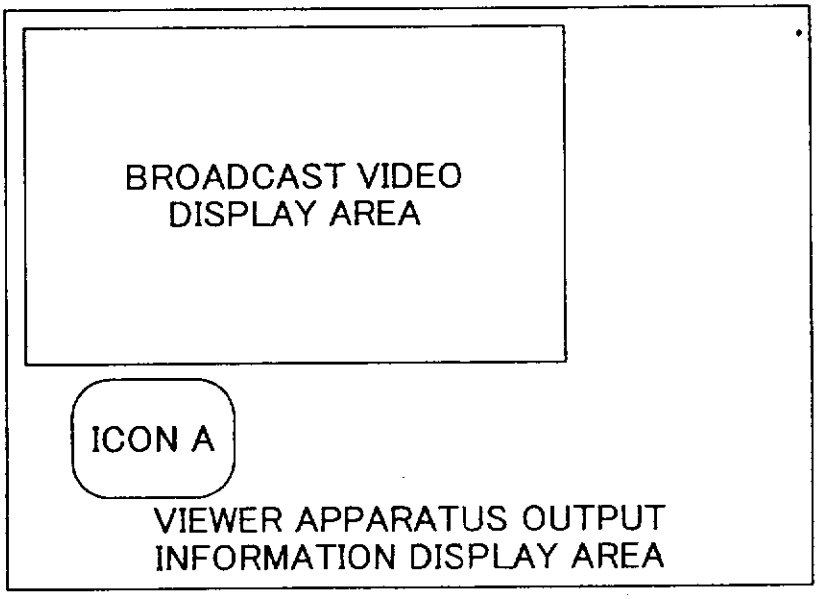

BROADCAST VIDEO DISPLAY AREA
ICON A
VIEWER APPARATUS OUTPUT INFORMATION DISPLAY AREA

FIG.33

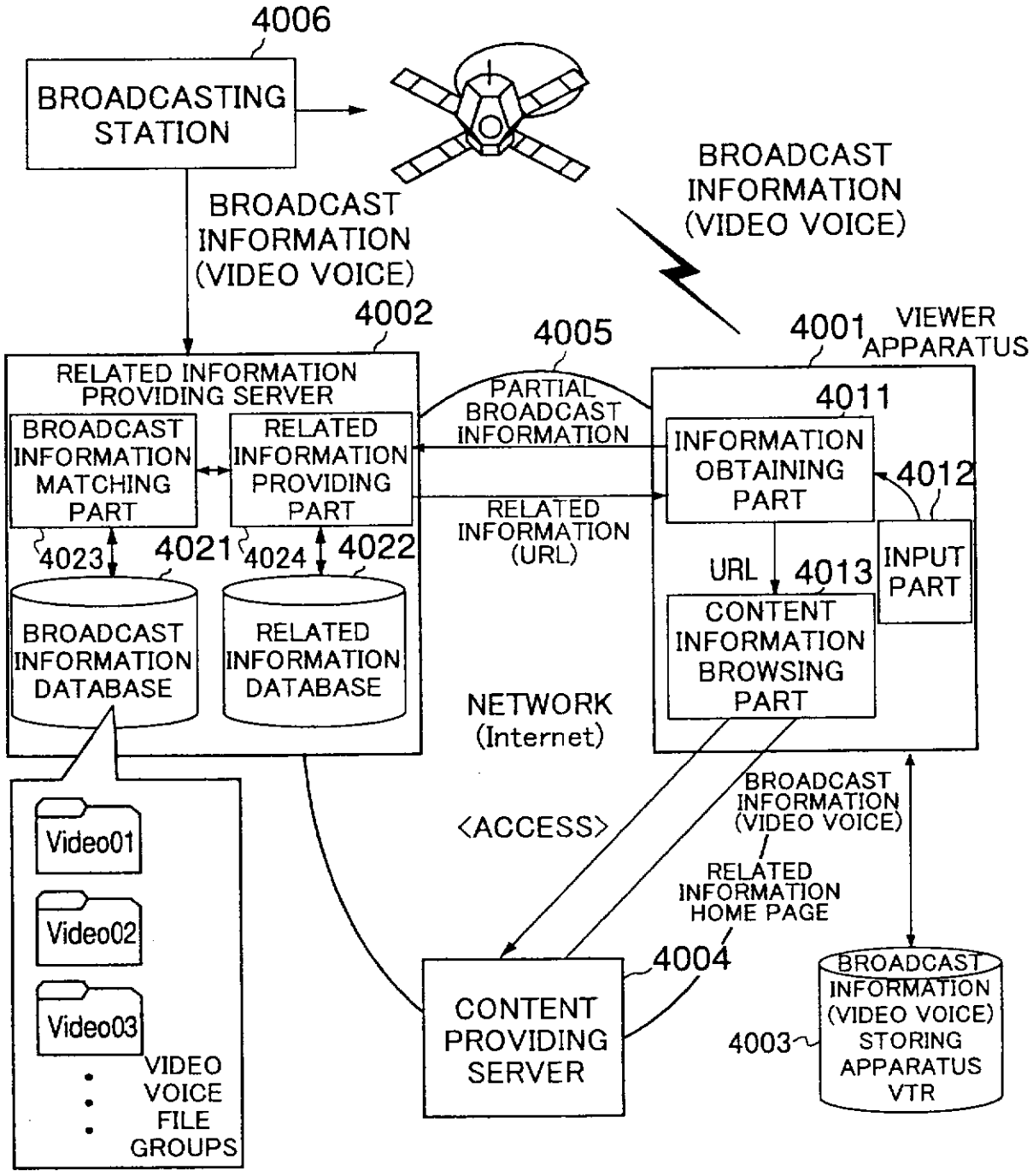

4006
BROADCASTING STATION
BROADCAST INFORMATION (VIDEO VOICE)
BROADCAST INFORMATION (VIDEO VOICE)
4002
4005
4001
VIEWER APPARATUS
RELATED INFORMATION PROVIDING SERVER
BROADCAST INFORMATION MATCHING PART
RELATED INFORMATION PROVIDING PART
PARTIAL BROADCAST INFORMATION
RELATED INFORMATION (URL)
4011
INFORMATION OBTAINING PART
4012
INPUT PART
URL
4013
CONTENT INFORMATION BROWSING PART
4023
4021
4024
4022
BROADCAST INFORMATION DATABASE
RELATED INFORMATION DATABASE
NETWORK (Internet)
<ACCESS>
BROADCAST INFORMATION (VIDEO VOICE)
RELATED INFORMATION HOME PAGE
Video01
Video02
Video03
VIDEO VOICE FILE GROUPS
CONTENT PROVIDING SERVER
4004
4003
BROADCAST INFORMATION (VIDEO VOICE) STORING APPARATUS VTR

FIG.34

BROADCAST INFORMATION IDENTIFYING INFORMATION	RELATED INFORMATION (URL)
• • •	• • •
FILE NAME; Video01 FRAME NUMBER: 001	http: //www.xxx.co.jp/products.html
FILE NAME; Video01 FRAME NUMBER: 002	http: //www.aaa.co.jp/program_information.html
• • •	• • •
FILE NAME; Video02 FRAME NUMBER: 001	http: //www.bbb.co.jp/music_information.html
FILE NAME; Video02 FRAME NUMBER: 002	http: //www.ccc.co.jp/cm_information.html http: //www.ddd.co.jp/bgm_information.html http: //www.eee.co.jp/price.html
• • •	• • •

FIG.35

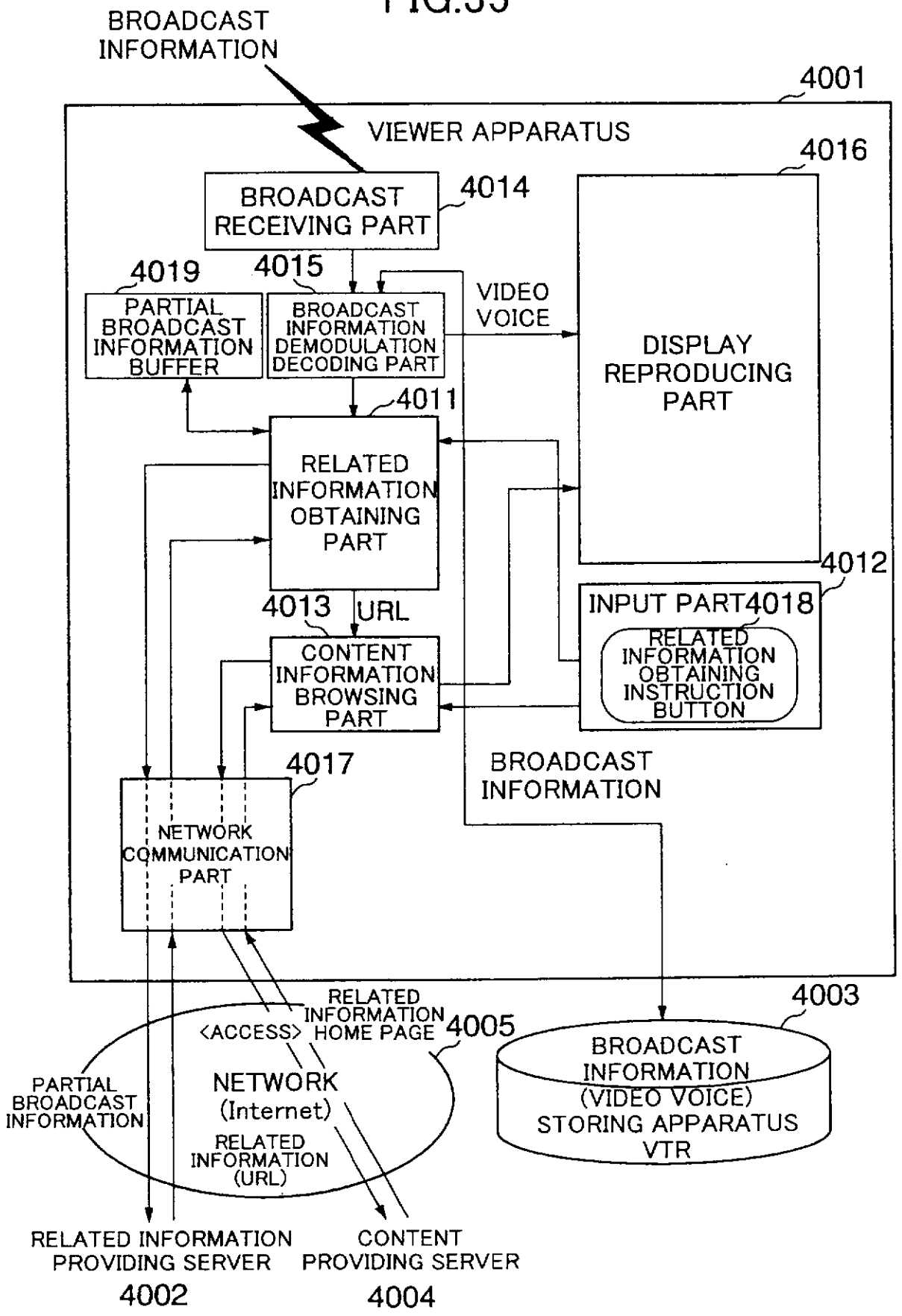

BROADCAST INFORMATION
4001
VIEWER APPARATUS
4016
BROADCAST RECEIVING PART
4014
4019
4015
PARTIAL BROADCAST INFORMATION BUFFER
BROADCAST INFORMATION DEMODULATION DECODING PART
VIDEO VOICE
DISPLAY REPRODUCING PART
4011
RELATED INFORMATION OBTAINING PART
4012
4013
URL
INPUT PART4018
RELATED INFORMATION OBTAINING INSTRUCTION BUTTON
CONTENT INFORMATION BROWSING PART
4017
BROADCAST INFORMATION
NETWORK COMMUNICATION PART
RELATED INFORMATION HOME PAGE
<ACCESS>
4005
4003
PARTIAL BROADCAST INFORMATION
NETWORK (Internet)
RELATED INFORMATION (URL)
BROADCAST INFORMATION (VIDEO VOICE) STORING APPARATUS VTR
RELATED INFORMATION PROVIDING SERVER
4002
CONTENT PROVIDING SERVER
4004

FIG.36

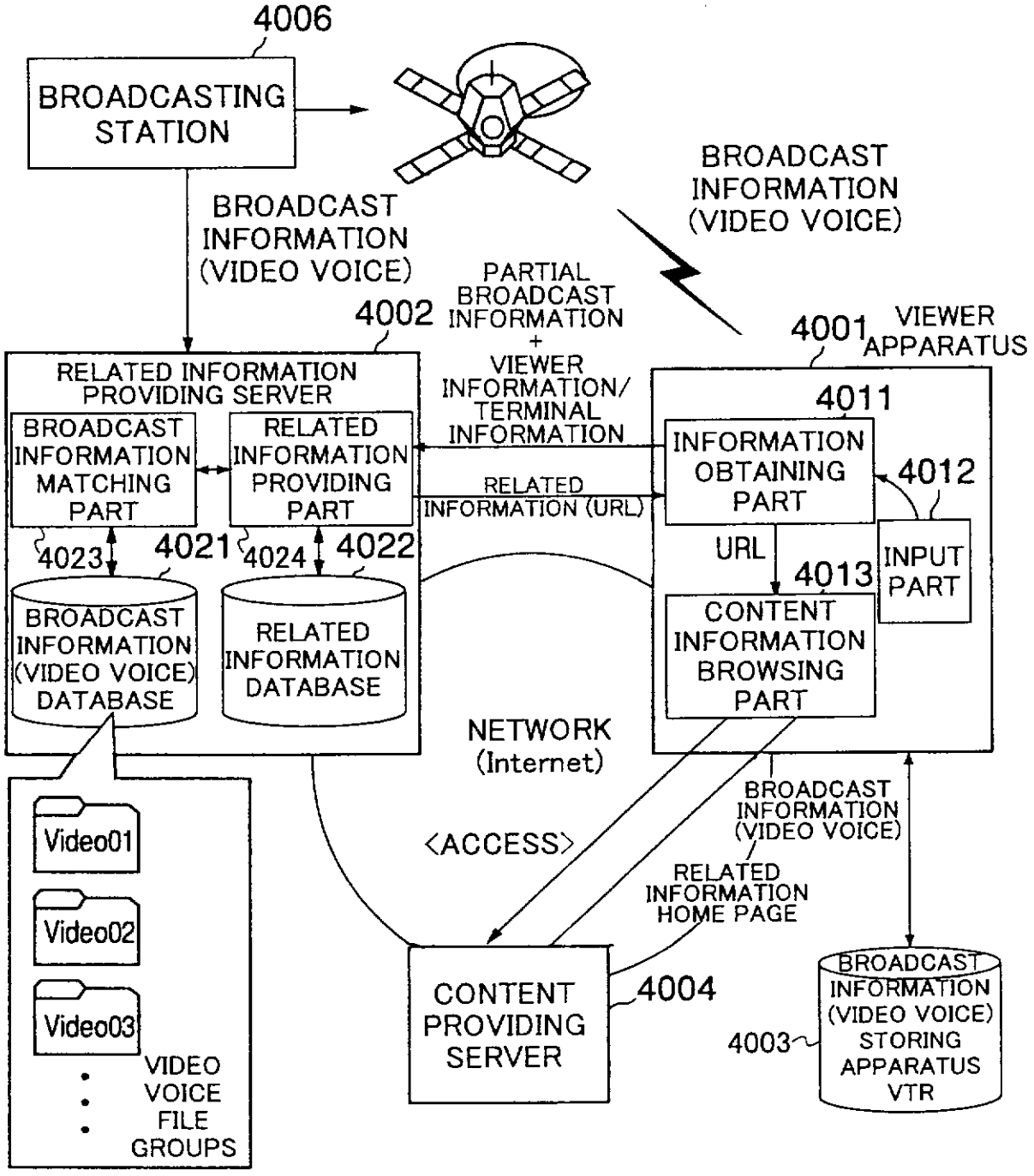

4006
BROADCASTING STATION
BROADCAST INFORMATION (VIDEO VOICE)
BROADCAST INFORMATION (VIDEO VOICE)
4002
PARTIAL BROADCAST INFORMATION + VIEWER INFORMATION/ TERMINAL INFORMATION
4001 VIEWER APPARATUS
RELATED INFORMATION PROVIDING SERVER
BROADCAST INFORMATION MATCHING PART
RELATED INFORMATION PROVIDING PART
4011
INFORMATION OBTAINING PART
4012
RELATED INFORMATION (URL)
URL
4013
INPUT PART
CONTENT INFORMATION BROWSING PART
4023
4021
4024
4022
BROADCAST INFORMATION (VIDEO VOICE) DATABASE
RELATED INFORMATION DATABASE
NETWORK (Internet)
BROADCAST INFORMATION (VIDEO VOICE)
<ACCESS>
RELATED INFORMATION HOME PAGE
Video01
Video02
Video03
VIDEO VOICE FILE GROUPS
CONTENT PROVIDING SERVER
4004
4003
BROADCAST INFORMATION (VIDEO VOICE) STORING APPARATUS VTR

FIG.37

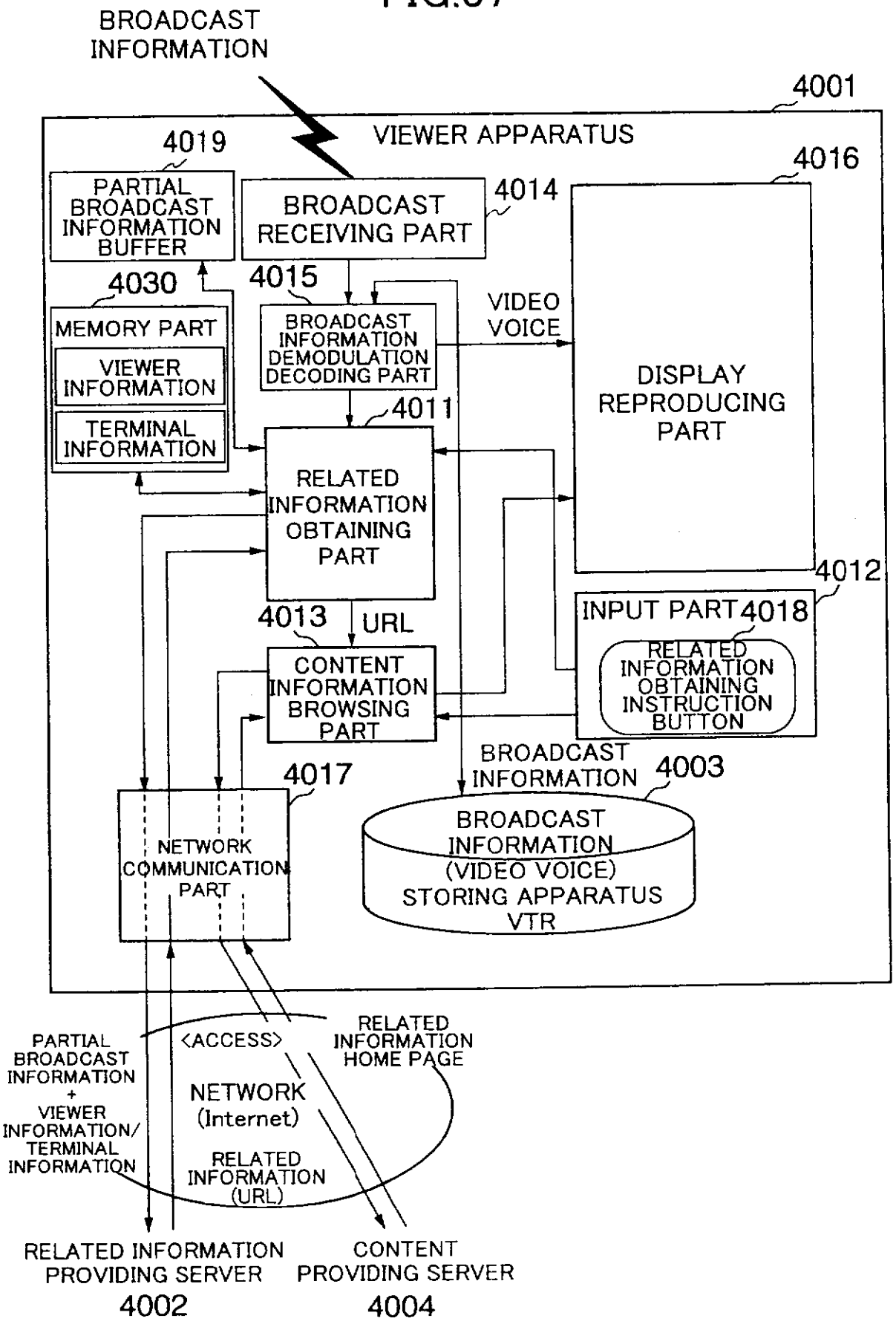

BROADCAST INFORMATION
4001
VIEWER APPARATUS
4019
PARTIAL BROADCAST INFORMATION BUFFER
BROADCAST RECEIVING PART
4014
4016
4030
MEMORY PART
VIEWER INFORMATION
TERMINAL INFORMATION
4015
BROADCAST INFORMATION DEMODULATION DECODING PART
VIDEO VOICE
DISPLAY REPRODUCING PART
4011
RELATED INFORMATION OBTAINING PART
4012
INPUT PART
4018
RELATED INFORMATION OBTAINING INSTRUCTION BUTTON
4013
URL
CONTENT INFORMATION BROWSING PART
BROADCAST INFORMATION
4003
4017
NETWORK COMMUNICATION PART
BROADCAST INFORMATION (VIDEO VOICE) STORING APPARATUS VTR
PARTIAL BROADCAST INFORMATION + VIEWER INFORMATION/ TERMINAL INFORMATION
<ACCESS>
NETWORK (Internet)
RELATED INFORMATION (URL)
RELATED INFORMATION HOME PAGE
RELATED INFORMATION PROVIDING SERVER
4002
CONTENT PROVIDING SERVER
4004

FIG.38

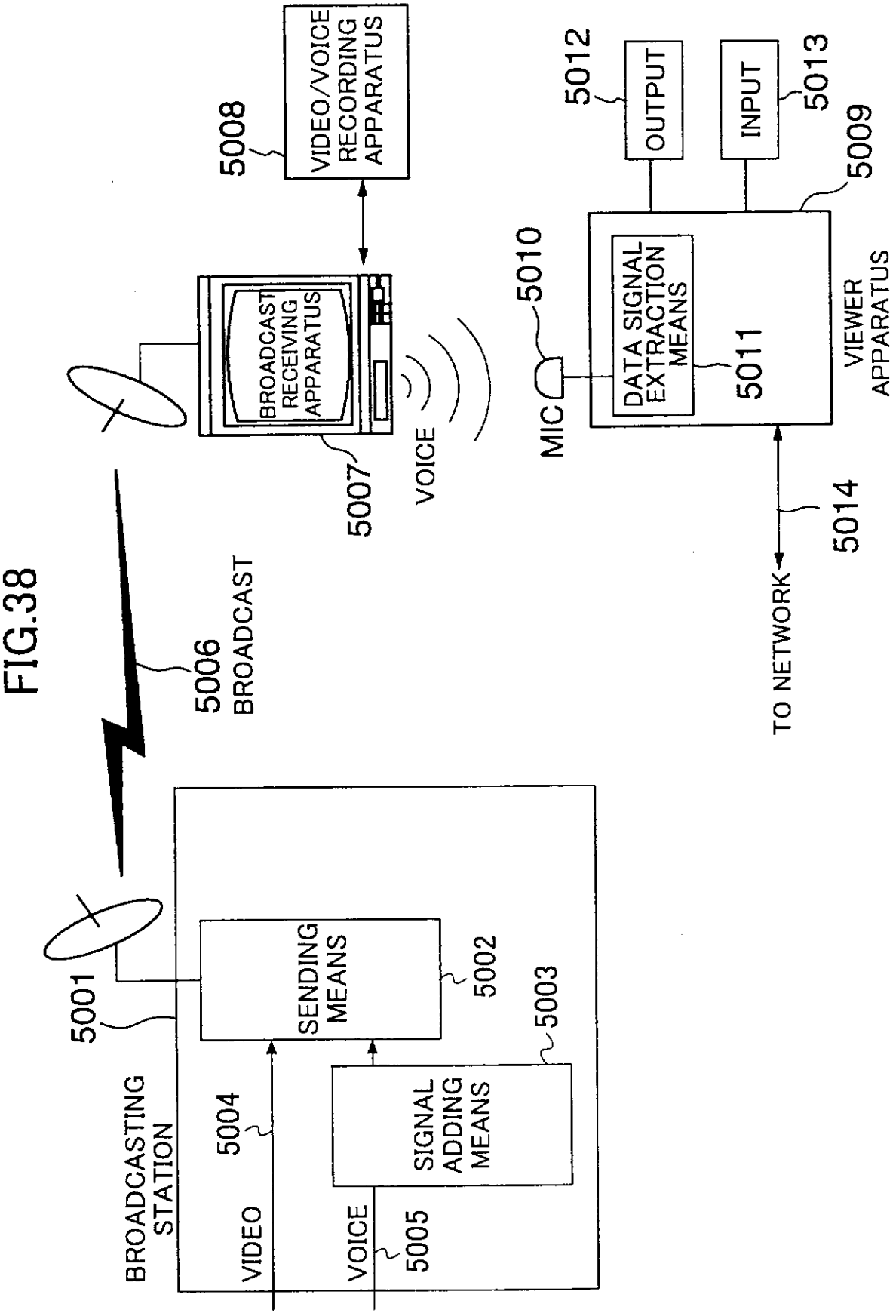

BROADCASTING STATION
VIDEO
VOICE
5004
5005
SIGNAL ADDING MEANS
5003
SENDING MEANS
5002
5001
5006
BROADCAST
BROADCAST RECEIVING APPARATUS
5007
VOICE
5008
VIDEO/VOICE RECORDING APPARATUS
MIC
5010
DATA SIGNAL EXTRACTION MEANS
5011
VIEWER APPARATUS
5009
OUTPUT
5012
INPUT
5013
5014
TO NETWORK

FIG.39

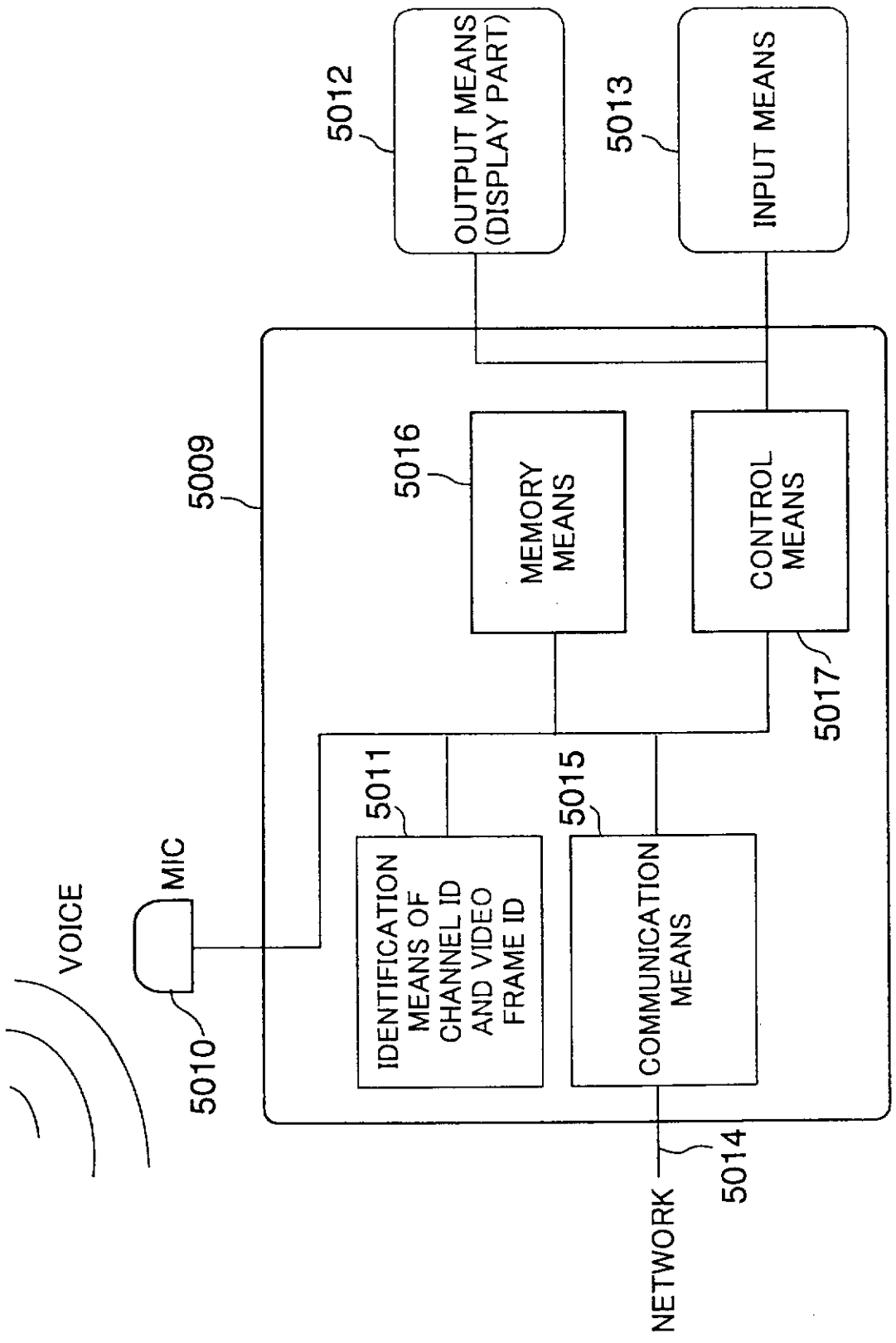
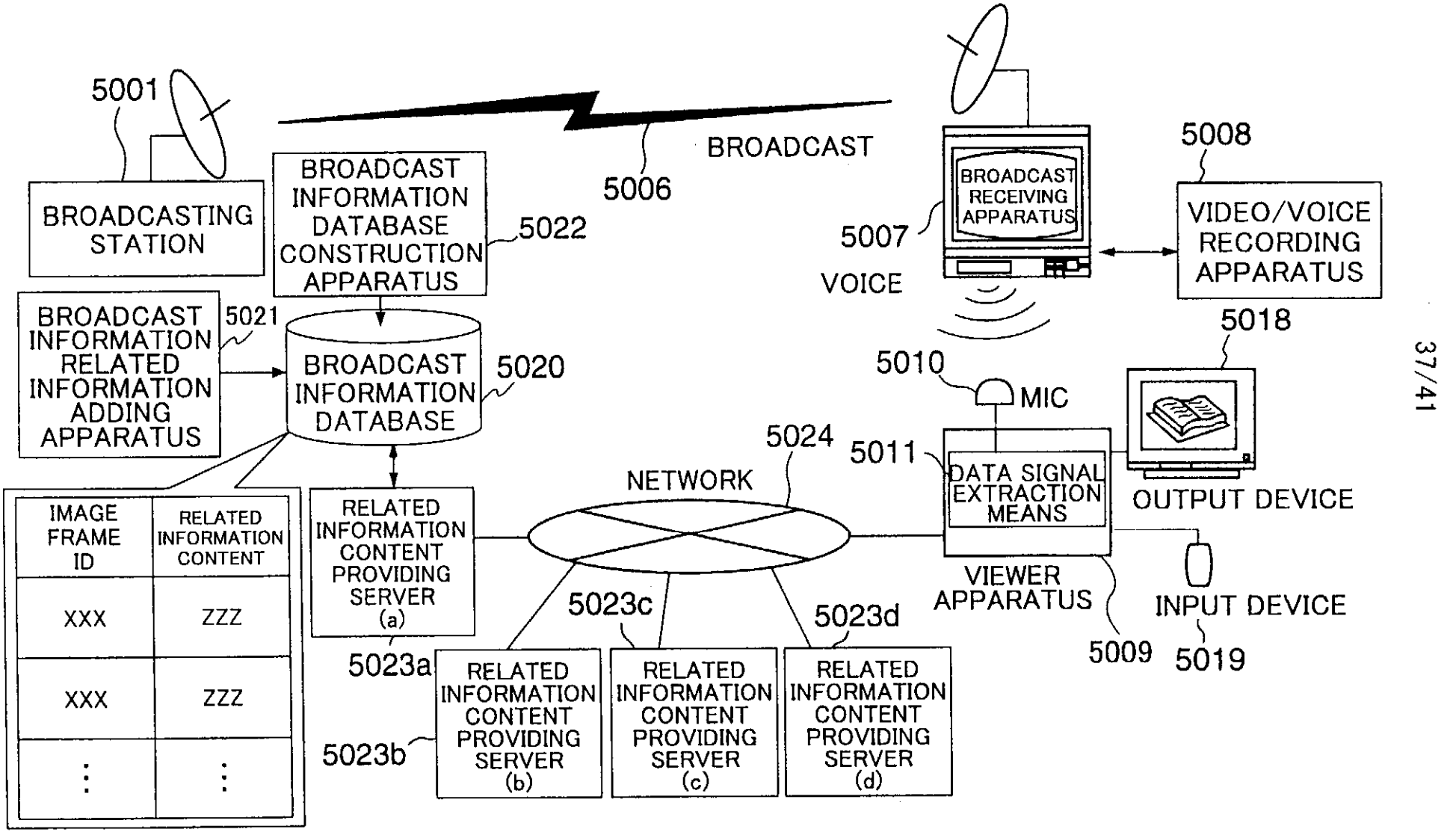

VOICE
MIC
5010
5009
5012
OUTPUT MEANS (DISPLAY PART)
5013
INPUT MEANS
5016
MEMORY MEANS
CONTROL MEANS
5017
5011
IDENTIFICATION MEANS OF CHANNEL ID AND VIDEO FRAME ID
5015
COMMUNICATION MEANS
5014
NETWORK

FIG.40



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FIG.41

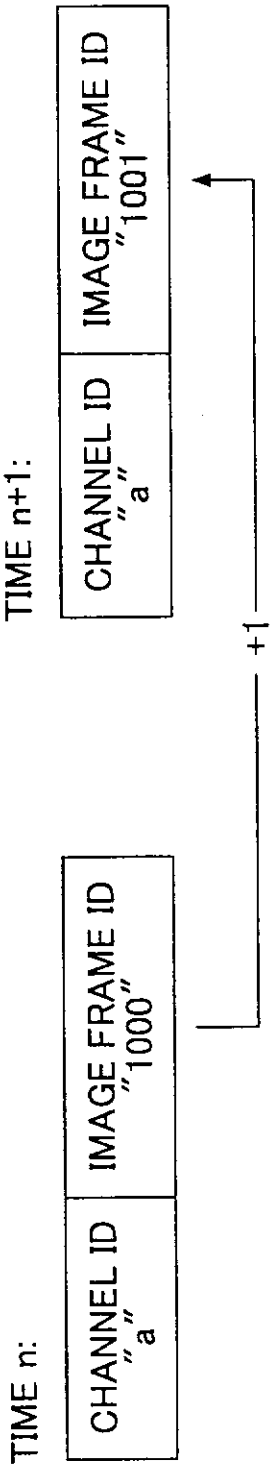

TIME n:
CHANNEL ID "a"
IMAGE FRAME ID "1000"
+1
TIME n+1:
CHANNEL ID "a"
IMAGE FRAME ID "1001"

FIG.42

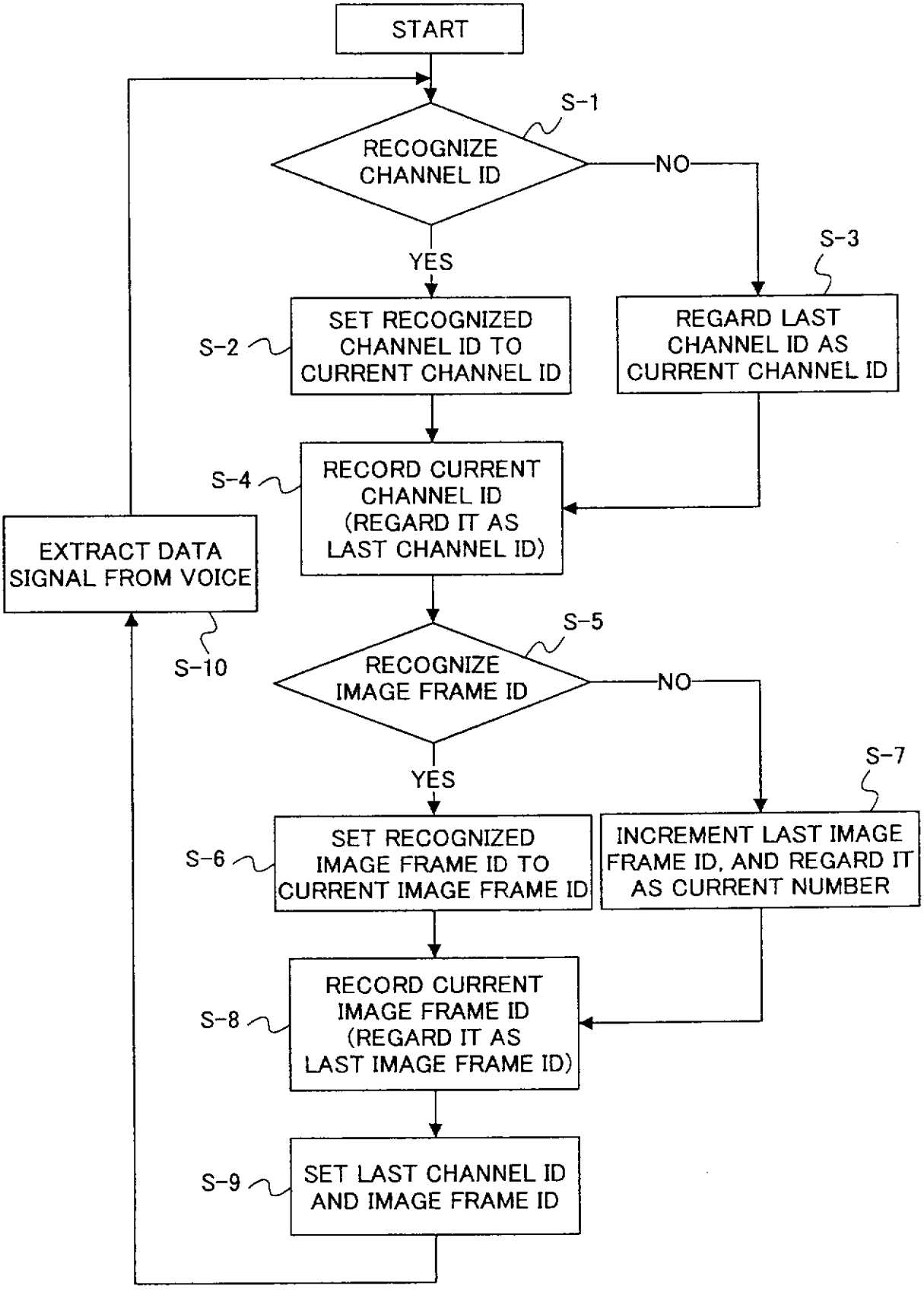

START
S-1
RECOGNIZE CHANNEL ID
NO
YES
S-3
S-2
SET RECOGNIZED CHANNEL ID TO CURRENT CHANNEL ID
REGARD LAST CHANNEL ID AS CURRENT CHANNEL ID
S-4
RECORD CURRENT CHANNEL ID (REGARD IT AS LAST CHANNEL ID)
EXTRACT DATA SIGNAL FROM VOICE
S-10
S-5
RECOGNIZE IMAGE FRAME ID
NO
YES
S-7
S-6
SET RECOGNIZED IMAGE FRAME ID TO CURRENT IMAGE FRAME ID
INCREMENT LAST IMAGE FRAME ID, AND REGARD IT AS CURRENT NUMBER
S-8
RECORD CURRENT IMAGE FRAME ID (REGARD IT AS LAST IMAGE FRAME ID)
S-9
SET LAST CHANNEL ID AND IMAGE FRAME ID

FIG.43

PROCESS STEP	CHANNEL ID	IMAGE FRAME ID
step1	a	1000
step2	UNKNOWN	UNKNOWN
step3	UNKNOWN	UNKNOWN
step4	a	1003
step5	a	1004
step6	b	400
⋮	⋮	⋮

FIG.44

PROCESS STEP	LAST CH ID	LAST FRAME ID	CH ID	FRAME ID
step1	z	0	a	1000
step2	a	1000	a	1001
step3	a	1001	a	1002
step4	a	1002	a	1003
step5	a	1003	a	1004
step6	a	1004	b	400
...	b	400	...	...