# Fig. 1

| CALCULATION ELEMENT NAME | CONTROL COEFFICIENT NAME | | | VALUE OF CONTROL COEFFICIENT FOR EACH ADVERTISEMENT | | | | | | COTROL VARI-ABLE |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CM 1 | CM 2 | CM 3 | CM 4 | CM 5 | CM 6 | |
| DISPLAY PERIOD | Tx | | | 800 | 700 | 400 | 300 | 500 | 100 | X1 |
| AUDIENCE GROUP SPECIFYING CATEGORY | Cpq | Cax (REGION) | Ca1(REGION A) | 40 | 100 | 20 | 30 | 10 | 40 | X2 |
| | | | Ca2(REGION B) | 0 | 0 | 60 | 10 | 10 | 10 | |
| | | | . . . | . . . | . . . | . . . | . . . | . . . | . . . | |
| | | | Cam(REGION m) | 20 | 0 | 0 | 20 | 10 | 30 | |
| | | Cbx (SEX) | Cb1(MALE) | 80 | 50 | 30 | 70 | 60 | 80 | X3 |
| | | | Cb2(FEMALE) | 20 | 50 | 70 | 30 | 40 | 20 | |
| | | Ccx (AGE) | Cc1(~19YRS) | 10 | 50 | 50 | 30 | 10 | 40 | X4 |
| | | | Cc2(20~34) | 20 | 30 | 35 | 30 | 10 | 25 | |
| | | | Cc3(35~49) | 40 | 20 | 15 | 20 | 20 | 15 | |
| | | | Cc4(50~64) | 20 | 0 | 0 | 10 | 20 | 10 | |
| | | | Cc5(65YRS~) | 10 | 0 | 0 | 10 | 40 | 10 | |
| | | Cdx (HOBBY) | Cd1(HOBBY A) | 50 | 20 | 80 | 10 | 90 | 30 | X5 |
| | | | Cd2(HOBBY B) | 40 | 30 | 10 | 20 | 0 | 60 | |
| | | | Cd3(HOBBY C) | 10 | 50 | 10 | 70 | 10 | 10 | |
| PREDETERMINED DISPLAY ORDER | Jn | | | 1500 | 1400 | 1300 | 1200 | 1100 | 1000 | X6 |
| AVERAGED DISPLAY NUMBER | Ka | | | 40 | 100 | 50 | 40 | 70 | 30 | X7 |
| PREFERRED DISPLAY TIME | Hx | H1 (1:00~5:00) | | 0 | 0 | 0 | 0 | 30 | 0 | X8 |
| | | H2 (5:00~9:00) | | 0 | 20 | 0 | 0 | 20 | 20 | |
| | | H3 (9:00~13:00) | | 0 | 20 | 50 | 0 | 0 | 30 | |
| | | H4 (13:00~17:00) | | 0 | 20 | 0 | 20 | 0 | 20 | |
| | | H5 (17:00~21:00) | | 100 | 20 | 50 | 60 | 20 | 30 | |
| | | H6 (21:00~1:00) | | 0 | 20 | 0 | 20 | 30 | 0 | |
| TASTE OF AUDIENCE (ADVERTISEMENT ATTRIBUTE) | Fx | | | 70 (F1) | 70 (F1) | 20 (F2) | 70 (F1) | 50 (F3) | 20 (F2) | X9 |
| | | | | | | | | | | |
| A DEGREE OF COINCIDENCE IN THE CASE THAT AN AUDIENCE OF A RECIEVER BELONGS TO CATEGORIES Ca1, Cb1, Cc1, AND Cd3 AND THE VALUE OF EACH OF CONTROL VARIABLES X2 TO X5 IS 1 : Ct(Ct=Ca1×X2+Cb1×X3+Cc1×X4+Cd3×X5) | | | | 140 | 250 | 110 | 200 | 90 | 170 | |
| A DETERMINATION ELEMENT IN THE CASE THAT AN AUDIENSE OF A RECIEVER BELONGS TO CATEGORIES Ca1, Cb1, Cc1 AND Cd3, THE PRESENT TIME BELONGS TO H6, AND THE VALUES OF ALL CONTROL VARIABLES ARE 1 : Sum(Sum=Tx×X1+Ct+Jn×X6+Ka×X7+Hx×X8+Fx×X9) | | | | 2550 | 2540 | 1880 | 1830 | 1840 | 1320 | |
| PRIORITY ORDER | | | | 1 | 2 | 3 | 5 | 4 | 6 | |

Fig. 2

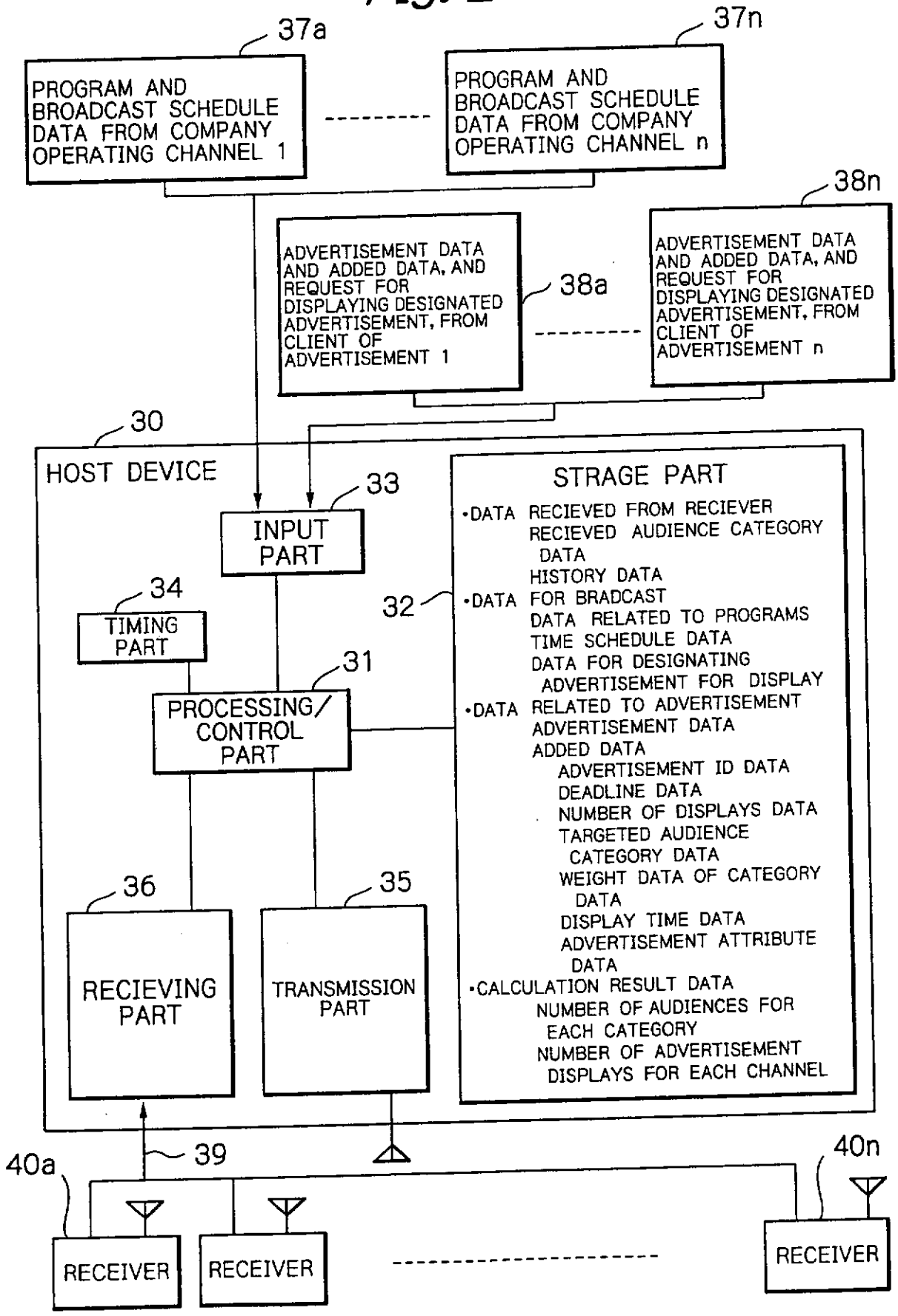

37a
PROGRAM AND BROADCAST SCHEDULE DATA FROM COMPANY OPERATING CHANNEL 1
37n
PROGRAM AND BROADCAST SCHEDULE DATA FROM COMPANY OPERATING CHANNEL n
38n
ADVERTISEMENT DATA AND ADDED DATA, AND REQUEST FOR DISPLAYING DESIGNATED ADVERTISEMENT, FROM CLIENT OF ADVERTISEMENT n
38a
ADVERTISEMENT DATA AND ADDED DATA, AND REQUEST FOR DISPLAYING DESIGNATED ADVERTISEMENT, FROM CLIENT OF ADVERTISEMENT 1
30
HOST DEVICE
33
INPUT PART
34
TIMING PART
31
PROCESSING/ CONTROL PART
32
STRAGE PART
•DATA RECIEVED FROM RECIEVER
RECIEVED AUDIENCE CATEGORY DATA
HISTORY DATA
•DATA FOR BRADCAST
DATA RELATED TO PROGRAMS
TIME SCHEDULE DATA
DATA FOR DESIGNATING ADVERTISEMENT FOR DISPLAY
•DATA RELATED TO ADVERTISEMENT
ADVERTISEMENT DATA
ADDED DATA
ADVERTISEMENT ID DATA
DEADLINE DATA
NUMBER OF DISPLAYS DATA
TARGETED AUDIENCE CATEGORY DATA
WEIGHT DATA OF CATEGORY DATA
DISPLAY TIME DATA
ADVERTISEMENT ATTRIBUTE DATA
•CALCULATION RESULT DATA
NUMBER OF AUDIENCES FOR EACH CATEGORY
NUMBER OF ADVERTISEMENT DISPLAYS FOR EACH CHANNEL
36
RECIEVING PART
35
TRANSMISSION PART
39
40a
40n
RECEIVER
RECEIVER
RECEIVER

Fig. 3

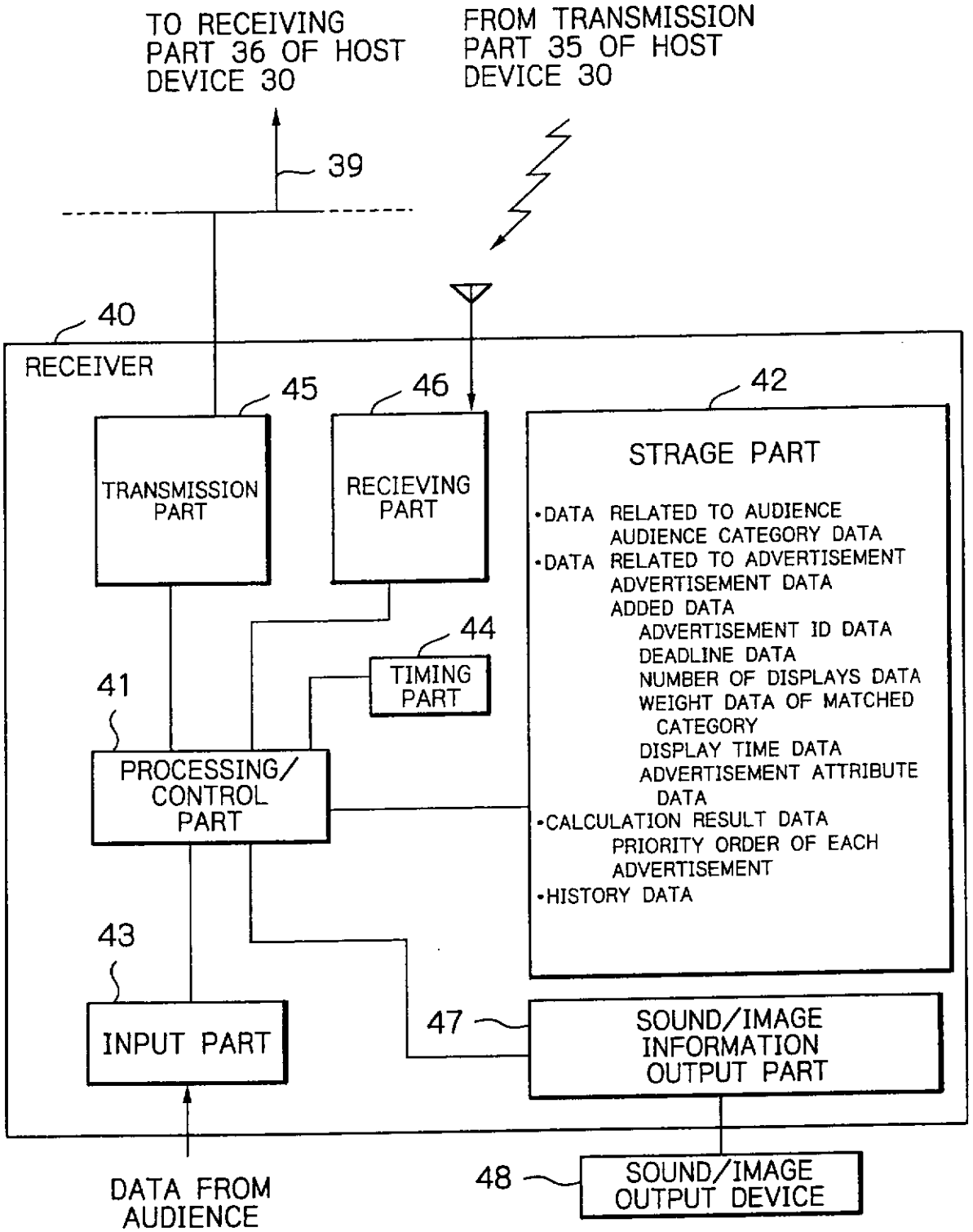

TO RECEIVING PART 36 OF HOST DEVICE 30
FROM TRANSMISSION PART 35 OF HOST DEVICE 30
39
40
RECEIVER
45
46
42
TRANSMISSION PART
RECIEVING PART
STRAGE PART
•DATA RELATED TO AUDIENCE
AUDIENCE CATEGORY DATA
•DATA RELATED TO ADVERTISEMENT
ADVERTISEMENT DATA
ADDED DATA
ADVERTISEMENT ID DATA
DEADLINE DATA
NUMBER OF DISPLAYS DATA
WEIGHT DATA OF MATCHED CATEGORY
DISPLAY TIME DATA
ADVERTISEMENT ATTRIBUTE DATA
•CALCULATION RESULT DATA
PRIORITY ORDER OF EACH ADVERTISEMENT
•HISTORY DATA
44
TIMING PART
41
PROCESSING/ CONTROL PART
43
INPUT PART
47
SOUND/IMAGE INFORMATION OUTPUT PART
DATA FROM AUDIENCE
48
SOUND/IMAGE OUTPUT DEVICE

*Fig. 4*

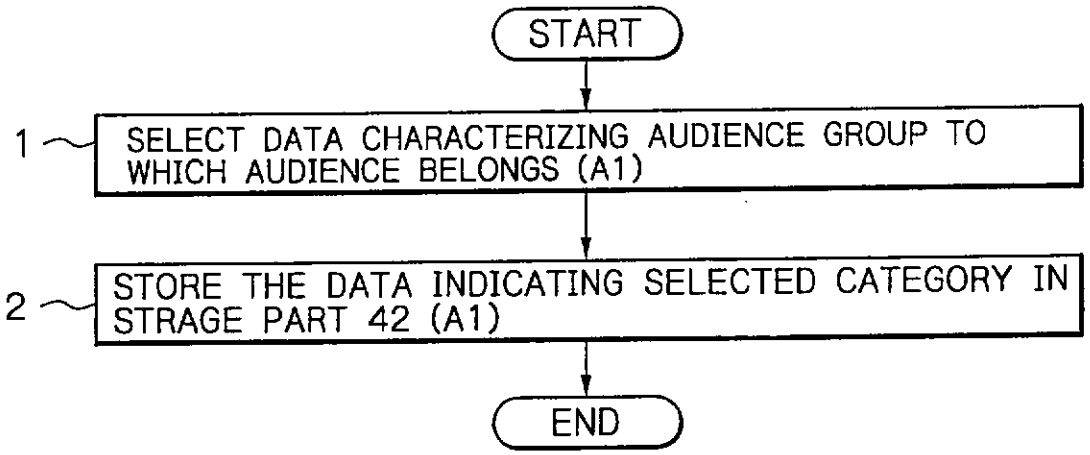

START
1
SELECT DATA CHARACTERIZING AUDIENCE GROUP TO WHICH AUDIENCE BELONGS (A1)
2
STORE THE DATA INDICATING SELECTED CATEGORY IN STRAGE PART 42 (A1)
END

*Fig. 5*

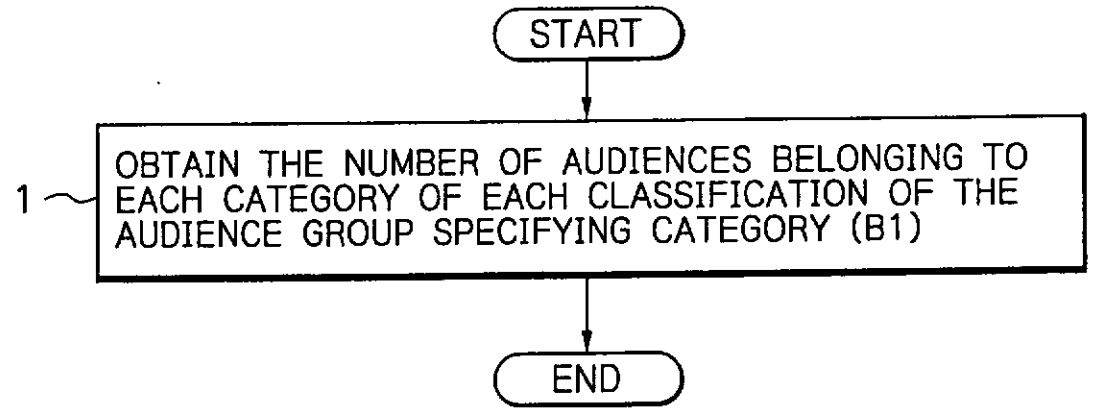

START
1
OBTAIN THE NUMBER OF AUDIENCES BELONGING TO EACH CATEGORY OF EACH CLASSIFICATION OF THE AUDIENCE GROUP SPECIFYING CATEGORY (B1)
END

*Fig. 6*

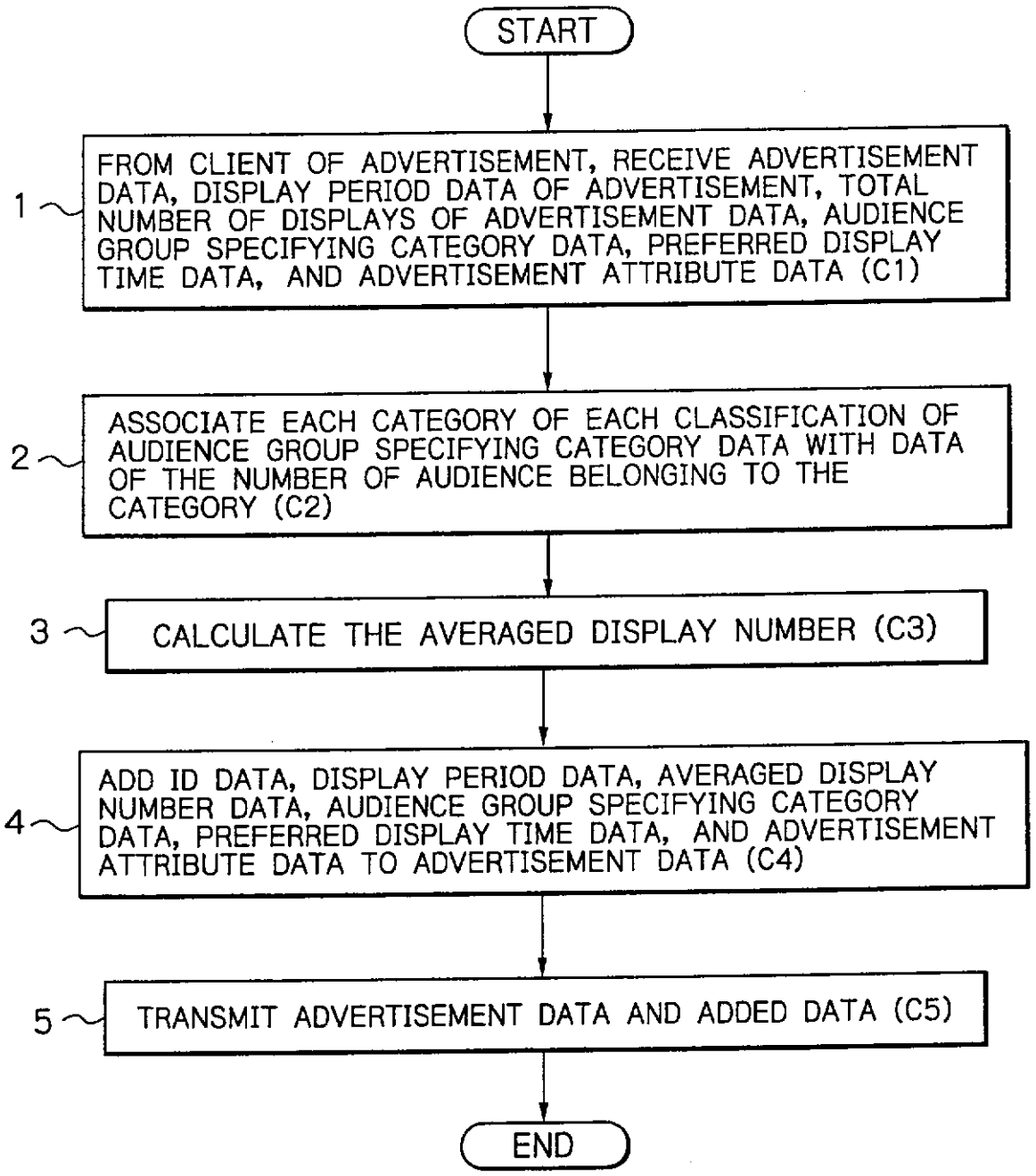

START
1
FROM CLIENT OF ADVERTISEMENT, RECEIVE ADVERTISEMENT DATA, DISPLAY PERIOD DATA OF ADVERTISEMENT, TOTAL NUMBER OF DISPLAYS OF ADVERTISEMENT DATA, AUDIENCE GROUP SPECIFYING CATEGORY DATA, PREFERRED DISPLAY TIME DATA, AND ADVERTISEMENT ATTRIBUTE DATA (C1)
2
ASSOCIATE EACH CATEGORY OF EACH CLASSIFICATION OF AUDIENCE GROUP SPECIFYING CATEGORY DATA WITH DATA OF THE NUMBER OF AUDIENCE BELONGING TO THE CATEGORY (C2)
3
CALCULATE THE AVERAGED DISPLAY NUMBER (C3)
4
ADD ID DATA, DISPLAY PERIOD DATA, AVERAGED DISPLAY NUMBER DATA, AUDIENCE GROUP SPECIFYING CATEGORY DATA, PREFERRED DISPLAY TIME DATA, AND ADVERTISEMENT ATTRIBUTE DATA TO ADVERTISEMENT DATA (C4)
5
TRANSMIT ADVERTISEMENT DATA AND ADDED DATA (C5)
END

*Fig. 7*

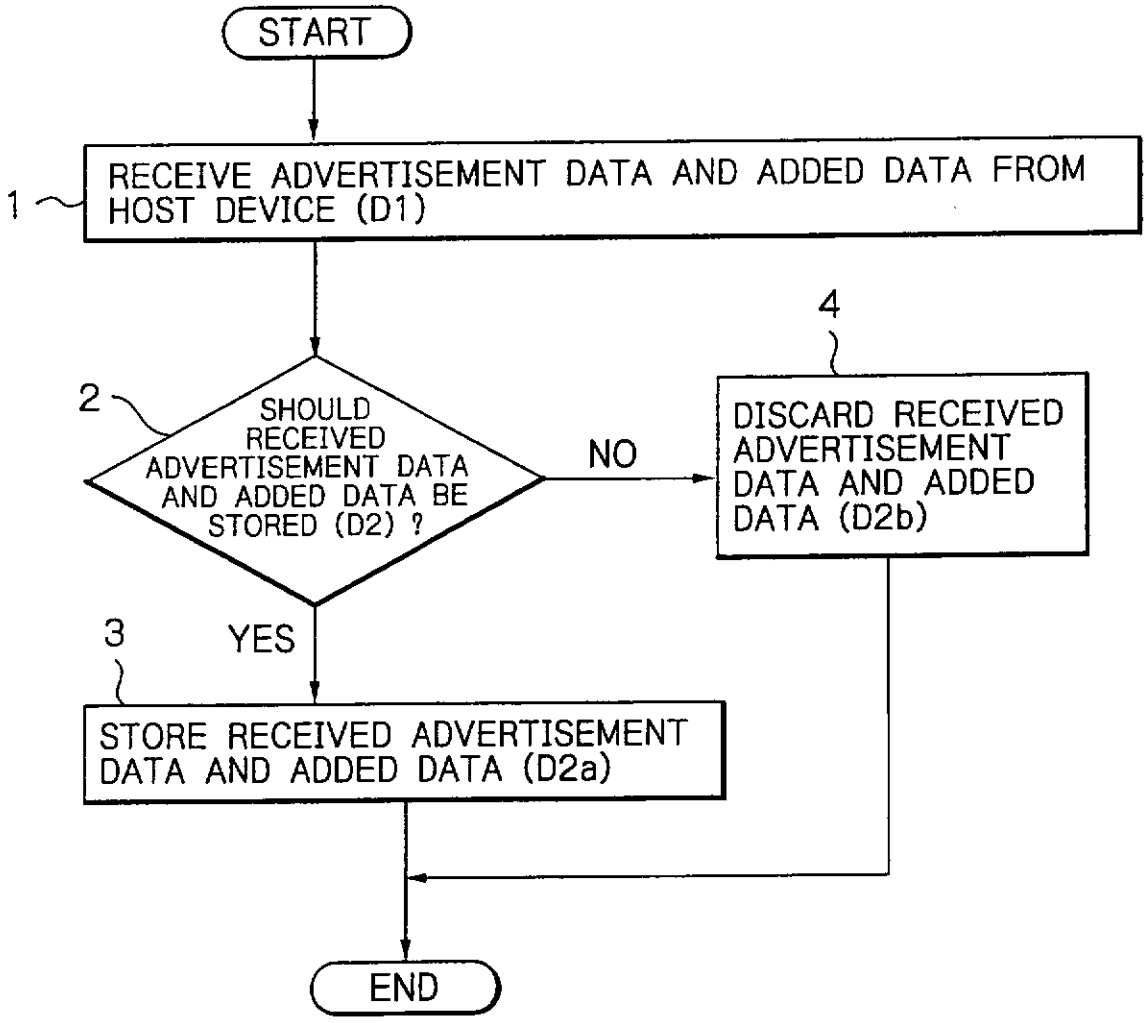

START
RECEIVE ADVERTISEMENT DATA AND ADDED DATA FROM HOST DEVICE (D1)
1
2
SHOULD RECEIVED ADVERTISEMENT DATA AND ADDED DATA BE STORED (D2) ?
NO
4
DISCARD RECEIVED ADVERTISEMENT DATA AND ADDED DATA (D2b)
YES
3
STORE RECEIVED ADVERTISEMENT DATA AND ADDED DATA (D2a)
END

*Fig. 8*

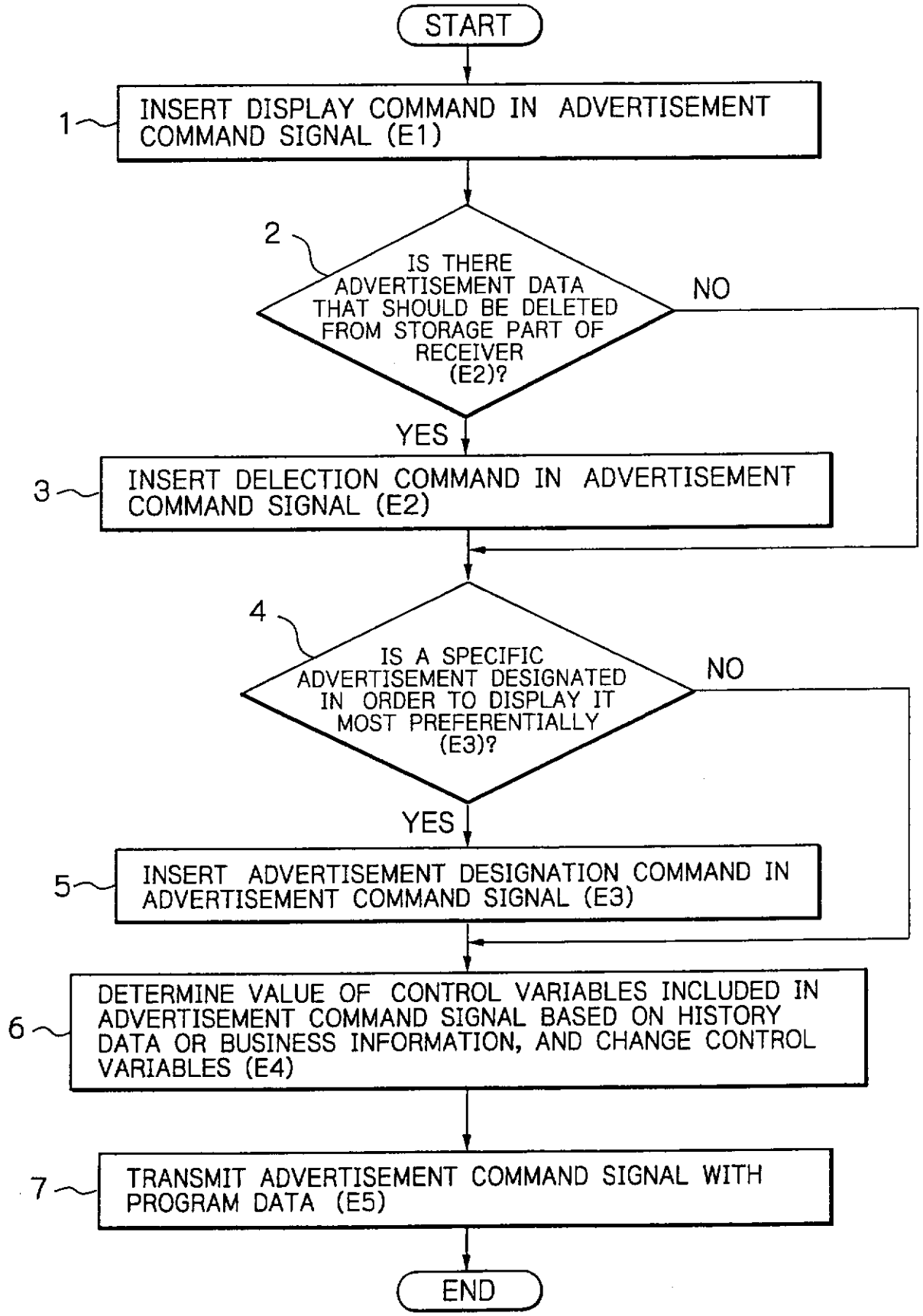

START
1
INSERT DISPLAY COMMAND IN ADVERTISEMENT COMMAND SIGNAL (E1)
2
IS THERE ADVERTISEMENT DATA THAT SHOULD BE DELETED FROM STORAGE PART OF RECEIVER (E2)?
NO
YES
3
INSERT DELECTION COMMAND IN ADVERTISEMENT COMMAND SIGNAL (E2)
4
IS A SPECIFIC ADVERTISEMENT DESIGNATED IN ORDER TO DISPLAY IT MOST PREFERENTIALLY (E3)?
NO
YES
5
INSERT ADVERTISEMENT DESIGNATION COMMAND IN ADVERTISEMENT COMMAND SIGNAL (E3)
6
DETERMINE VALUE OF CONTROL VARIABLES INCLUDED IN ADVERTISEMENT COMMAND SIGNAL BASED ON HISTORY DATA OR BUSINESS INFORMATION, AND CHANGE CONTROL VARIABLES (E4)
7
TRANSMIT ADVERTISEMENT COMMAND SIGNAL WITH PROGRAM DATA (E5)
END

Fig. 9

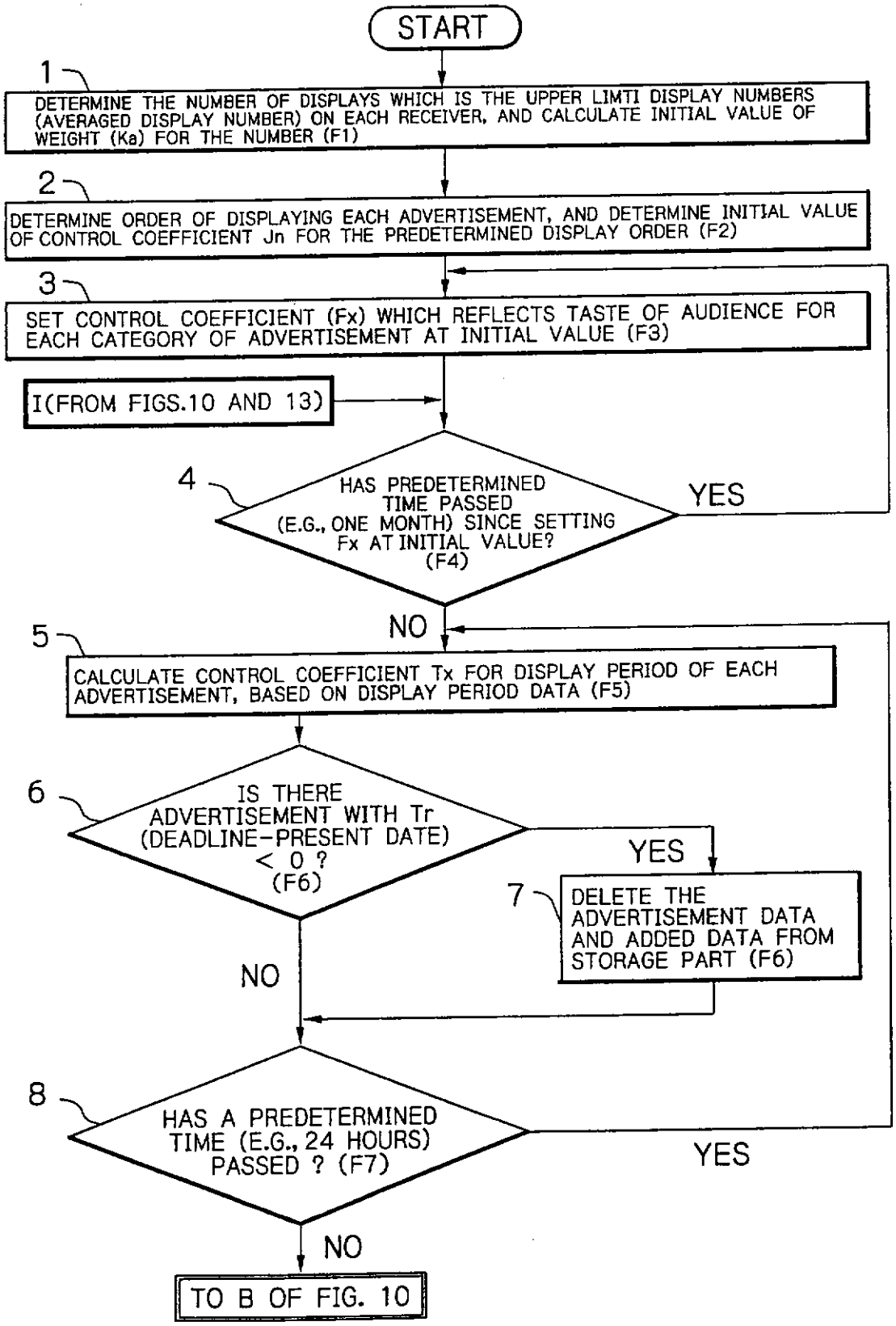

START
1
DETERMINE THE NUMBER OF DISPLAYS WHICH IS THE UPPER LIMTI DISPLAY NUMBERS (AVERAGED DISPLAY NUMBER) ON EACH RECEIVER, AND CALCULATE INITIAL VALUE OF WEIGHT (Ka) FOR THE NUMBER (F1)
2
DETERMINE ORDER OF DISPLAYING EACH ADVERTISEMENT, AND DETERMINE INITIAL VALUE OF CONTROL COEFFICIENT Jn FOR THE PREDETERMINED DISPLAY ORDER (F2)
3
SET CONTROL COEFFICIENT (Fx) WHICH REFLECTS TASTE OF AUDIENCE FOR EACH CATEGORY OF ADVERTISEMENT AT INITIAL VALUE (F3)
I(FROM FIGS.10 AND 13)
4
HAS PREDETERMINED TIME PASSED (E.G., ONE MONTH) SINCE SETTING Fx AT INITIAL VALUE? (F4)
YES
NO
5
CALCULATE CONTROL COEFFICIENT Tx FOR DISPLAY PERIOD OF EACH ADVERTISEMENT, BASED ON DISPLAY PERIOD DATA (F5)
6
IS THERE ADVERTISEMENT WITH Tr (DEADLINE-PRESENT DATE) < 0 ? (F6)
YES
7
DELETE THE ADVERTISEMENT DATA AND ADDED DATA FROM STORAGE PART (F6)
NO
8
HAS A PREDETERMINED TIME (E.G., 24 HOURS) PASSED ? (F7)
YES
NO
TO B OF FIG. 10

Fig. 10

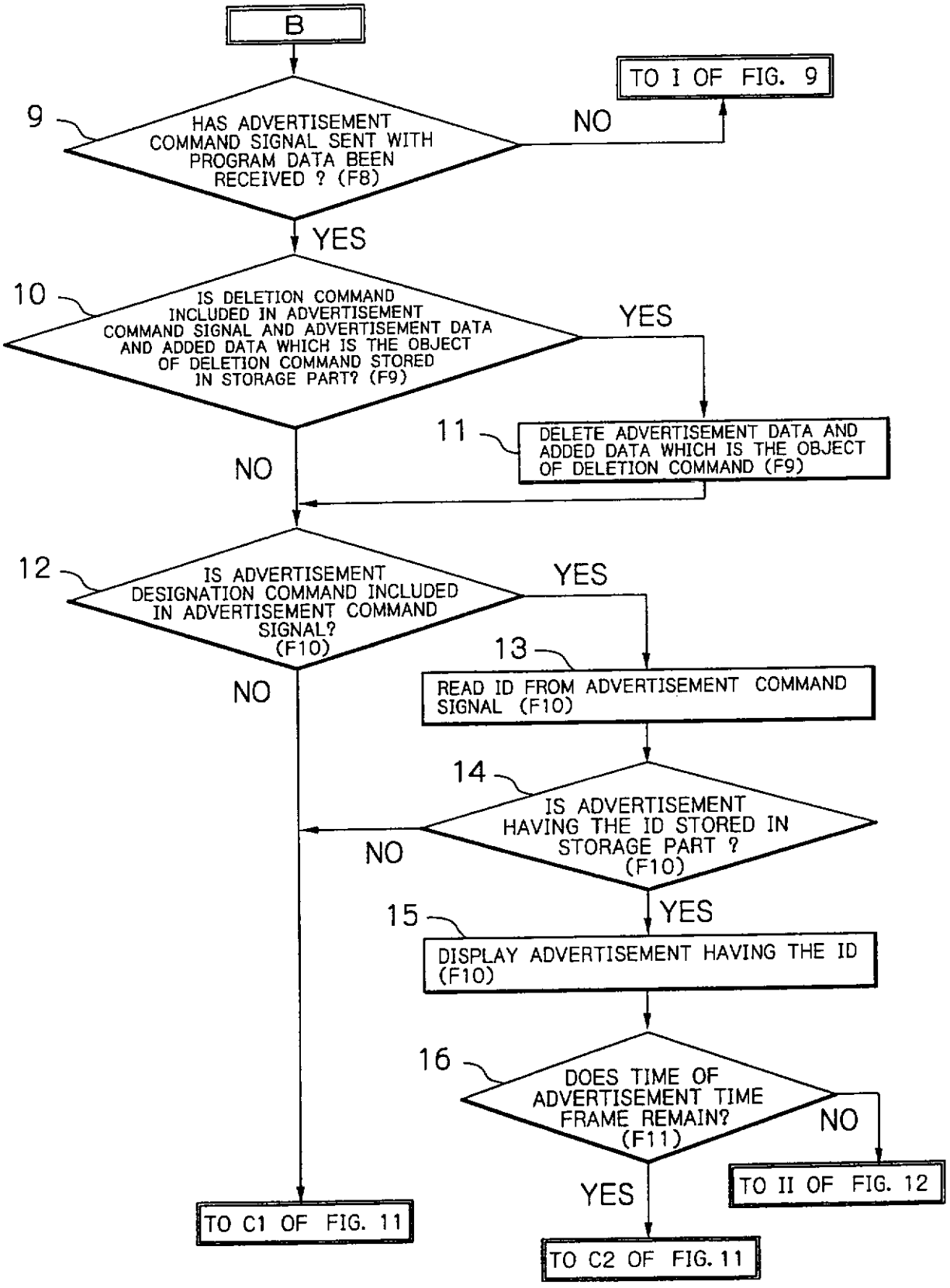

B
9
HAS ADVERTISEMENT COMMAND SIGNAL SENT WITH PROGRAM DATA BEEN RECEIVED ? (F8)
NO
TO I OF FIG. 9
YES
10
IS DELETION COMMAND INCLUDED IN ADVERTISEMENT COMMAND SIGNAL AND ADVERTISEMENT DATA AND ADDED DATA WHICH IS THE OBJECT OF DELETION COMMAND STORED IN STORAGE PART? (F9)
YES
11
DELETE ADVERTISEMENT DATA AND ADDED DATA WHICH IS THE OBJECT OF DELETION COMMAND (F9)
NO
12
IS ADVERTISEMENT DESIGNATION COMMAND INCLUDED IN ADVERTISEMENT COMMAND SIGNAL? (F10)
YES
13
READ ID FROM ADVERTISEMENT COMMAND SIGNAL (F10)
NO
14
IS ADVERTISEMENT HAVING THE ID STORED IN STORAGE PART ? (F10)
NO
YES
15
DISPLAY ADVERTISEMENT HAVING THE ID (F10)
16
DOES TIME OF ADVERTISEMENT TIME FRAME REMAIN? (F11)
NO
TO II OF FIG. 12
YES
TO C2 OF FIG. 11
TO C1 OF FIG. 11

*Fig. 11*

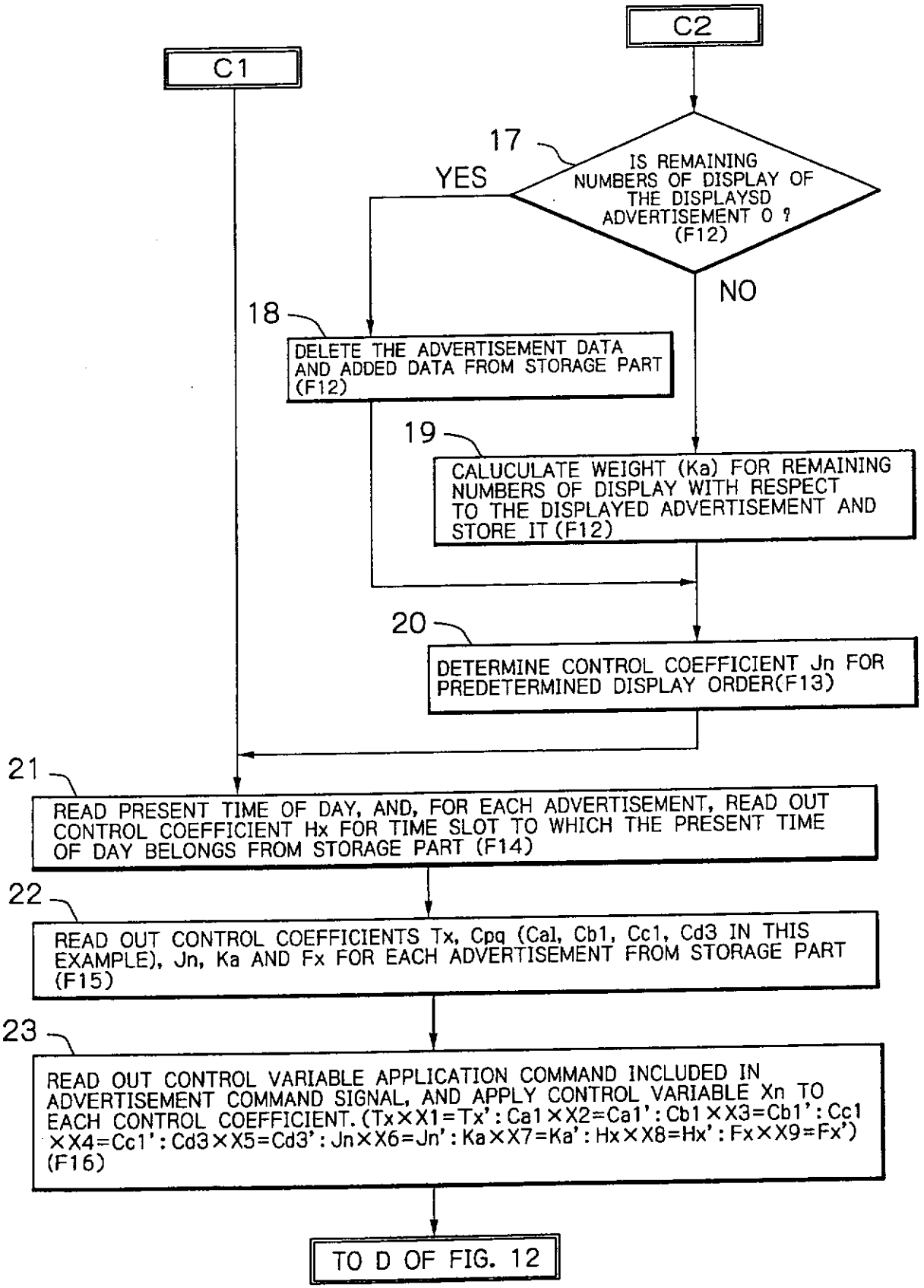

C2
C1
17
IS REMAINING NUMBERS OF DISPLAY OF THE DISPLAYSD ADVERTISEMENT 0 ? (F12)
YES
NO
18
DELETE THE ADVERTISEMENT DATA AND ADDED DATA FROM STORAGE PART (F12)
19
CALUCULATE WEIGHT (Ka) FOR REMAINING NUMBERS OF DISPLAY WITH RESPECT TO THE DISPLAYED ADVERTISEMENT AND STORE IT (F12)
20
DETERMINE CONTROL COEFFICIENT Jn FOR PREDETERMINED DISPLAY ORDER(F13)
21
READ PRESENT TIME OF DAY, AND, FOR EACH ADVERTISEMENT, READ OUT CONTROL COEFFICIENT Hx FOR TIME SLOT TO WHICH THE PRESENT TIME OF DAY BELONGS FROM STORAGE PART (F14)
22
READ OUT CONTROL COEFFICIENTS Tx, Cpq (Cal, Cb1, Cc1, Cd3 IN THIS EXAMPLE), Jn, Ka AND Fx FOR EACH ADVERTISEMENT FROM STORAGE PART (F15)
23
READ OUT CONTROL VARIABLE APPLICATION COMMAND INCLUDED IN ADVERTISEMENT COMMAND SIGNAL, AND APPLY CONTROL VARIABLE Xn TO EACH CONTROL COEFFICIENT. (Tx×X1=Tx' : Ca1×X2=Ca1' : Cb1×X3=Cb1' : Cc1×X4=Cc1' : Cd3×X5=Cd3' : Jn×X6=Jn' : Ka×X7=Ka' : Hx×X8=Hx' : Fx×X9=Fx') (F16)
TO D OF FIG. 12

Fig. 12

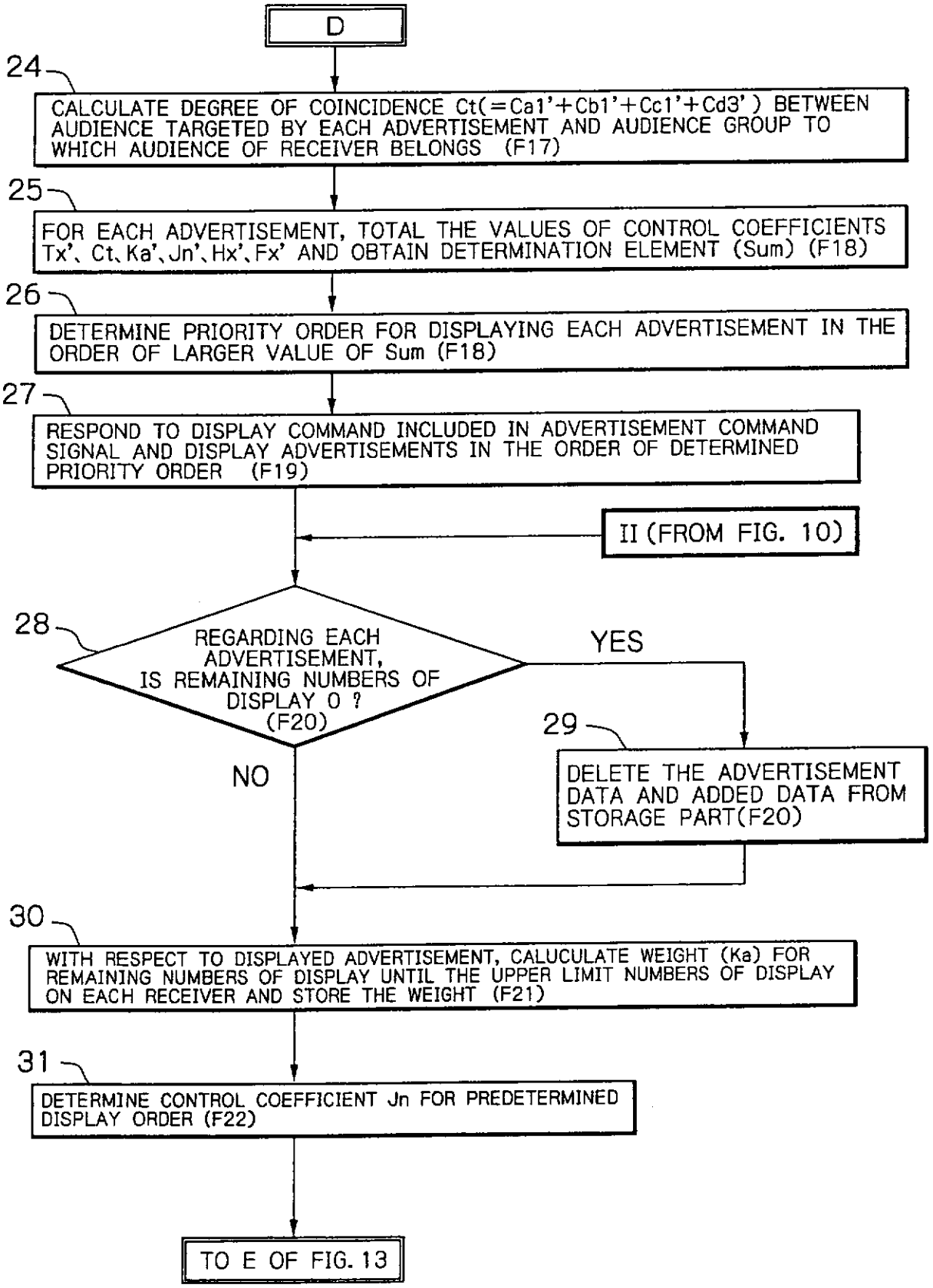

D
24
CALCULATE DEGREE OF COINCIDENCE Ct(=Ca1'+Cb1'+Cc1'+Cd3') BETWEEN AUDIENCE TARGETED BY EACH ADVERTISEMENT AND AUDIENCE GROUP TO WHICH AUDIENCE OF RECEIVER BELONGS (F17)
25
FOR EACH ADVERTISEMENT, TOTAL THE VALUES OF CONTROL COEFFICIENTS Tx', Ct, Ka', Jn', Hx', Fx' AND OBTAIN DETERMINATION ELEMENT (Sum) (F18)
26
DETERMINE PRIORITY ORDER FOR DISPLAYING EACH ADVERTISEMENT IN THE ORDER OF LARGER VALUE OF Sum (F18)
27
RESPOND TO DISPLAY COMMAND INCLUDED IN ADVERTISEMENT COMMAND SIGNAL AND DISPLAY ADVERTISEMENTS IN THE ORDER OF DETERMINED PRIORITY ORDER (F19)
II (FROM FIG. 10)
28
REGARDING EACH ADVERTISEMENT, IS REMAINING NUMBERS OF DISPLAY 0 ? (F20)
YES
NO
29
DELETE THE ADVERTISEMENT DATA AND ADDED DATA FROM STORAGE PART(F20)
30
WITH RESPECT TO DISPLAYED ADVERTISEMENT, CALUCULATE WEIGHT (Ka) FOR REMAINING NUMBERS OF DISPLAY UNTIL THE UPPER LIMIT NUMBERS OF DISPLAY ON EACH RECEIVER AND STORE THE WEIGHT (F21)
31
DETERMINE CONTROL COEFFICIENT Jn FOR PREDETERMINED DISPLAY ORDER (F22)
TO E OF FIG. 13

*Fig. 13*

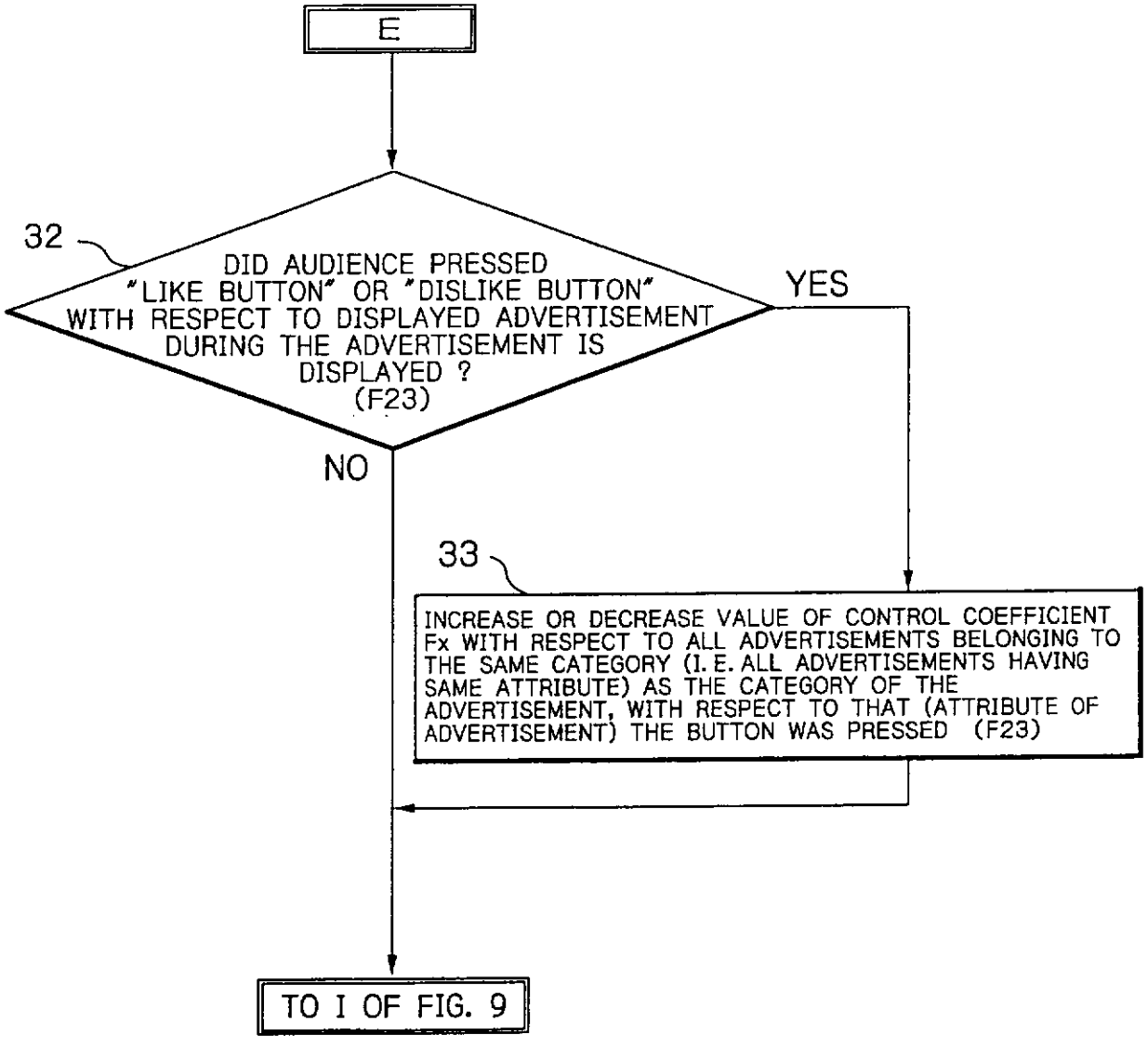

E
32
DID AUDIENCE PRESSED "LIKE BUTTON" OR "DISLIKE BUTTON" WITH RESPECT TO DISPLAYED ADVERTISEMENT DURING THE ADVERTISEMENT IS DISPLAYED ? (F23)
YES
NO
33
INCREASE OR DECREASE VALUE OF CONTROL COEFFICIENT Fx WITH RESPECT TO ALL ADVERTISEMENTS BELONGING TO THE SAME CATEGORY (I. E. ALL ADVERTISEMENTS HAVING SAME ATTRIBUTE) AS THE CATEGORY OF THE ADVERTISEMENT, WITH RESPECT TO THAT (ATTRIBUTE OF ADVERTISEMENT) THE BUTTON WAS PRESSED (F23)
TO I OF FIG. 9

Fig. 14

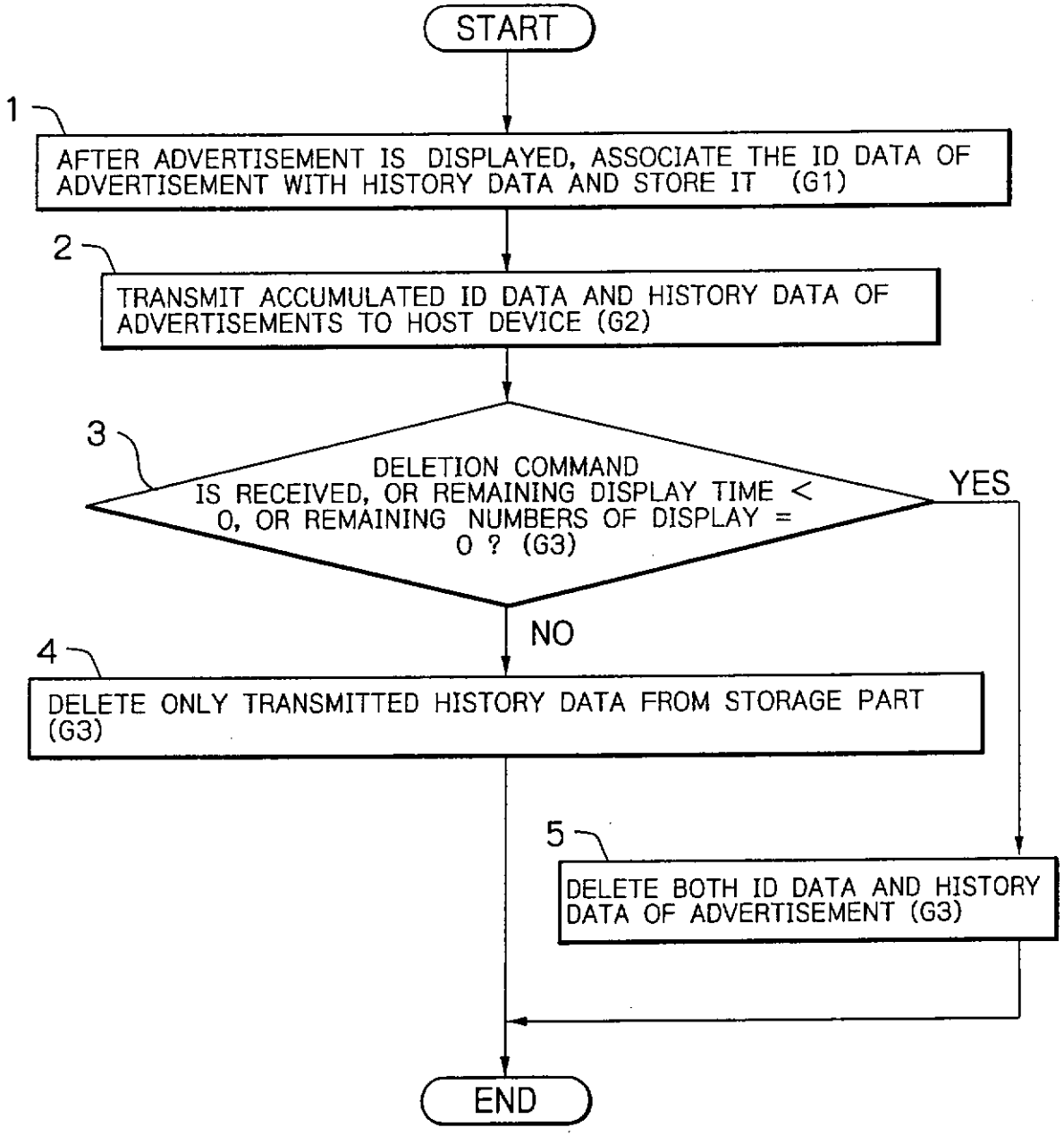

START
1
AFTER ADVERTISEMENT IS DISPLAYED, ASSOCIATE THE ID DATA OF ADVERTISEMENT WITH HISTORY DATA AND STORE IT (G1)
2
TRANSMIT ACCUMULATED ID DATA AND HISTORY DATA OF ADVERTISEMENTS TO HOST DEVICE (G2)
3
DELETION COMMAND IS RECEIVED, OR REMAINING DISPLAY TIME < 0, OR REMAINING NUMBERS OF DISPLAY = 0 ? (G3)
YES
NO
4
DELETE ONLY TRANSMITTED HISTORY DATA FROM STORAGE PART (G3)
5
DELETE BOTH ID DATA AND HISTORY DATA OF ADVERTISEMENT (G3)
END

*Fig. 15*

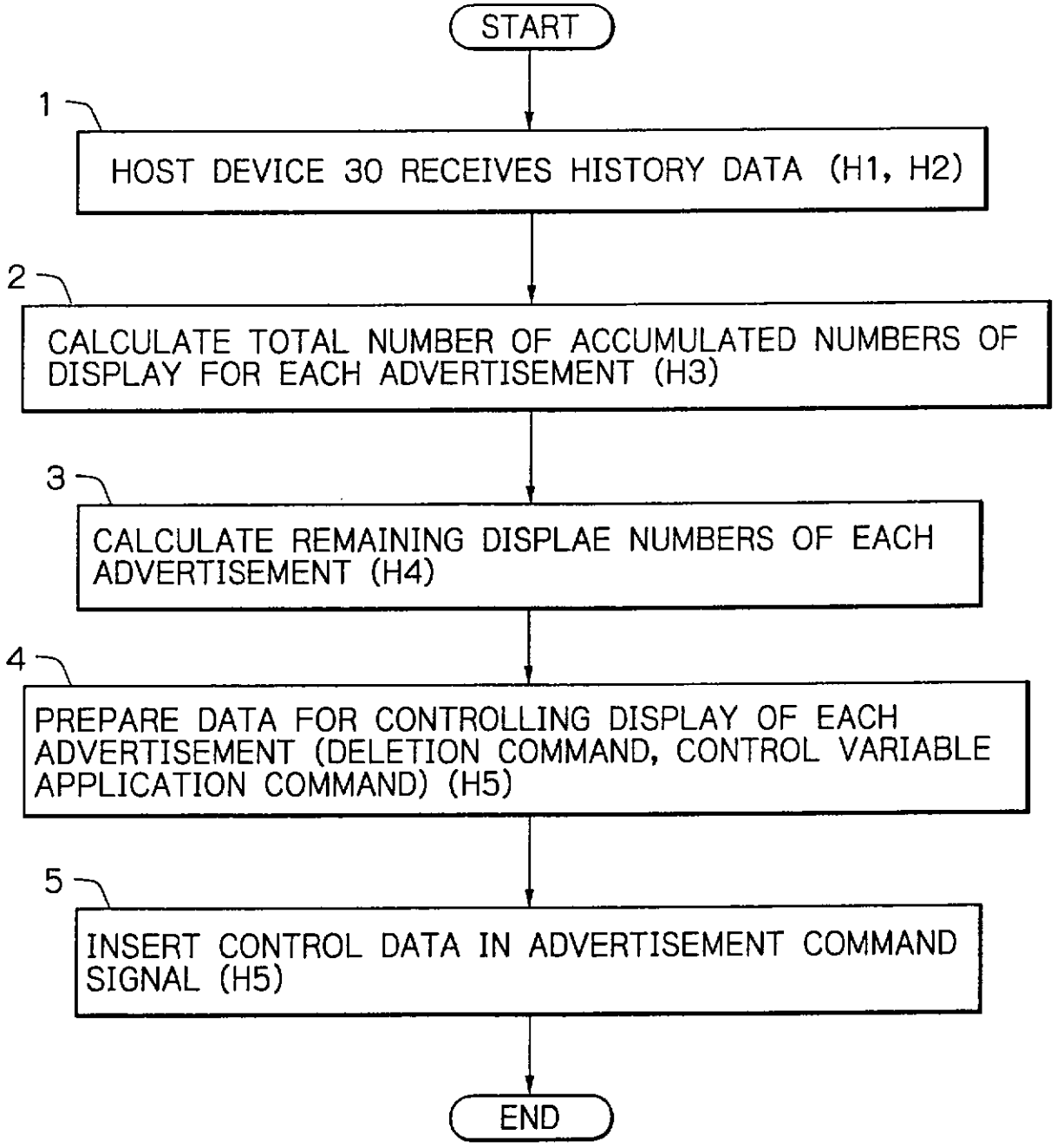

START
1
HOST DEVICE 30 RECEIVES HISTORY DATA (H1, H2)
2
CALCULATE TOTAL NUMBER OF ACCUMULATED NUMBERS OF DISPLAY FOR EACH ADVERTISEMENT (H3)
3
CALCULATE REMAINING DISPLAE NUMBERS OF EACH ADVERTISEMENT (H4)
4
PREPARE DATA FOR CONTROLLING DISPLAY OF EACH ADVERTISEMENT (DELETION COMMAND, CONTROL VARIABLE APPLICATION COMMAND) (H5)
5
INSERT CONTROL DATA IN ADVERTISEMENT COMMAND SIGNAL (H5)
END

*Fig. 16*

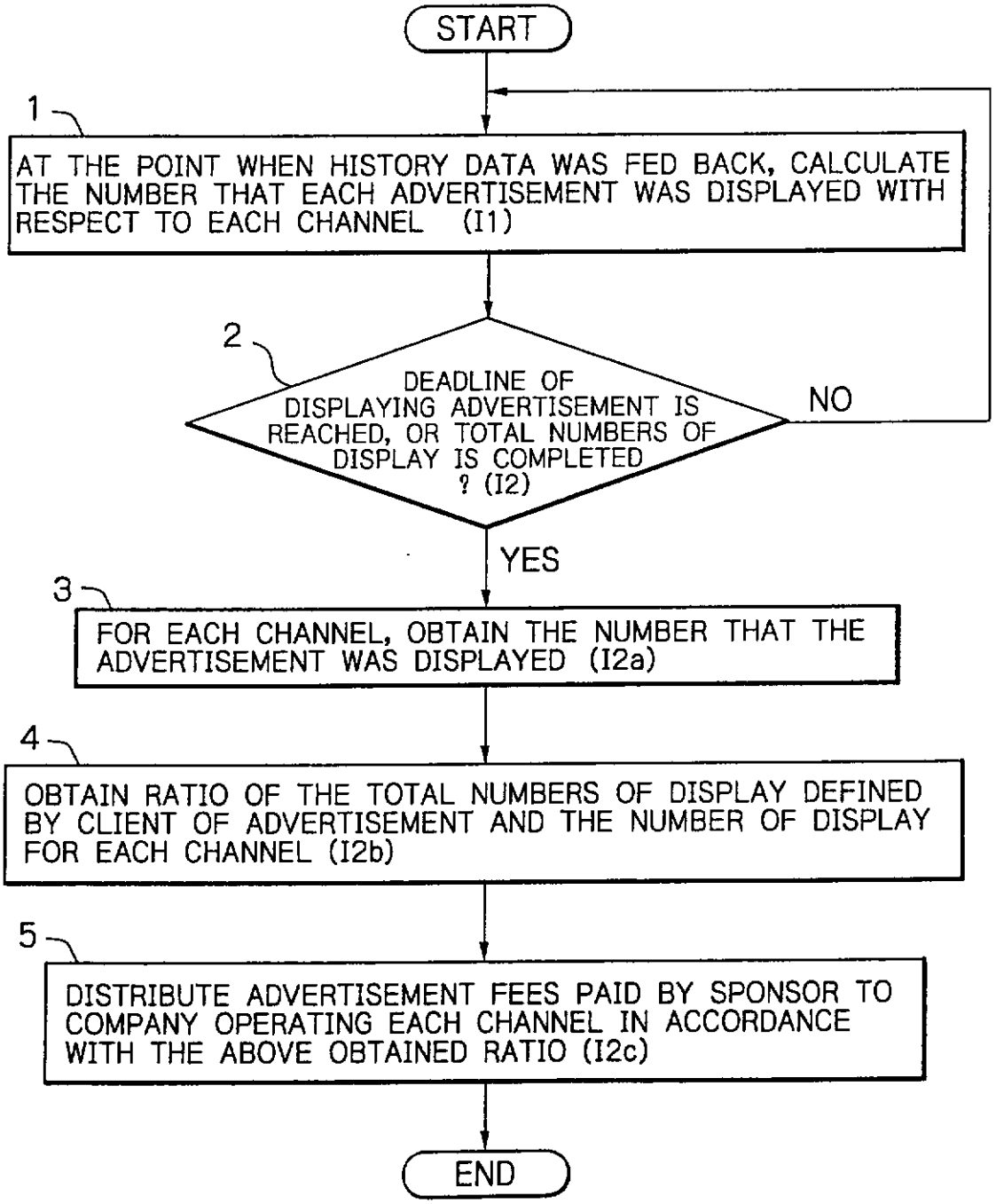
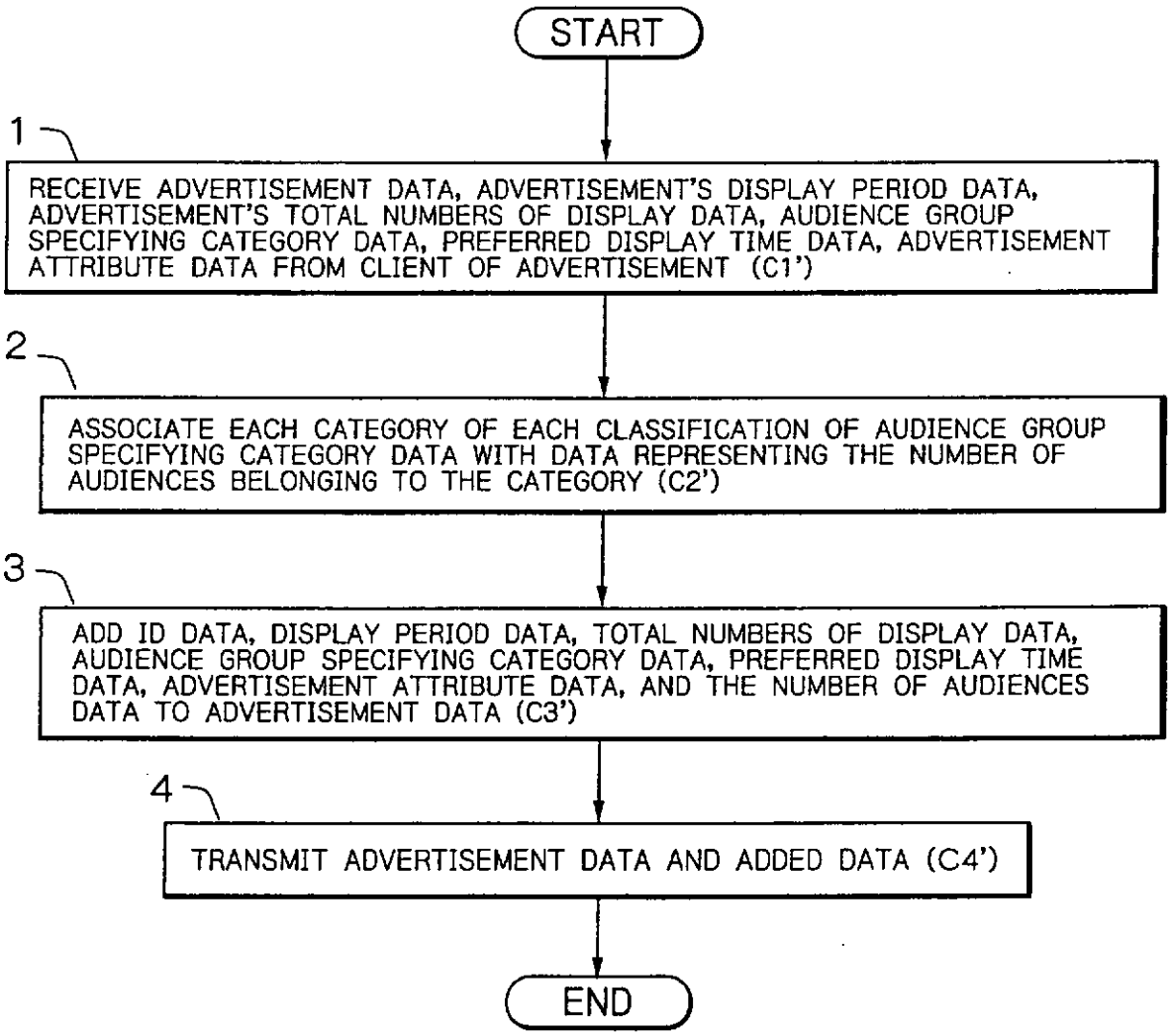

START
1
AT THE POINT WHEN HISTORY DATA WAS FED BACK, CALCULATE THE NUMBER THAT EACH ADVERTISEMENT WAS DISPLAYED WITH RESPECT TO EACH CHANNEL (I1)
2
DEADLINE OF DISPLAYING ADVERTISEMENT IS REACHED, OR TOTAL NUMBERS OF DISPLAY IS COMPLETED ? (I2)
NO
YES
3
FOR EACH CHANNEL, OBTAIN THE NUMBER THAT THE ADVERTISEMENT WAS DISPLAYED (I2a)
4
OBTAIN RATIO OF THE TOTAL NUMBERS OF DISPLAY DEFINED BY CLIENT OF ADVERTISEMENT AND THE NUMBER OF DISPLAY FOR EACH CHANNEL (I2b)
5
DISTRIBUTE ADVERTISEMENT FEES PAID BY SPONSOR TO COMPANY OPERATING EACH CHANNEL IN ACCORDANCE WITH THE ABOVE OBTAINED RATIO (I2c)
END

*Fig. 17*


START
1
RECEIVE ADVERTISEMENT DATA, ADVERTISEMENT'S DISPLAY PERIOD DATA, ADVERTISEMENT'S TOTAL NUMBERS OF DISPLAY DATA, AUDIENCE GROUP SPECIFYING CATEGORY DATA, PREFERRED DISPLAY TIME DATA, ADVERTISEMENT ATTRIBUTE DATA FROM CLIENT OF ADVERTISEMENT (C1')
2
ASSOCIATE EACH CATEGORY OF EACH CLASSIFICATION OF AUDIENCE GROUP SPECIFYING CATEGORY DATA WITH DATA REPRESENTING THE NUMBER OF AUDIENCES BELONGING TO THE CATEGORY (C2')
3
ADD ID DATA, DISPLAY PERIOD DATA, TOTAL NUMBERS OF DISPLAY DATA, AUDIENCE GROUP SPECIFYING CATEGORY DATA, PREFERRED DISPLAY TIME DATA, ADVERTISEMENT ATTRIBUTE DATA, AND THE NUMBER OF AUDIENCES DATA TO ADVERTISEMENT DATA (C3')
4
TRANSMIT ADVERTISEMENT DATA AND ADDED DATA (C4')
END