Fig.1

CALCULATION ELEMENT NAME	CONTROL COEFFICIENT NAME			VALUE OF CONTROL COEFFICIENT FOR EACH ADVERTISEMENT						
				CM1	CM2	CM3	CM4	CM5	CM6	CM7
DISPLAY PERIOD	Tt (TOTAL DISPLAY PERIOD)			60	40	30	30	60	100	20
	Tr (REMAINING DISPLAY PERIOD)			12	12	18	21	30	90	5
AUDIENCE GROUP SPECIFYING CATEGORY	Cpq	Cax (REGION)	Ca1 (REGION A)	40	100	20	30	10	40	0
			Ca2 (REGION B)	0	0	60	10	10	10	30
			. . .	. . .	. . .	. . .	. . .	. . .	. . .	
			Cam (REGION m)	20	0	0	20	10	30	10
		Cbx (SEX)	Cb1 (MALE)	80	50	30	70	60	80	0
			Cb2 (FEMALE)	20	50	70	30	40	20	100
		Ccx (AGE)	Cc1 (~19YRS. OLD)	10	50	50	30	10	40	0
			Cc2 (20~34)	20	30	35	30	10	25	30
			Cc3 (35~49)	40	20	15	20	20	15	40
			Cc4 (50~64)	20	0	0	10	20	10	20
			Cc5 (65YRS. OLD~)	10	0	0	10	40	10	10
		Cdx (HOBBY)	Cd1 (HOBBY A)	50	20	80	10	90	30	60
			Cd2 (HOBBY B)	40	30	10	20	0	60	40
			Cd3 (HOBBY C)	10	50	10	70	10	10	0
PREDETERMINED TRANSMISSION ORDER	Jn			1000	1000	1000	1000	1000	1000	1000
TOTAL DISPLAY NUMBER	KT			400	1000	500	400	700	300	600
PREFERRED TRANSMISSION TIME	Hx	H1 (1:00~5:00)		0	0	0	0	30	0	10
		H2 (5:00~9:00)		0	20	0	0	20	20	20
		H3 (9:00~13:00)		0	20	50	0	0	30	30
		H4 (13:00~17:00)		0	20	0	20	0	20	20
		H5 (17:00~21:00)		100	20	50	60	20	30	10
		H6 (21:00~1:00)		0	20	0	20	30	0	10
TASTE OF VIEWER/LISTENER (ADVERTISEMENT ATTRIBUTE)	Fx			50 (F1)	50 (F1)	50 (F2)	50 (F1)	50 (F3)	50 (F2)	50 (F4)
A VALUE OF A DEGREE OF COINCIDENCE IN THE CASE THAT A VIEWER/LISTENER OF A RECEIVER BELONGS TO CATEGORIES Ca1, Cb1, Cc1 AND Cd3: CT (CT=Ca1+Cb1+Cc1+Cd3)				140	250	110	200	90	170	0

Fig.2

CALCULATION ELEMENT NAME	CONTROL COEFFICIENT NAME			VALUE OF CONTROL COEFFICIENT FOR EACH ADVERTISEMENT						CONTROL VARIABLE
				CM 1	CM 2	CM 3	CM 4	CM 5	CM 6	
DISPLAY PERIOD	Tx			800	700	400	300	500	100	X 1
AUDIENCE GROUP SPECIFYING CATEGORY	Cpq	Cax (REGION)	Ca1 (REGION A)	40	100	20	30	10	40	X 2
		Cbx (SEX)	Cb1 (MALE)	80	50	30	70	60	80	X 3
		Ccx (AGE)	Cc1 (~19 YRS. OLD)	10	50	50	30	10	40	X 4
		Cdx (HOBBY)	Cd3 (HOBBY C)	10	50	10	70	10	10	X 5
PREDETERMINED TRANSMISSION ORDER	Jn			1500	1400	1300	1200	1100	1000	X 6
AVERAGED TRANSMISSION NUMBER	Ka			40	100	50	40	70	30	X 7
PREFERRED TRANSMISSION TIME	Hx	H1 (1:00~5:00)		0	0	0	0	30	0	X 8
		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 VIEWER/LISTENER (ADVERTISEMENT ATTRIBUTE)	Fx			70 (F1)	70 (F1)	20 (F2)	70 (F1)	50 (F3)	20 (F2)	X 9
A VALUE OF THE DEGREE OF COINCIDENCE IN THE CASE THAT THE VIEWER/LISTENER OF A RECEIVER BELONGS TO CATEGORIES Ca1, Cb1, Cc1 AND Cd3, AND THE VALUES OF CONTROL VARIABLES X2 TO X5 ARE 1: Ct (Ct = Ca1 × X2 + Cb1 × X3 + Cc1 × X4 + Cd3 × X5)				140	250	110	200	90	170	
A DETERMINATION ELEMENT IN THE CASE THAT THE VIEWER/LISTENER OF THE RECEIVER 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: N				1	2	3	5	4	6	

Fig.3

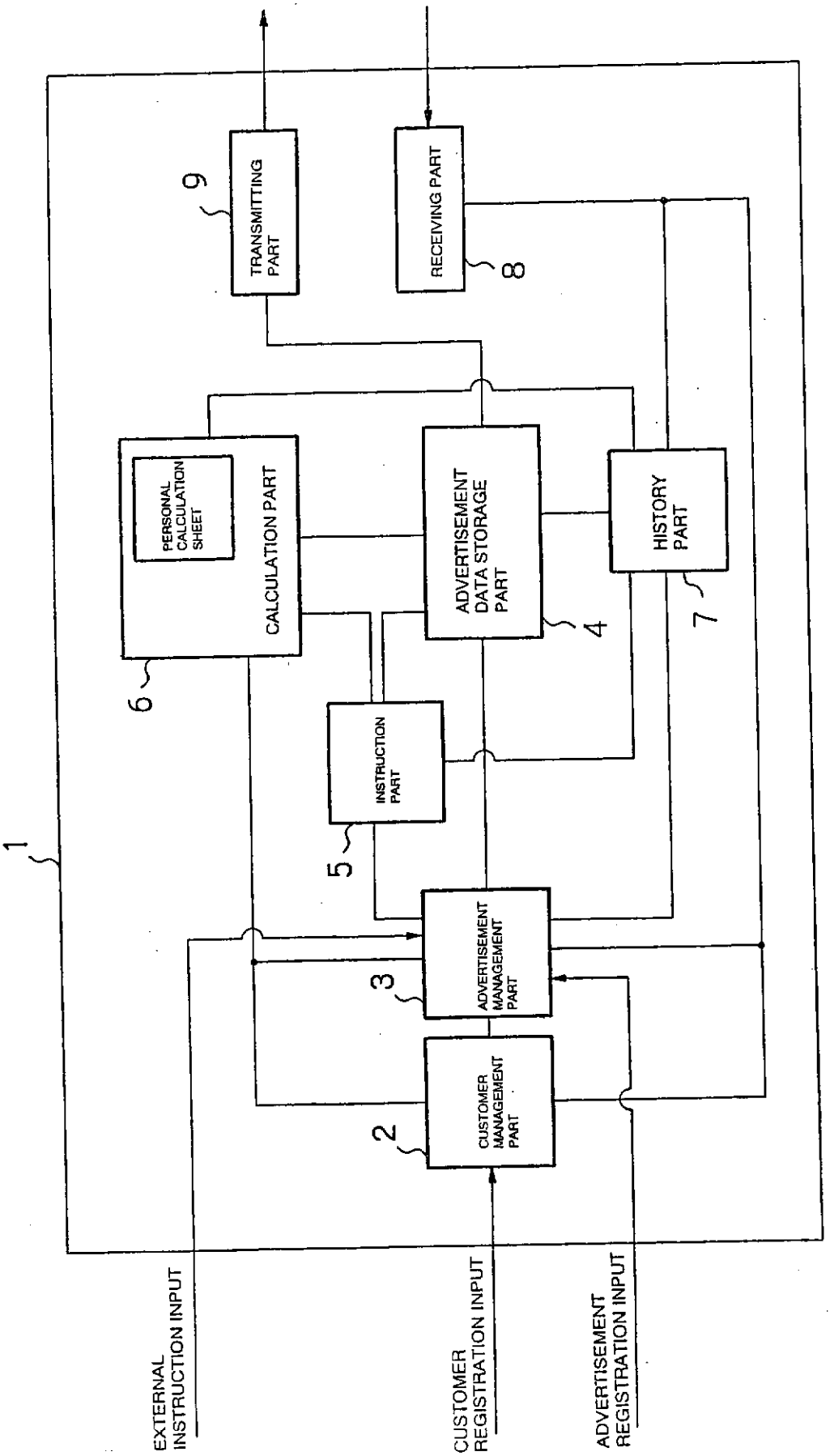

1
TRANSMITTING PART
9
RECEIVING PART
8
PERSONAL CALCULATION SHEET
CALCULATION PART
6
ADVERTISEMENT DATA STORAGE PART
4
HISTORY PART
7
INSTRUCTION PART
5
ADVERTISEMENT MANAGEMENT PART
3
CUSTOMER MANAGEMENT PART
2
EXTERNAL INSTRUCTION INPUT
CUSTOMER REGISTRATION INPUT
ADVERTISEMENT REGISTRATION INPUT

Fig.4

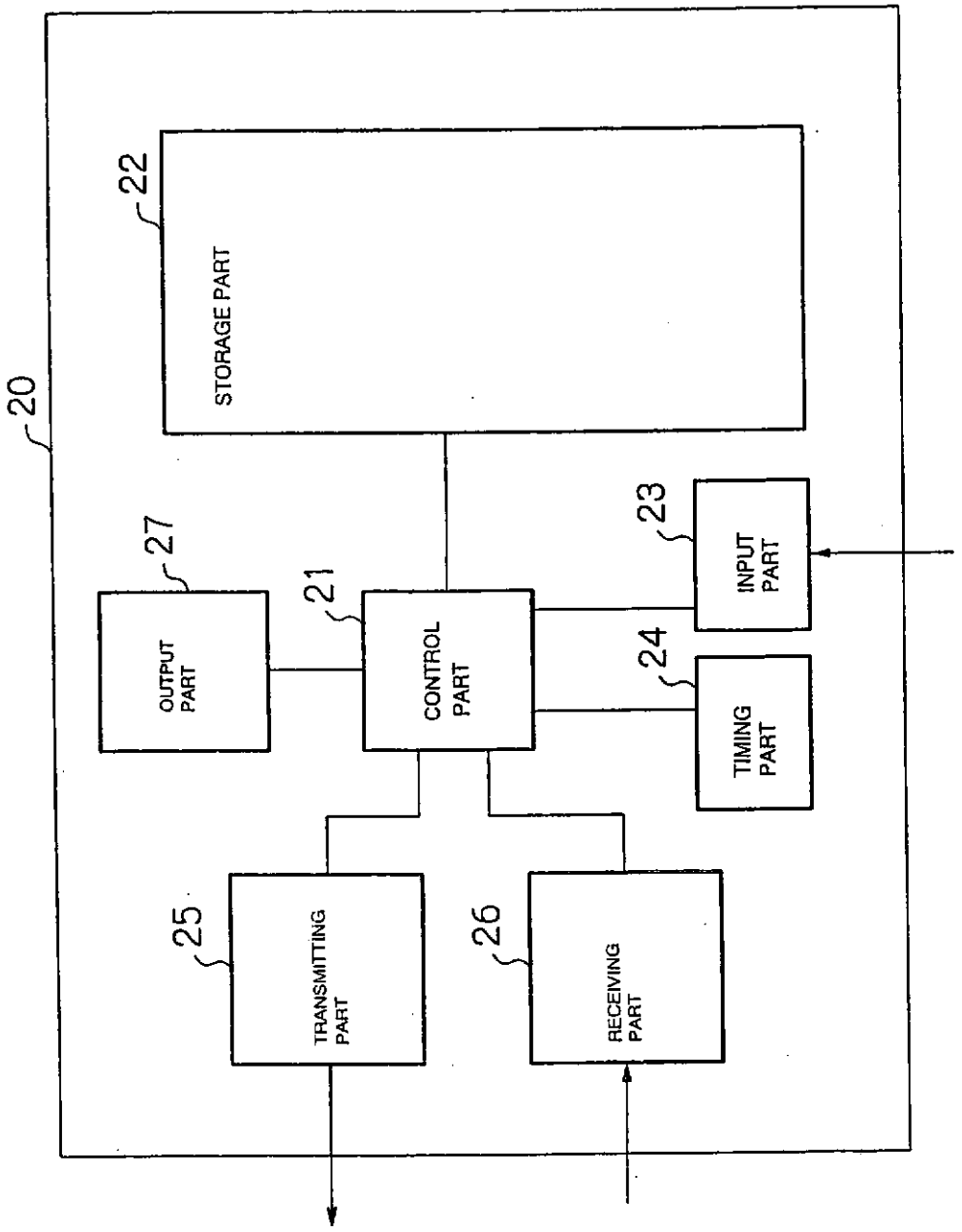

20
22
STORAGE PART
27
OUTPUT PART
21
CONTROL PART
23
INPUT PART
24
TIMING PART
25
TRANSMITTING PART
26
RECEIVING PART

Fig.5

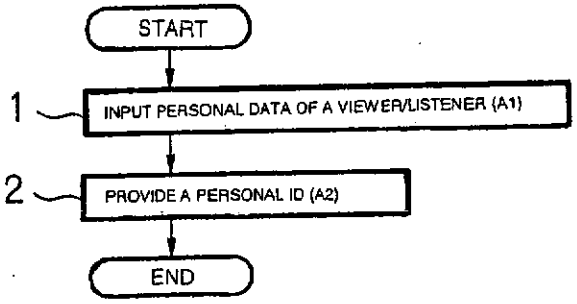


Fig.6

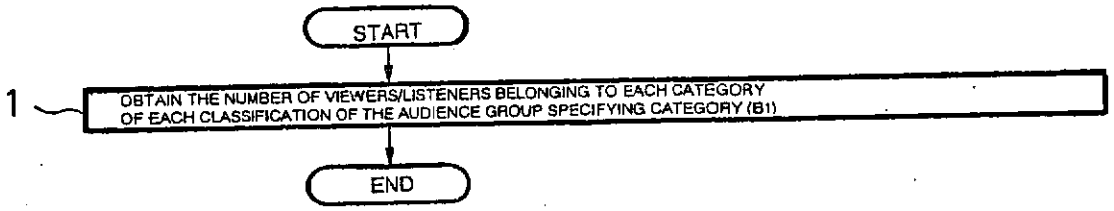


Fig.7

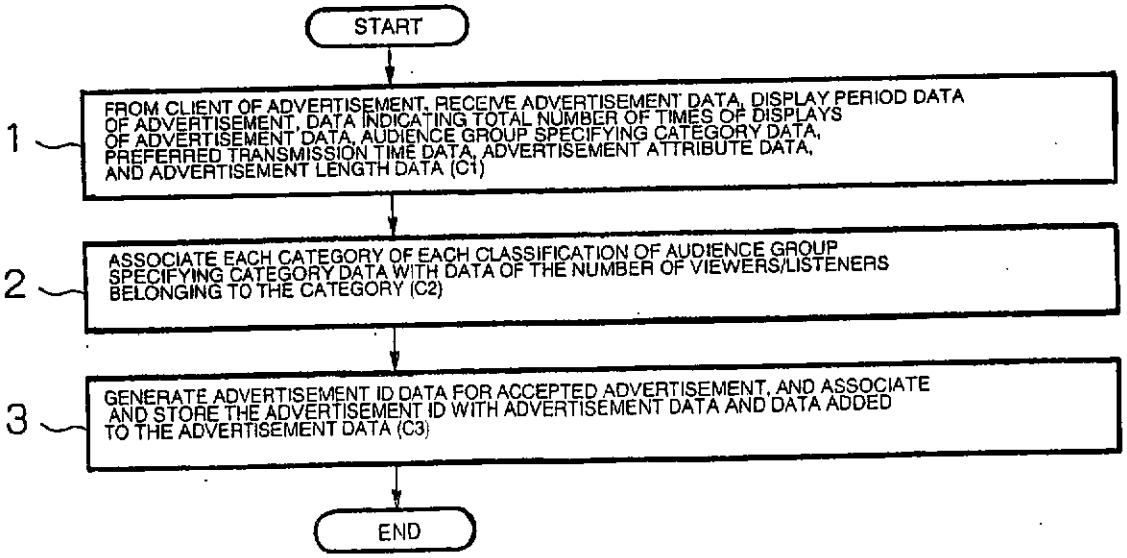


Fig.8

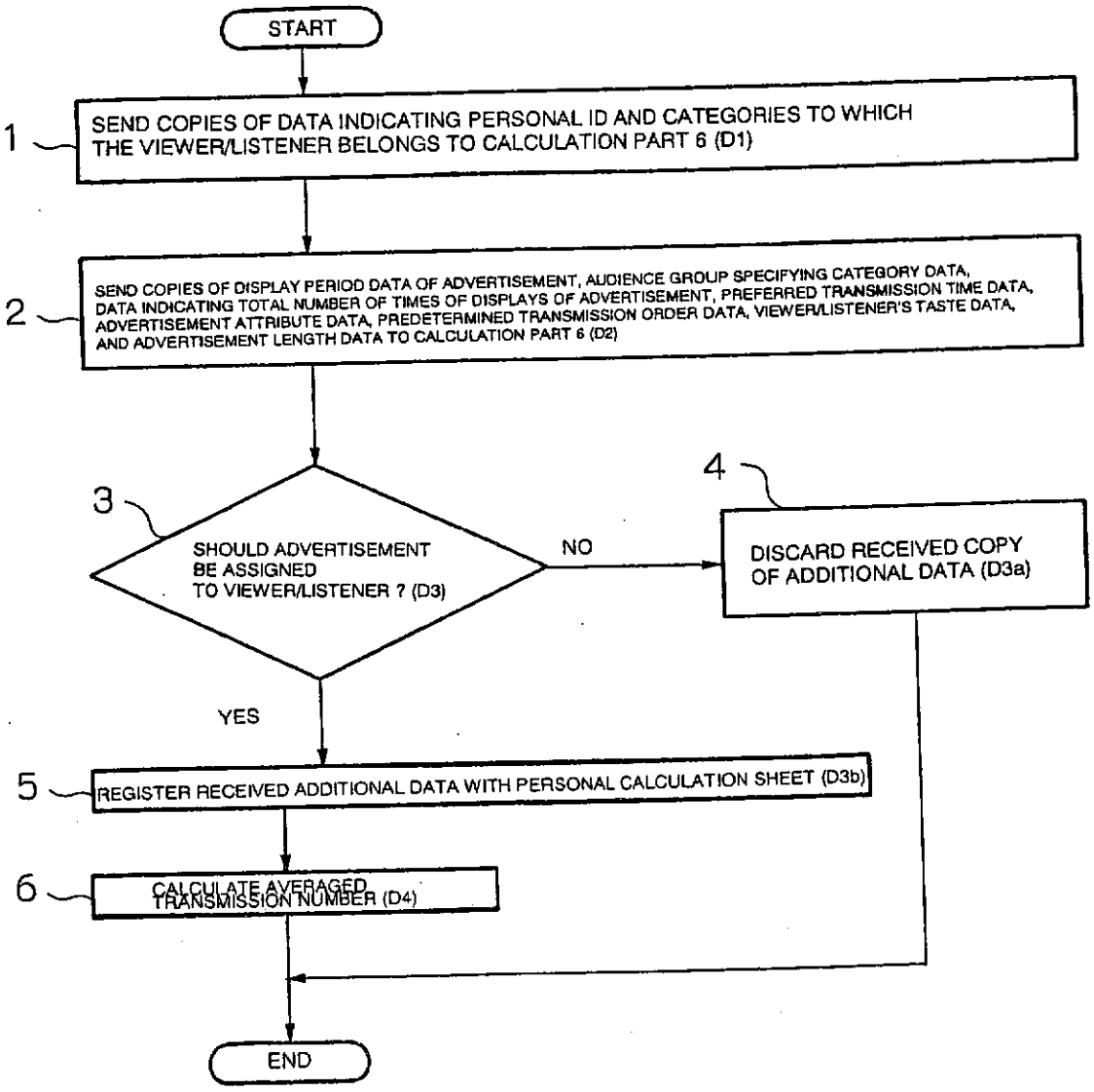

START
1
SEND COPIES OF DATA INDICATING PERSONAL ID AND CATEGORIES TO WHICH THE VIEWER/LISTENER BELONGS TO CALCULATION PART 6 (D1)
2
SEND COPIES OF DISPLAY PERIOD DATA OF ADVERTISEMENT, AUDIENCE GROUP SPECIFYING CATEGORY DATA, DATA INDICATING TOTAL NUMBER OF TIMES OF DISPLAYS OF ADVERTISEMENT, PREFERRED TRANSMISSION TIME DATA, ADVERTISEMENT ATTRIBUTE DATA, PREDETERMINED TRANSMISSION ORDER DATA, VIEWER/LISTENER'S TASTE DATA, AND ADVERTISEMENT LENGTH DATA TO CALCULATION PART 6 (D2)
3
SHOULD ADVERTISEMENT BE ASSIGNED TO VIEWER/LISTENER ? (D3)
NO
4
DISCARD RECEIVED COPY OF ADDITIONAL DATA (D3a)
YES
5
REGISTER RECEIVED ADDITIONAL DATA WITH PERSONAL CALCULATION SHEET (D3b)
6
CALCULATE AVERAGED TRANSMISSION NUMBER (D4)
END

Fig.9

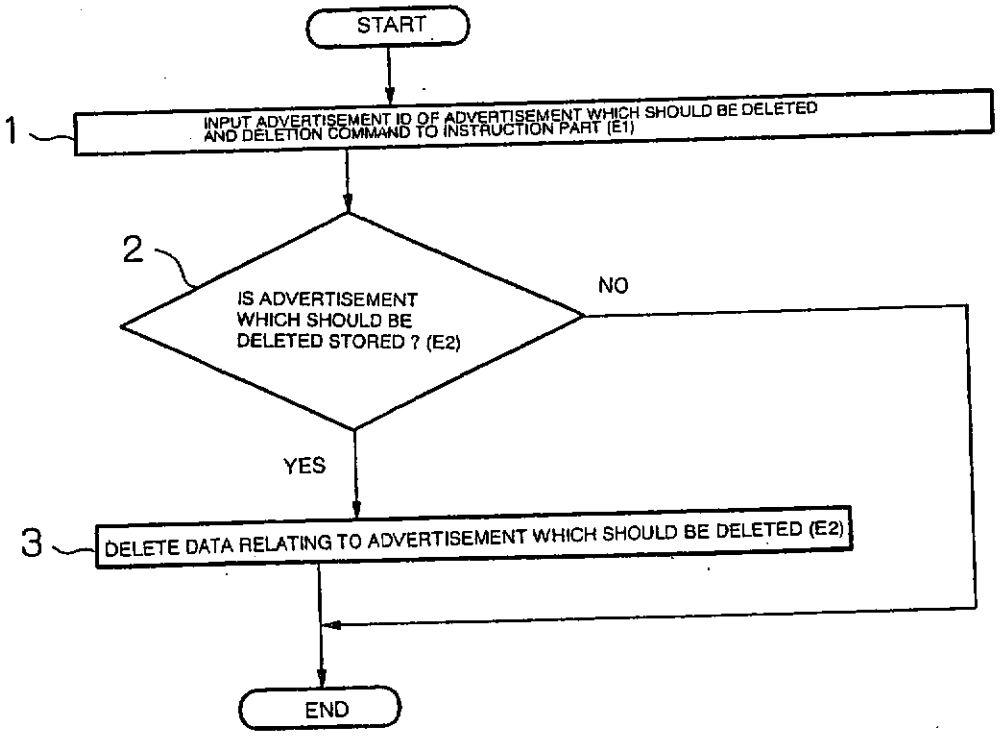

START
1
INPUT ADVERTISEMENT ID OF ADVERTISEMENT WHICH SHOULD BE DELETED AND DELETION COMMAND TO INSTRUCTION PART (E1)
2
IS ADVERTISEMENT WHICH SHOULD BE DELETED STORED ? (E2)
NO
YES
3
DELETE DATA RELATING TO ADVERTISEMENT WHICH SHOULD BE DELETED (E2)
END

Fig.10

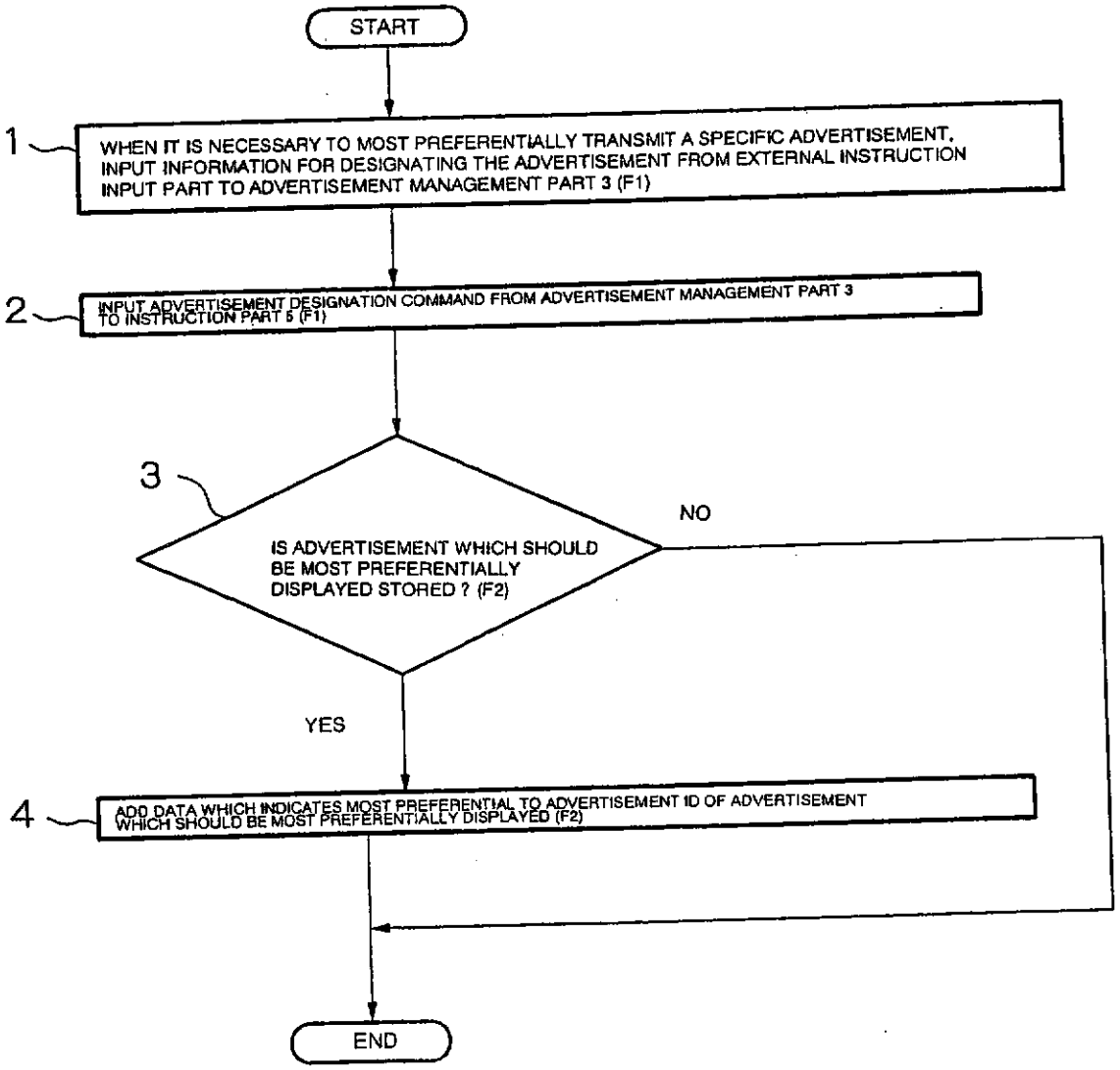

START
1
WHEN IT IS NECESSARY TO MOST PREFERENTIALLY TRANSMIT A SPECIFIC ADVERTISEMENT, INPUT INFORMATION FOR DESIGNATING THE ADVERTISEMENT FROM EXTERNAL INSTRUCTION INPUT PART TO ADVERTISEMENT MANAGEMENT PART 3 (F1)
2
INPUT ADVERTISEMENT DESIGNATION COMMAND FROM ADVERTISEMENT MANAGEMENT PART 3 TO INSTRUCTION PART 5 (F1)
3
IS ADVERTISEMENT WHICH SHOULD BE MOST PREFERENTIALLY DISPLAYED STORED ? (F2)
NO
YES
4
ADD DATA WHICH INDICATES MOST PREFERENTIAL TO ADVERTISEMENT ID OF ADVERTISEMENT WHICH SHOULD BE MOST PREFERENTIALLY DISPLAYED (F2)
END

Fig.11

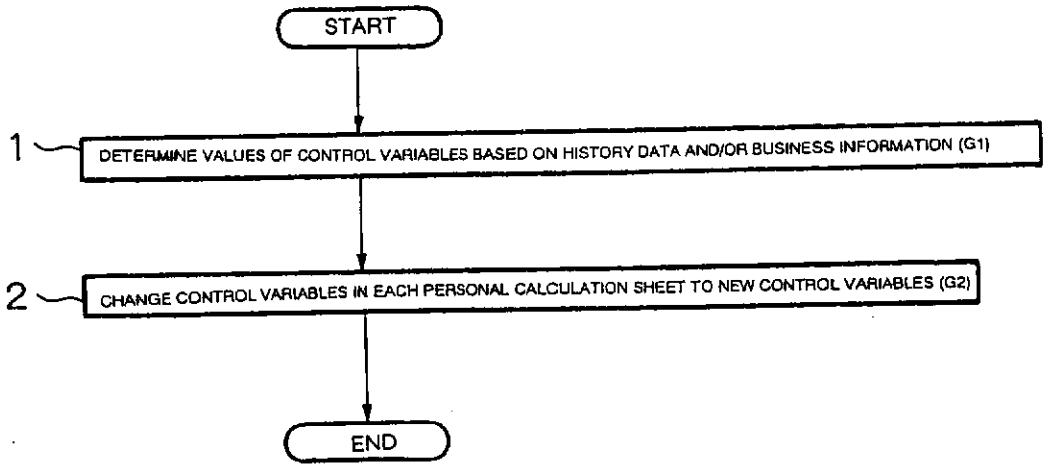

START
1
DETERMINE VALUES OF CONTROL VARIABLES BASED ON HISTORY DATA AND/OR BUSINESS INFORMATION (G1)
2
CHANGE CONTROL VARIABLES IN EACH PERSONAL CALCULATION SHEET TO NEW CONTROL VARIABLES (G2)
END

Fig.12

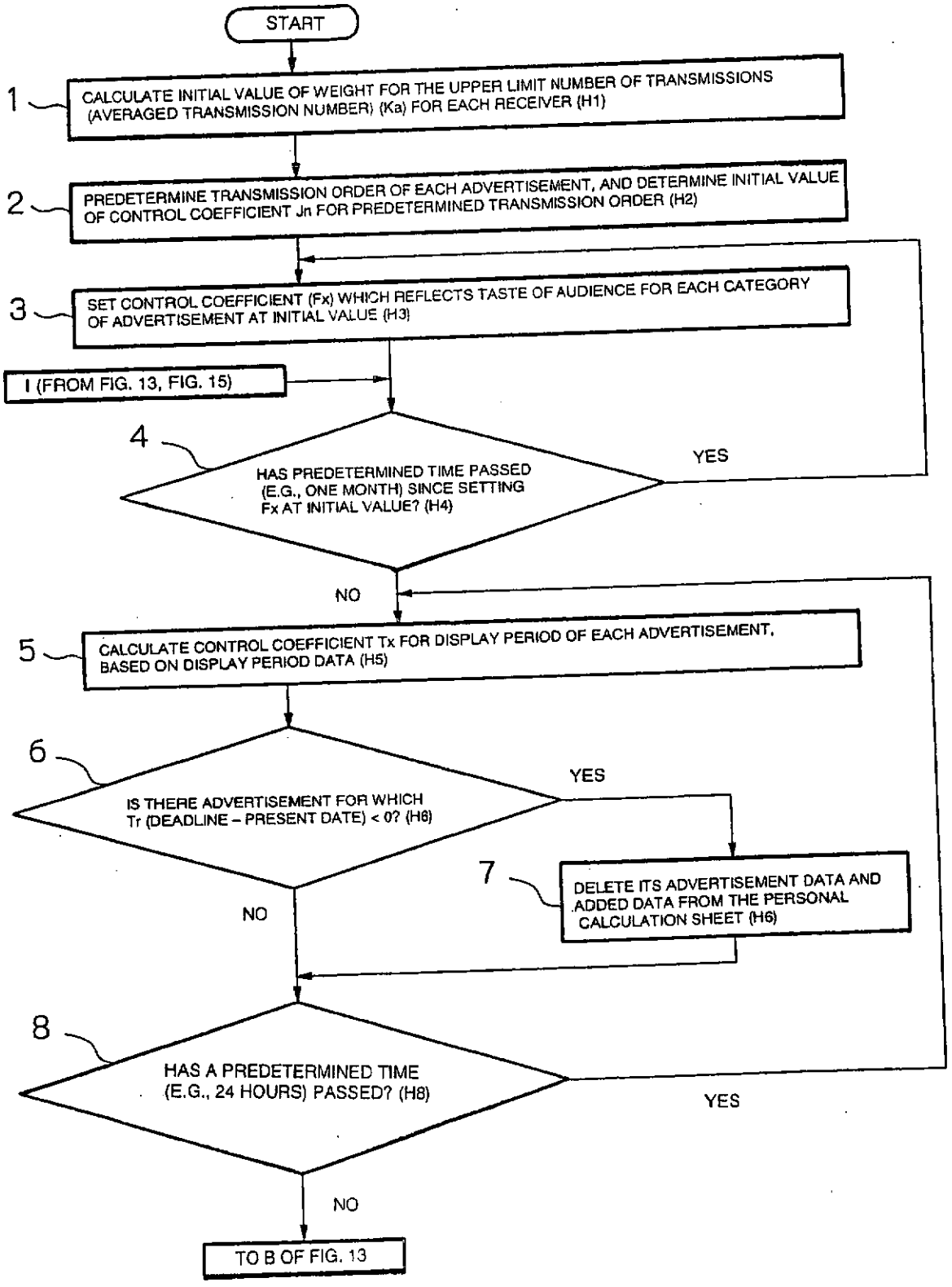

START
1
CALCULATE INITIAL VALUE OF WEIGHT FOR THE UPPER LIMIT NUMBER OF TRANSMISSIONS (AVERAGED TRANSMISSION NUMBER) (Ka) FOR EACH RECEIVER (H1)
2
PREDETERMINE TRANSMISSION ORDER OF EACH ADVERTISEMENT, AND DETERMINE INITIAL VALUE OF CONTROL COEFFICIENT Jn FOR PREDETERMINED TRANSMISSION ORDER (H2)
3
SET CONTROL COEFFICIENT (Fx) WHICH REFLECTS TASTE OF AUDIENCE FOR EACH CATEGORY OF ADVERTISEMENT AT INITIAL VALUE (H3)
I (FROM FIG. 13, FIG. 15)
4
HAS PREDETERMINED TIME PASSED (E.G., ONE MONTH) SINCE SETTING Fx AT INITIAL VALUE? (H4)
YES
NO
5
CALCULATE CONTROL COEFFICIENT Tx FOR DISPLAY PERIOD OF EACH ADVERTISEMENT, BASED ON DISPLAY PERIOD DATA (H5)
6
IS THERE ADVERTISEMENT FOR WHICH Tr (DEADLINE – PRESENT DATE) < 0? (H6)
YES
NO
7
DELETE ITS ADVERTISEMENT DATA AND ADDED DATA FROM THE PERSONAL CALCULATION SHEET (H6)
8
HAS A PREDETERMINED TIME (E.G., 24 HOURS) PASSED? (H8)
YES
NO
TO B OF FIG. 13

Fig.13

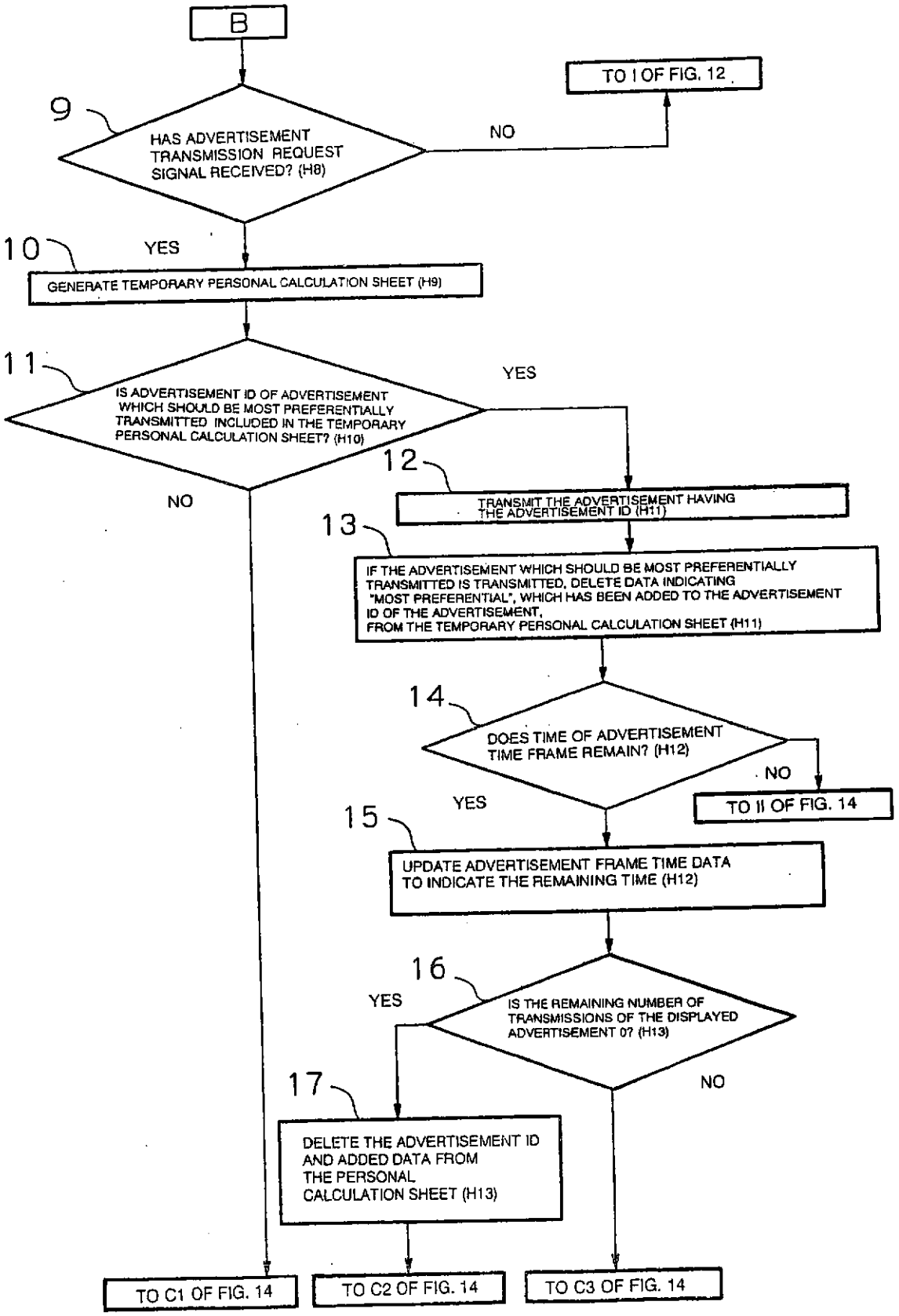

B
TO I OF FIG. 12
9
HAS ADVERTISEMENT TRANSMISSION REQUEST SIGNAL RECEIVED? (H8)
NO
10
YES
GENERATE TEMPORARY PERSONAL CALCULATION SHEET (H9)
11
IS ADVERTISEMENT ID OF ADVERTISEMENT WHICH SHOULD BE MOST PREFERENTIALLY TRANSMITTED INCLUDED IN THE TEMPORARY PERSONAL CALCULATION SHEET? (H10)
YES
NO
12
TRANSMIT THE ADVERTISEMENT HAVING THE ADVERTISEMENT ID (H11)
13
IF THE ADVERTISEMENT WHICH SHOULD BE MOST PREFERENTIALLY TRANSMITTED IS TRANSMITTED, DELETE DATA INDICATING "MOST PREFERENTIAL", WHICH HAS BEEN ADDED TO THE ADVERTISEMENT ID OF THE ADVERTISEMENT, FROM THE TEMPORARY PERSONAL CALCULATION SHEET (H11)
14
DOES TIME OF ADVERTISEMENT TIME FRAME REMAIN? (H12)
NO
TO II OF FIG. 14
YES
15
UPDATE ADVERTISEMENT FRAME TIME DATA TO INDICATE THE REMAINING TIME (H12)
16
YES
IS THE REMAINING NUMBER OF TRANSMISSIONS OF THE DISPLAYED ADVERTISEMENT 0? (H13)
NO
17
DELETE THE ADVERTISEMENT ID AND ADDED DATA FROM THE PERSONAL CALCULATION SHEET (H13)
TO C1 OF FIG. 14
TO C2 OF FIG. 14
TO C3 OF FIG. 14

Fig.14

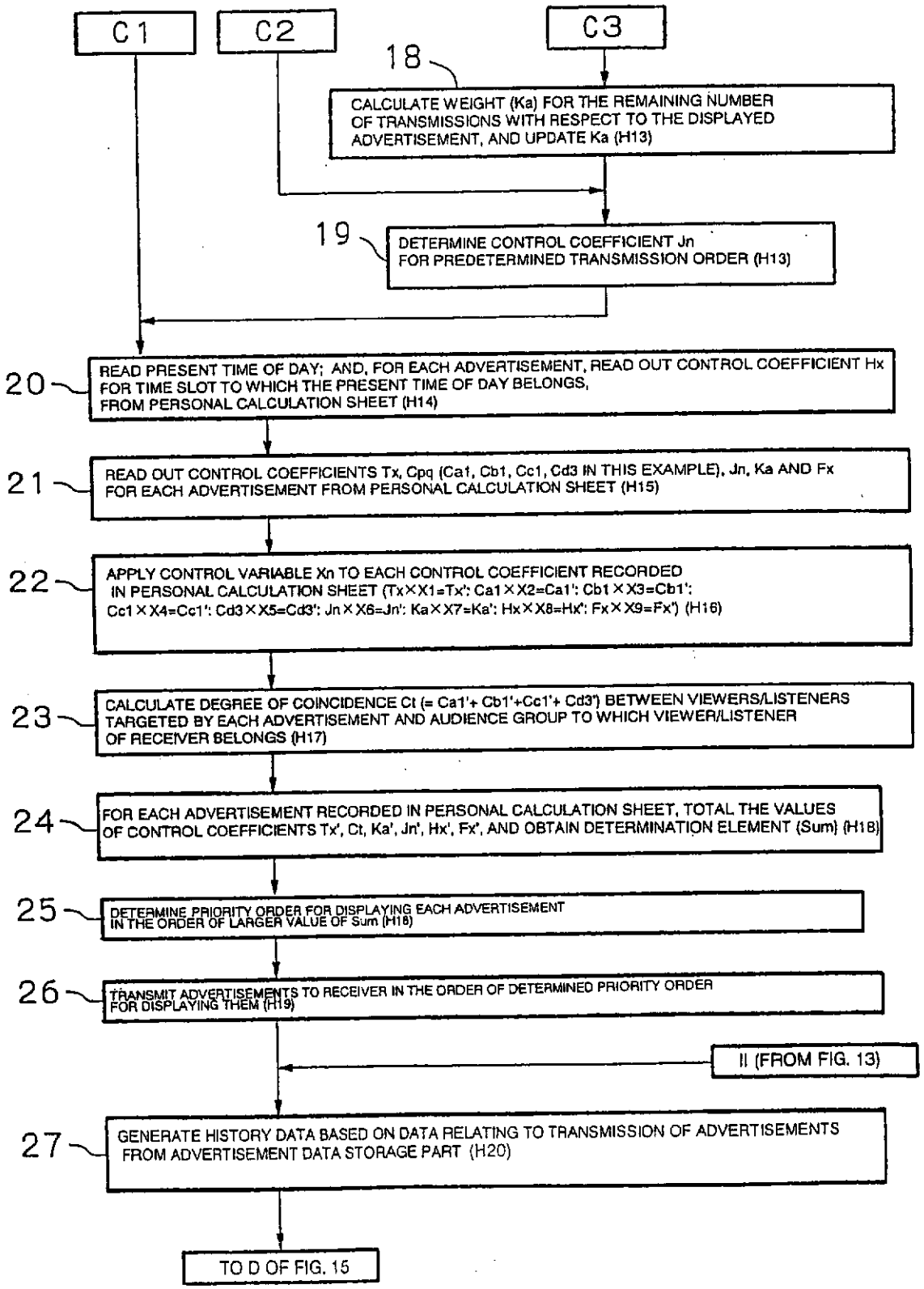

C1
C2
C3
18
CALCULATE WEIGHT (Ka) FOR THE REMAINING NUMBER OF TRANSMISSIONS WITH RESPECT TO THE DISPLAYED ADVERTISEMENT, AND UPDATE Ka (H13)
19
DETERMINE CONTROL COEFFICIENT Jn FOR PREDETERMINED TRANSMISSION ORDER (H13)
20
READ PRESENT TIME OF DAY; AND, FOR EACH ADVERTISEMENT, READ OUT CONTROL COEFFICIENT Hx FOR TIME SLOT TO WHICH THE PRESENT TIME OF DAY BELONGS, FROM PERSONAL CALCULATION SHEET (H14)
21
READ OUT CONTROL COEFFICIENTS Tx, Cpq (Ca1, Cb1, Cc1, Cd3 IN THIS EXAMPLE), Jn, Ka AND Fx FOR EACH ADVERTISEMENT FROM PERSONAL CALCULATION SHEET (H15)
22
APPLY CONTROL VARIABLE Xn TO EACH CONTROL COEFFICIENT RECORDED IN PERSONAL CALCULATION SHEET (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') (H16)
23
CALCULATE DEGREE OF COINCIDENCE Ct (= Ca1'+ Cb1'+Cc1'+ Cd3') BETWEEN VIEWERS/LISTENERS TARGETED BY EACH ADVERTISEMENT AND AUDIENCE GROUP TO WHICH VIEWER/LISTENER OF RECEIVER BELONGS (H17)
24
FOR EACH ADVERTISEMENT RECORDED IN PERSONAL CALCULATION SHEET, TOTAL THE VALUES OF CONTROL COEFFICIENTS Tx', Ct, Ka', Jn', Hx', Fx', AND OBTAIN DETERMINATION ELEMENT (Sum) (H18)
25
DETERMINE PRIORITY ORDER FOR DISPLAYING EACH ADVERTISEMENT IN THE ORDER OF LARGER VALUE OF Sum (H18)
26
TRANSMIT ADVERTISEMENTS TO RECEIVER IN THE ORDER OF DETERMINED PRIORITY ORDER FOR DISPLAYING THEM (H19)
II (FROM FIG. 13)
27
GENERATE HISTORY DATA BASED ON DATA RELATING TO TRANSMISSION OF ADVERTISEMENTS FROM ADVERTISEMENT DATA STORAGE PART (H20)
TO D OF FIG. 15

Fig.15

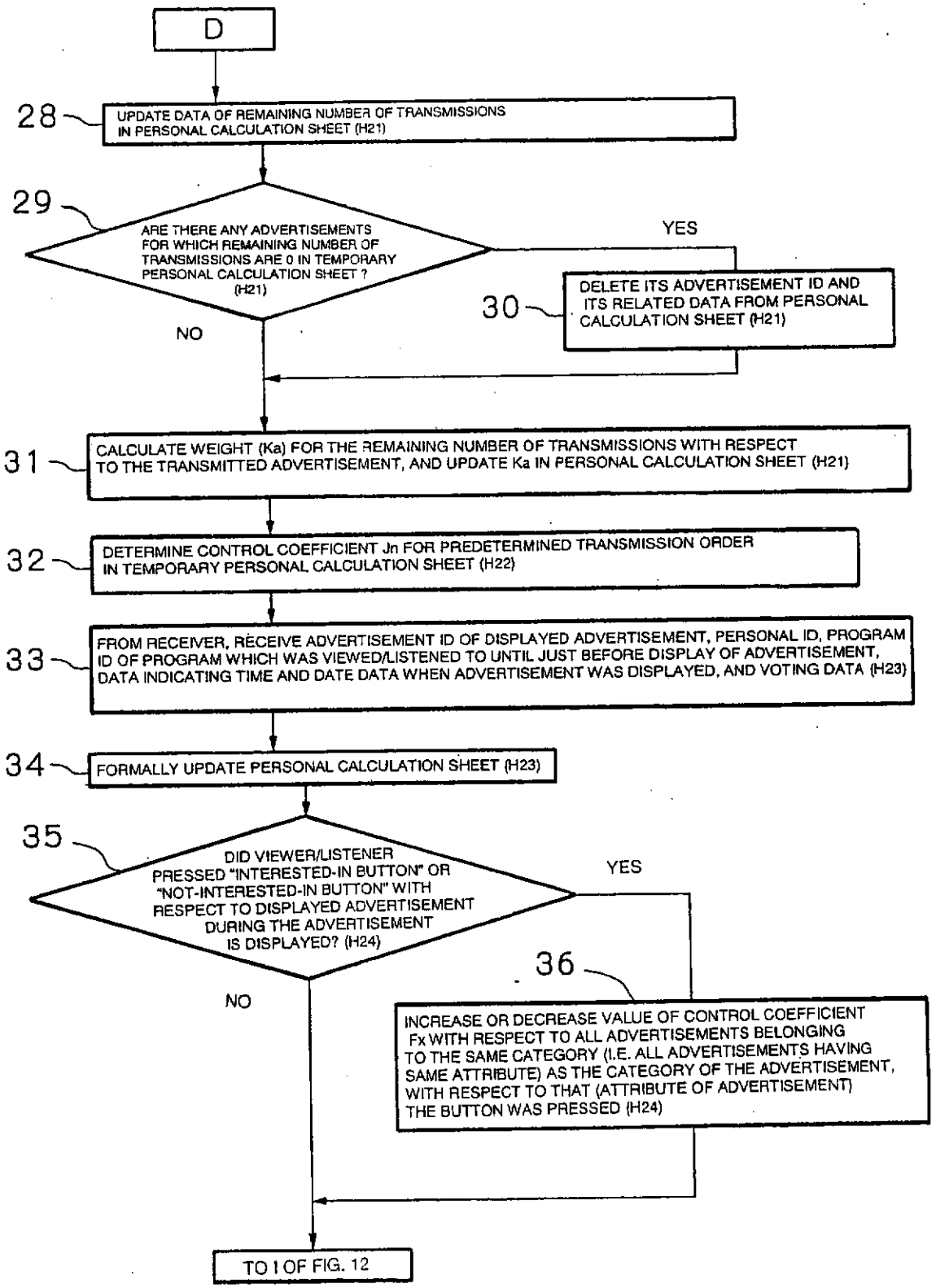

D
28
UPDATE DATA OF REMAINING NUMBER OF TRANSMISSIONS IN PERSONAL CALCULATION SHEET (H21)
29
ARE THERE ANY ADVERTISEMENTS FOR WHICH REMAINING NUMBER OF TRANSMISSIONS ARE 0 IN TEMPORARY PERSONAL CALCULATION SHEET ? (H21)
YES
30
DELETE ITS ADVERTISEMENT ID AND ITS RELATED DATA FROM PERSONAL CALCULATION SHEET (H21)
NO
31
CALCULATE WEIGHT (Ka) FOR THE REMAINING NUMBER OF TRANSMISSIONS WITH RESPECT TO THE TRANSMITTED ADVERTISEMENT, AND UPDATE Ka IN PERSONAL CALCULATION SHEET (H21)
32
DETERMINE CONTROL COEFFICIENT Jn FOR PREDETERMINED TRANSMISSION ORDER IN TEMPORARY PERSONAL CALCULATION SHEET (H22)
33
FROM RECEIVER, RECEIVE ADVERTISEMENT ID OF DISPLAYED ADVERTISEMENT, PERSONAL ID, PROGRAM ID OF PROGRAM WHICH WAS VIEWED/LISTENED TO UNTIL JUST BEFORE DISPLAY OF ADVERTISEMENT, DATA INDICATING TIME AND DATE DATA WHEN ADVERTISEMENT WAS DISPLAYED, AND VOTING DATA (H23)
34
FORMALLY UPDATE PERSONAL CALCULATION SHEET (H23)
35
DID VIEWER/LISTENER PRESSED "INTERESTED-IN BUTTON" OR "NOT-INTERESTED-IN BUTTON" WITH RESPECT TO DISPLAYED ADVERTISEMENT DURING THE ADVERTISEMENT IS DISPLAYED? (H24)
YES
36
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 (H24)
NO
TO I OF FIG. 12

Fig.16

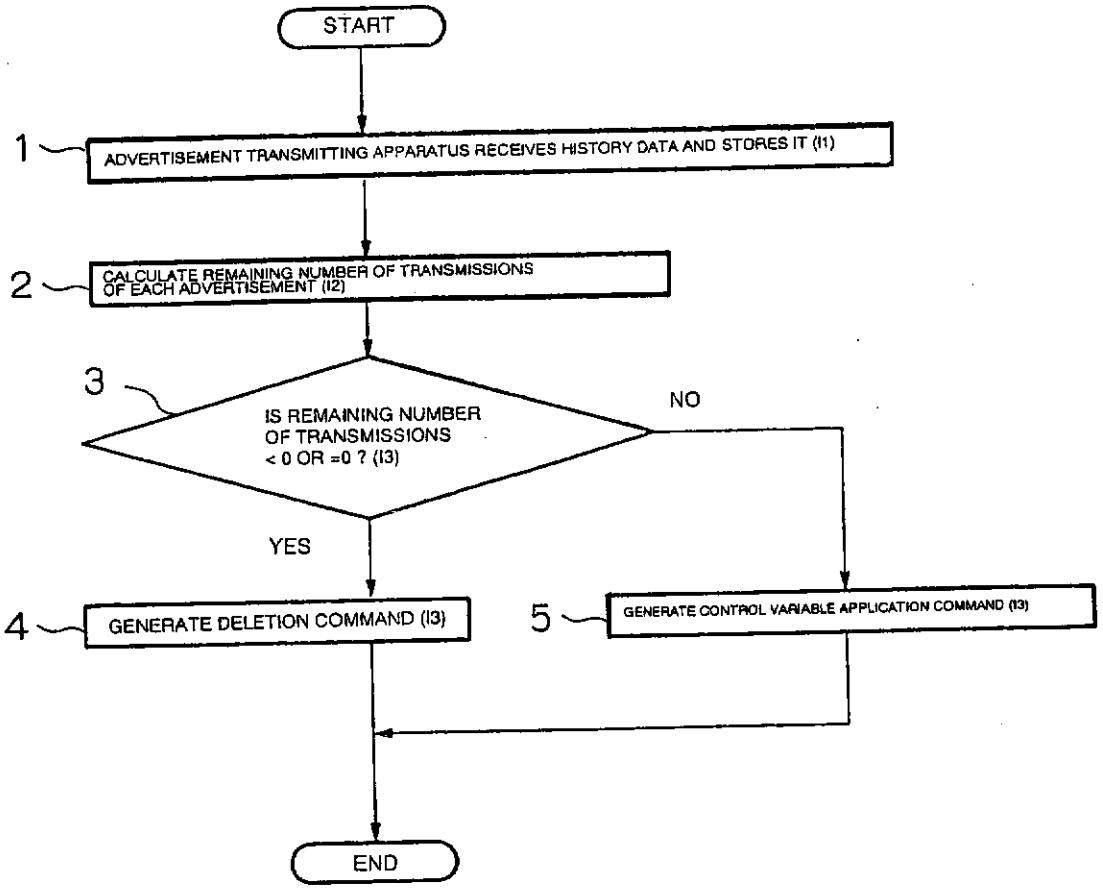

START
1
ADVERTISEMENT TRANSMITTING APPARATUS RECEIVES HISTORY DATA AND STORES IT (I1)
2
CALCULATE REMAINING NUMBER OF TRANSMISSIONS OF EACH ADVERTISEMENT (I2)
3
IS REMAINING NUMBER OF TRANSMISSIONS < 0 OR =0 ? (I3)
NO
YES
4
GENERATE DELETION COMMAND (I3)
5
GENERATE CONTROL VARIABLE APPLICATION COMMAND (I3)
END

Fig.17

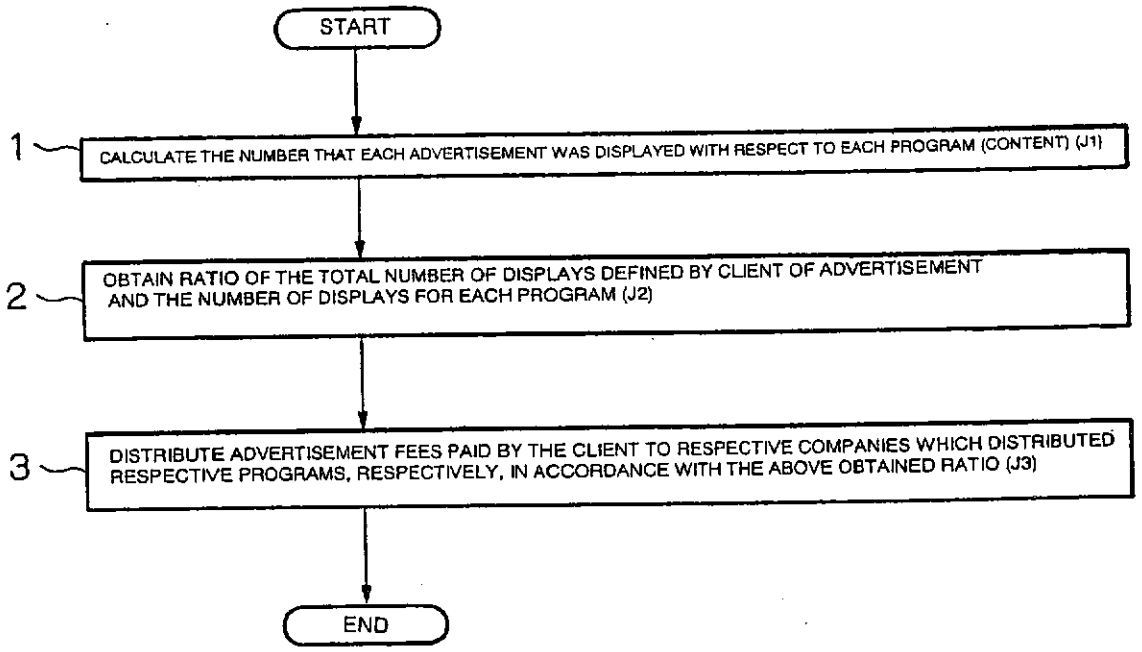
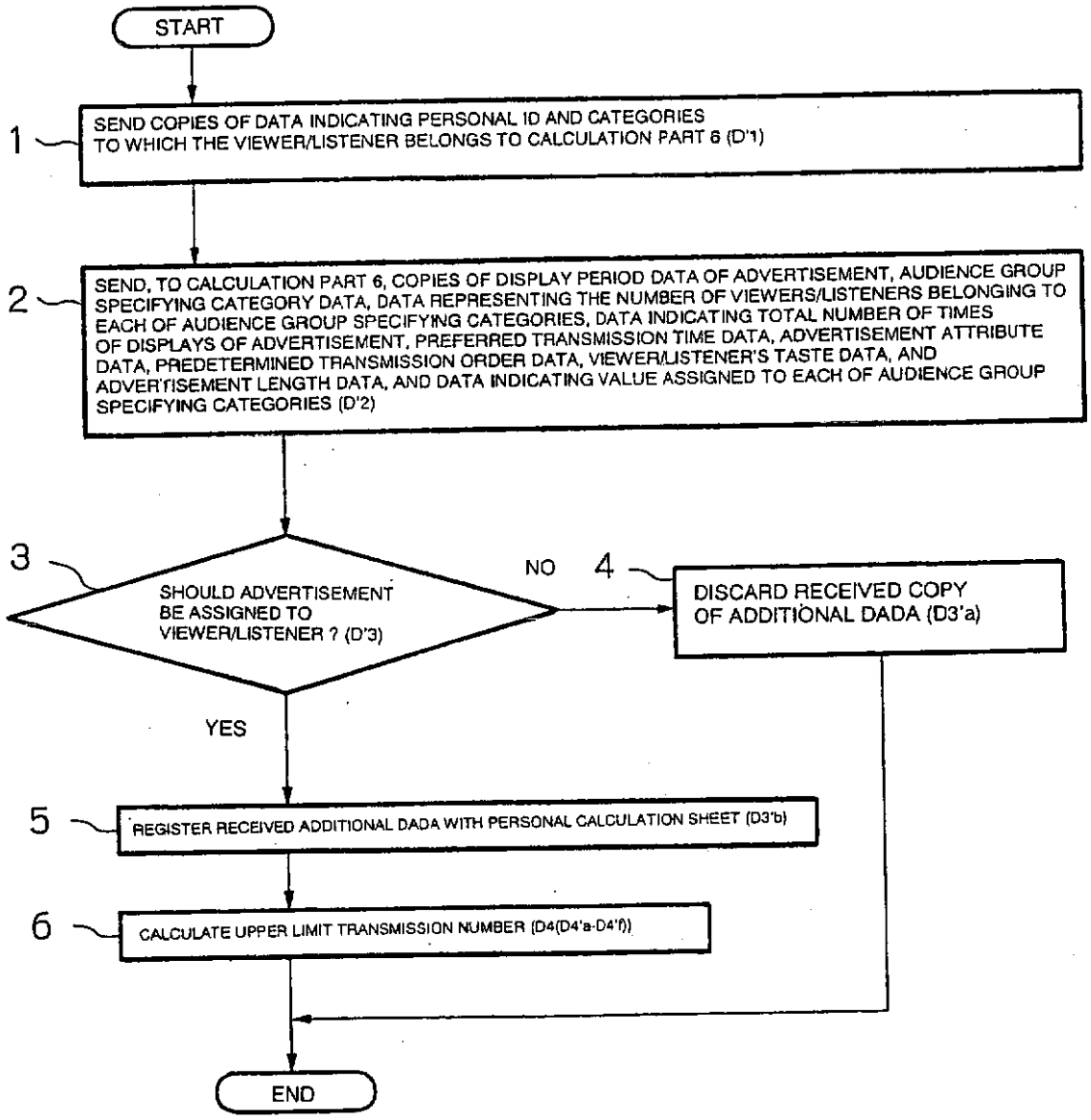

START
1
CALCULATE THE NUMBER THAT EACH ADVERTISEMENT WAS DISPLAYED WITH RESPECT TO EACH PROGRAM (CONTENT) (J1)
2
OBTAIN RATIO OF THE TOTAL NUMBER OF DISPLAYS DEFINED BY CLIENT OF ADVERTISEMENT AND THE NUMBER OF DISPLAYS FOR EACH PROGRAM (J2)
3
DISTRIBUTE ADVERTISEMENT FEES PAID BY THE CLIENT TO RESPECTIVE COMPANIES WHICH DISTRIBUTED RESPECTIVE PROGRAMS, RESPECTIVELY, IN ACCORDANCE WITH THE ABOVE OBTAINED RATIO (J3)
END

Fig.18


START
1
SEND COPIES OF DATA INDICATING PERSONAL ID AND CATEGORIES TO WHICH THE VIEWER/LISTENER BELONGS TO CALCULATION PART 6 (D'1)
2
SEND, TO CALCULATION PART 6, COPIES OF DISPLAY PERIOD DATA OF ADVERTISEMENT, AUDIENCE GROUP SPECIFYING CATEGORY DATA, DATA REPRESENTING THE NUMBER OF VIEWERS/LISTENERS BELONGING TO EACH OF AUDIENCE GROUP SPECIFYING CATEGORIES, DATA INDICATING TOTAL NUMBER OF TIMES OF DISPLAYS OF ADVERTISEMENT, PREFERRED TRANSMISSION TIME DATA, ADVERTISEMENT ATTRIBUTE DATA, PREDETERMINED TRANSMISSION ORDER DATA, VIEWER/LISTENER'S TASTE DATA, AND ADVERTISEMENT LENGTH DATA, AND DATA INDICATING VALUE ASSIGNED TO EACH OF AUDIENCE GROUP SPECIFYING CATEGORIES (D'2)
3
SHOULD ADVERTISEMENT BE ASSIGNED TO VIEWER/LISTENER ? (D'3)
NO
4
DISCARD RECEIVED COPY OF ADDITIONAL DADA (D3'a)
YES
5
REGISTER RECEIVED ADDITIONAL DADA WITH PERSONAL CALCULATION SHEET (D3'b)
6
CALCULATE UPPER LIMIT TRANSMISSION NUMBER (D4(D4'a-D4'f))
END